



## Types of Empathy: An Experimental Study of Empathy and Myers-Briggs® Types

Taking into consideration the insight from this study that empathy is characterized by the openness of Feeling and Intuition, inviting others to intuitively and emotionally imagine themselves in the position of others may be an effective tool for increasing empathy.

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Given the social value of empathy, researchers are also investigating “the who” and “the how” of empathy.

MANY PEOPLE BELIEVE that increasing empathy is a means to a less violent, more tolerant mental state and perspective (Fuchsman, 2015). Empathy is considered the glue that holds society together, attenuating or inhibiting destructive impulses and promoting prosocial behavior (Deschamps, Schutter, Kenemans, & Matthys, 2015; Fuchsman, 2015). Others give empathy a distinguished evolutionary role, such as anthropologist Sarah Blaffer Hrdy (2009), who asserts that without the ability to place one’s self in another’s position, emotionally

and/or cognitively, “*homo sapiens* would never have evolved at all” (p. 28). Yet others, while noting empathy is a central quality that makes us human,

also warn of its limits and flaws when not balanced with objective and detached reason (Bloom, 2013). Though it’s not a heal-all, social scientists are demonstrating the positive results that increased empathy has in various situations, such as tolerance of diversity, racial attitudes, and preventing violent radicalization in Muslim adolescents

(Butrus & Witenberg 2013; Feddes, Mann, & Doosje, 2015; Meiring, Subramoney, Kevin, Decety & Fourie, 2014). One area of particular interest in promoting empathy is within medicine. Research demonstrates that physicians who practice patient-centered care that incorporates empathic listening and understanding of their patient’s needs produce better results, such as treatment adherence and increased health in their patients (Bearman, Palermo, Allen, & Williams, 2015; Weng, et al., 2011).

Given the social value of empathy, researchers are also investigating “the who” and “the how” of empathy, asking: are particular personality traits or preferences disposed to be more empathic, and how do we induce or encourage more empathy in people broadly? In terms of the Five Factor Model of personality traits, or the Big Five, and the Myers-Briggs® Type model of personality, two traits repetitively show up as being predisposed to heightened empathy: Agreeableness and Openness in the Big Five (Butrus & Witenberg, 2013; Costa, et al., 2014; Mooradian, Davis, & Matzler,

2011), and preferences for Feeling and Intuition in the Myers-Briggs system (Emanuel, 1972; Harman, 1985; Herrick, 1975; Seides, 1989; Stebbins, 2005). Increasing empathy in people is not so straightforward, however. Interventions that have had success involve time and targeted training from a day long to a three month intervention and it appears that some form of role playing is most effective (Bearman et al., 2015; Feddes et al., 2015; Stebbins, 2005).

While dispositional empathy may be automatically extended to people generally or to people we perceive as similar to us or as in our in-group (Cuddy, Rock, & Norton, 2007; Hein, Silani, Preuschhoff, Batson, & Singer, 2010; Kaseweter, Drwecki, & Prkachin, 2012), increasing empathy involves building on a base of self-knowledge and intentionally gaining knowledge about the differences of others (Hein, Engelmann, Vollberg, & Tobler, 2016). For example, in studies on diversity and tolerance, effective training has included becoming aware of one's own opinions and biases

about specific social groups and learning more about them objectively (Feddes et al., 2015). For medical students, effective empathy training involves both understanding one's own perspective and goals as a physician and actively learning about the patient's perspective and needs (Bearman et al., 2015; Stebbins, 2005; Weng, 2011). Considering the necessity of a base of knowledge of self and others in increasing empathy, personality assessments may be able to play a role by increasing knowledge of self and others. An important question in this inquiry would be the minimum criteria of self-knowledge necessary

to impact empathy in people. In addition, it would be ideal to have access to a satisfactory amount of knowledge with minimal effort.

The Myers-Briggs Type Indicator® (MBTI®) assessment is often portrayed as a means of facilitating communication and understanding not only of oneself but also of others. Core to these benefits is the “gifts differing” approach of Isabel Myers (Myers & Myers, 1980), which holds that each of the 16 types indicated by the MBTI assessment should be respected and appreciated for a unique orientation and contribution to human endeavors. Books such as *Wired for Conflict* (Van Sant, 2003) and *The Art of Dialogue* (Zeisset, 2006) emphasize the use of the Myers-Briggs model as a means of understanding how others conceive the world and communicate differently. Even critics of the MBTI instrument concede that those who complete the indicator report a clear benefit in their ability to work and communicate with others. Druckman and Bjork (1991), for example, acknowledged that 74% of MBTI users indicated that “it caused them to change their behavior in relating to others” (p. 94).

Best practice using the MBTI assessment mandates a post-assessment session involving a trained administrator and the assessed individual. Known as the *best-fit session*, this practice involves presenting and discussing not only the participant's results, but also explaining and exploring the four MBTI preference dichotomies. The administrator gives the participant the opportunity to ask questions while also judging how well the results from the indicator (commonly called *indicated or reported type*) fit with the participant's current (and

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evolving) self-appraisal. The goal is to arrive at a *verified* or *best-fit* type by determining for one's self that the preferences in one's type are indeed the best fit. Studies have shown that verified type agrees with indicated type in the majority of cases, ranging from 58% to 85% full agreement of all four preferences measured by the MBTI instrument (Myers, McCaulley, Quenk, & Hammer, 1998, p. 197).

In 2007, the MBTI®Complete was created to serve those individuals who want or need to take the MBTI assessment online and do not have access to a certified practitioner to engage the best-fit session. The MBTI®Complete provides the best-fit feedback session online via a written report based on the indicated type and leads the client through a best-fit verification process.

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## STUDY OBJECTIVES

Building on the reported benefits of the MBTI model in facilitating knowledge of one's self and others, a study was conducted by the Center for the Applications of Psychological Type (CAPT) to investigate the impact that knowledge of one's personality can have on empathy. The study tested the hypothesis that knowledge of one's own type in particular, and typological preferences possessed by others generally, gained through the MBTI®Complete online would increase empathy more than receiving knowledge of one's type through taking the MBTI assessment online without any feedback. The MBTI®Complete offers a standardized process and ease of online access and administration conducive to large study samples. Included in the study was a cohort of participants who also took a Big Five Inventory (BFI) (with brief descriptions of results) to provide contrast to the MBTI®Complete.

Participants were randomly assigned to one of three cohorts: the first cohort took the MBTI assessment with no feedback online; the second cohort took the BFI with feedback and the MBTI assessment without

feedback, both online; and the third cohort took the MBTI®Complete online. Participants first completed a validated empathy instrument, Interpersonal Reactivity Instrument (IRI), (Davis, 1980; 1983) and then the personality assessment(s) assigned to their cohort before responding to a series of four vignettes created by the CAPT research team. The vignettes posed situations of conflict between two people (Person A and Person B) who each represented a pole of the MBTI four preference dichotomies (Extraversion–Introversion; Sensing–Intuition; Thinking–Feeling; Judging–Perceiving). Participants rated their response to statements regarding each person (e.g., I like person A/B; I trust person A/B; I identify with person A/B; I can see person A/B's point of view). We then measured the impact that taking the MBTI assessment without feedback, the BFI with feedback, or the MBTI®Complete had on levels of empathy as measured by responses to the vignettes.

The results did not reflect any differences in empathy as measured by the vignettes between the three cohorts (Table 1, Appendix). On reflection, it occurs to us that the

independent variables—the personality assessments—did not provide self-knowledge sufficient to impact empathy for others' differences. Further, inter-item correlations on the empathy vignettes indicate that the items were not distinct for participants, such that if a participant liked Person A/B, they also identified with them, trusted them, respected them, and could see their point of view. Therefore, as a dependent variable, the vignettes may not have

been sensitive enough to discriminate between liking a behavioral style, recognizing one's own behavioral style, and having empathy for a person exhibiting a similar or different behavioral style.

However, in the data analyses, we found relationships between empathy, preference styles, and liking one's own MBTI preferences that led to reflections on type theory that are the focus of the remainder of this paper.

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## SUBJECTS, METHODS, AND INSTRUMENTS

### Recruitment

Participants were recruited using Amazon.com's Mechanical Turk program (Amazon.com, 2015). This system allows individuals and organizations to post contract jobs known as Human Intelligence Tasks (HITs), ranging from simple to complex, that workers elect to complete in return for a set fee. MTurk, as the system has come to be known, has become a common source of data for social science research (Arditte, Demet, Shaw, & Timpano, 2016; Casler, Bickel, & Hackett, 2013; Chandler, Mueller, & Paolacci, 2013). Although the work is unsupervised, there are incentives designed into the system to encourage quality work and, when surveys are involved, honest responses. Each MTurk worker accumulates statistics reflecting their work history, allowing prospective employers to set standards based on past performance. Workers may also be denied payment for poor quality work. These provisions have resulted in data generated from MTurk that meet or exceed acceptable standards of reliability and validity (Horton, Rand, & Zeckhauser, 2011; Rand, 2012; Suri & Watts, 2011).

Several previous studies have found that MTurk data are both internally consistent (e.g., Rand, 2012) and provide results that replicate studies conducted in laboratory settings under more carefully monitored conditions (Horton et al., 2011; Suri & Watts, 2011).

For our study, we set several selection criteria to assure data quality. MTurk participants had to be adults living in the United States with a minimum 98% approval rating for a completion of at least 50 Amazon HITs. We embedded nine items within our questions designed to identify random or careless responding. Further indication that subjects responded to the questionnaires accurately was provided by post-hoc reliability analyses of the instruments employed revealing internal consistency. The reliability and validity of these results affirm the viability of using MTurk as a means of collecting useful data generally, despite the low payment incentive offered in this study (\$0.51 for close to an hour's worth of work).

**The Myers-Briggs Type Indicator® (MBTI®) Form M.** Form M consists of 93 items designed to measure four type preference domains:

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Extraversion–Introversion (E–I), Sensing–Intuition (S–N), Thinking–Feeling (T–F), Judging–Perceiving (J–P). The MBTI® Complete provides a descriptive report of the participant’s indicated type, descriptions of each preference, and the opportunity for the participant to verify their preferences and type as a whole.

**The Big Five Inventory (BFI).** The BFI is one of several instruments based on the Five Factor Model (FFM) of personality, one of the most widely used models in academic research (McCrae & Costa, 2008). The BFI is a 46-item online personality assessment consisting of five trait scales on which people score on a spectrum of high to low in Extraversion (E), Agreeable (A), Openness (O), Neuroticism (N), Conscientiousness (C). The BFI assessment produces a report that shows percentile scores on these five scales with poles labeled Extraverted/Introverted, Agreeable/Disagreeable, Open to New Experiences/Close-minded, Nervous-high strung/Calm-relaxed, Conscientious/Disorganized. Each scale is accompanied by a short trait description of the meaning of high and low scores for a scale (e.g., “High scorers tend to be original, creative, curious, complex; low scorers tend to be conventional, down to earth, narrow interests, uncreative”) as well as brief interpretations of the participant’s results on a scale (e.g., “You enjoy having novel experiences and seeing things in new ways”). Subjects were asked to write down their percentile results for each scale and report them.

**The Interpersonal Reactivity Instrument (IRI).** The IRI is a 28-item self-report empathy questionnaire with seven items in each of four subscales (Davis, 1980; 1983):

1. Empathic concern (EC). This subscale assesses the warmth and

compassion an individual feels for others and is considered to tap positive emotional empathy.

2. Perspective taking (PT). This measures an individual’s interest in adopting, and ability to understand, another person’s point of view.

3. Personal distress (PD). This is an assessment of a person’s feelings of anxiety that arise from observing another’s negative experience. This is thought to tap negative emotional empathy.

4. Fantasy scale (FS). This measures the degree of a person’s identification with fictional characters.

**Vignettes.** Four situational vignettes were created, each describing an interaction involving minor conflict between two people. The vignettes each represented behavioral styles expressed in Person A and Person B from the four MBTI preference dichotomies (i.e., E–I, S–N, T–F, J–P); for example, in the E–I vignette one person represented Extraverted behavior and the other person Introverted behavior. Participants rated Person A and Person B in each of the four interactions on the following items (using 7-point scales):

1. I found Person (A, B) to be likable.
2. I found Person (A, B) trustworthy.
3. I felt respect for Person (A, B).
4. I identified with Person (A, B).
5. I was able to see Person (A’s, B’s) point of view.
6. I felt protective over Person (A, B).
7. I could easily put myself in the place of person (A, B).

## RESULTS

### Demographics of Sample

Mean age for our 315-person final sample was 34.30 years, with a standard deviation of 11.28. Nineteen of these subjects did not report their gender, but of the remainder, 48.6% (n = 144) were male and 51.4% (n = 152) were female. Percentages identifying themselves as belonging to a particular ethnic group were as follows: Caucasian 78.1%, Asian/Asian American 7.0%, Hispanic/Latin 6.7%, African/African American 6.3%, Native American 3.5%, Asian Indian 0.6%, Other 0.6%, and Pacific Islander 0.3%. (These percentages add to more than 100 because of occasional multi-ethnic entries.)

### Type and Preference Distributions in Sample

We did not have type data for 19 subjects, reducing the total reported in Table 2 to 296 people.

Table 2: Type and Preference Distribution

ST Types	SF Types	NF Types	NT Types
ISTJ n = 56 (18.9%)	ISFJ n = 25 (8.4%)	INFJ n = 21 (7.1%)	INTJ n = 30 (10.1%)
ISTP n = 30 (10.1%)	ISFP n = 13 (4.4%)	INFP n = 38 (12.8%)	INTP n = 21 (7.1%)
ESTP n = 6 (2.0%)	ESFP n = 2 (0.7%)	ENFP n = 15 (5.1%)	ENTP n = 2 (0.7%)
ESTJ n = 17 (5.7%)	ESFJ n = 6 (2.0%)	ENFJ n = 10 (3.4%)	ENTJ n = 4 (1.4%)

The subjects primarily preferred Introversion (79.1%), Sensing (52.4%), Thinking (56.1%), and Judging (57.1%). Further, the top 4 types (ISTJ, INFP, ISTP, INTJ) represent a quarter of the total number of psychological types but a full half of the sample (51.9%) with three of the top four types preferring Introversion and Thinking. Three preferences were significantly

overrepresented compared to the US National Representative sample: Introversion and Intuition. In the national sample, Introversion ranges from 47% to 54% (79.1% in the study sample) and Intuition from 25% to 28% (47.4% in the study sample) (Myers et al., 1998). Thinking and Feeling typically fall into gender categories in national samples, replicated here with 75.2% of males in the study sample exhibiting a Thinking preference and 61.9% of females preferring Feeling. Proportionately, there were 4.85 times as many INFJs and 4.92 times as many INTJs in the study sample than the national sample (Myers et al., 1998). All of the Extraverted types had less representation than the Introverted types, with the most significantly underrepresented being ESFP, ENTP, ENTJ, and ESFJ.

### MBTI® Types, BFI Traits, and Empathy

Several previous studies have found consistent moderate to strong correlations of four of the five Big Five factors with the four MBTI scales (McCrae & Costa, 1989; Furnham, 1996; Johnson, 1995; Renner, Menschik-Bendele, Alexandrowicz, & Deakin, 2014). Our study confirmed the pattern of these results, with significant correlations between BFI Extraversion and MBTI Extraversion ( $r = .82$ ,  $N = 101$ ,  $p < .001$ ); BFI Openness and MBTI Intuition ( $r = .55$ ,  $N = 101$ ,  $p < .001$ ); BFI Conscientiousness and MBTI Judging ( $r = .55$ ,  $N = 101$ ,  $p < .001$ ); and BFI Agreeableness with MBTI Feeling ( $r = .39$ ,  $N = 101$ ,  $p < .001$ ). The magnitudes of the correlational results are similar to other studies,

though the Agreeable–Feeling correlation in this study is slightly lower. Lower correlation magnitude for Agreeableness–Feeling may be due in part to a restriction of range in the sample leading to decreased variability (i.e., more Thinking preference types in the sample). Subjects not only completed instruments without supervision but were also asked to transcribe and report their BFI scores. This may have produced transcription errors. Note that we also asked subjects to self-report their MBTI 4-letter type results, which only half reported correctly.

The correlations between the MBTI instrument, BFI, and the IRI empathy scale also replicated previous studies (Mooradian et al., 2011; Seides, 1989; Stebbins, 2005). MBTI Intuition and Feeling correlated significantly with the IRI subscales. Specifically, MBTI Feeling correlated with Empathic Concern ( $r = .48$ ,  $N = 298$ ,  $p < .001$ ), Perspective Taking ( $r = .30$ ,  $N = 301$ ,  $p < .001$ ), and more modestly with the Fantasy Scale ( $r = .23$ ,  $N = 303$ ,  $p < .001$ ). MBTI Intuition correlated with Empathic Concern ( $r = .29$ ,  $N = 298$ ,

$p < .001$ ), Perspective Taking ( $r = .26$ ,  $N = 301$ ,  $p < .001$ ), and the Fantasy Scale ( $r = .28$ ,  $N = 303$ ,  $p < .001$ ). There were no significant correlations involving Extraversion–Introversion or Judging–Perceiving with any of the empathy subscales measured by the IRI. However, using t-tests to compare one preference to its opposite, Extraversion scored significantly higher than Introversion on Perspective Taking and marginally higher on Empathic Concern.

BFI trait correlations with the IRI subscales mirrored the MBTI preferences above: Agreeableness correlated with Empathic Concern ( $r = .48$ ,  $N = 101$ ,  $p < .000$ ) and Perspective Taking ( $r = .44$ ,  $N = 101$ ,  $p < .000$ ). BFI Openness correlated significantly with Empathic Concern ( $r = .27$ ,  $N = 101$ ,  $p < .006$ ), Perspective Taking ( $r = .29$ ,  $N = 101$ ,  $p < .003$ ), and the Fantasy Scale ( $r = .33$ ,  $N = 102$ ,  $p < .001$ ). In addition, BFI Conscientiousness correlated with Empathic Concern ( $r = .31$ ,  $N = 101$ ,  $p < .002$ ), but MBTI Judging, which correlates with BFI Conscientiousness, did not show correlations with the IRI.

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## DISCUSSION

### Sensing and Thinking

Empathy theorists and instruments generally make a distinction between cognitive and affective empathy (Coutinho, Silva, & Decety, 2014; Kanske, Böckler, & Singer, 2015; Khanjani et al., 2015). One might be tempted to link cognitive aspects of empathy with a Thinking preference in the Myers-Briggs typology system, but studies repeatedly show, alongside the current study, a correlation with MBTI Intuition and BFI Openness. The BFI Openness scale captures both intuition and thinking (intellect) (Epstein, 2003; Pretz et al., 2014; DeYoung et al.,

2010). The MBTI model, in contrast, parses Thinking and Intuition into distinct preferences, with a Thinking preference indicating a decision-making style that draws considerably on logic. Repetitive study results linking intuition to empathy indicate that cognitive aspects of empathy are not primarily obtained through logical inference but instead through mental imagination, the ability to understand another's position or perspective by projecting into it. It may be that the cognitive aspect of empathy is defined more by divergent thinking, captured in MBTI Intuition and BFI Openness,

than the convergent, deductive thinking of logic.

In a previous study by CAPT researchers, the putative wisdom in type theory that Sensing is characterized by an acute sensitivity to physical stimuli, superior memory, and enhanced interoception was not supported (McPeck, Martin & Breiner, 2015). Rather, it appears that Sensing is characterized by a preference to focus perception on the present, physical reality of concrete facts. This focus of Sensing resonates with a Thinking style in decision-making with a preference for logical deduction as opposed to imaginative, creative expansion. The convergent style of a Thinking preference is a natural match for a perceptive preference, i.e. Sensing, that regards concrete, factual data more relevant than intuitive possibilities and relationships.

#### **Intuition and Feeling**

Theories and instruments in intuition note an affective element (Pretz & Totz, 2007; Pretz et al., 2014). One of the more popular intuition theories and instruments in academic research, Epstein's (1994) Cognitive Experiential Self Theory (CEST), divides the mind into two thinking styles: a rational, analytical, and explicit cognitive style; and an experiential, intuitive, implicit, and evolutionarily older cognitive style. The experiential style is complex, involving facets of intuition, emotionality, and imagination, and is associated with traits of creativity, humor, social popularity, and empathy. In studies using the Rational-Experiential Inventory (REI), based on CEST, the experiential thinking style correlates with both MBTI Intuition and Feeling and BFI Agreeableness and Openness (Pretz, 2008; Pretz, 2011; Pretz & Totz, 2007; Pretz et al., 2014). Theoretically, the warm openness of an MBTI Feeling preference is a natural

match for a perceptive preference, i.e. Intuition, that expresses an expansive, open, and divergent focus. The results of our study, replicating findings in several others, indicate that dispositional empathy is a combination of intuition and affects; stated another way, empathy is characterized by openness, drawing on both imagination and feelings.

#### **Like Likes Like**

We found a definite pattern of preferences favoring their own style in the vignettes, which we call *like likes like*. The overall ratings of other styles made by Feeling and Intuition preferences were higher than overall Thinking and Sensing ratings, reflecting, in part, the empathy results above. Yet the most significant results were that through several turns of the data, preferences consistently rated their own style of behavior more favorably than other styles.

Across the board, every preference rated their own behavioral style higher than their opposite style (e.g., E rate E higher than I; I rated I higher than E, etc.) (Table 3, Appendix). A match of rater style with vignette behavioral style uniformly produced the highest ratings (e.g., T rater with T vignette rated T higher than all other preferences rating T; J rater with J vignette rated J higher than all other preferences rating J, etc.). Through t-test analyses, a pattern of Sensing raters favoring Thinking styles, Feeling raters favoring Intuition styles, Perceiving raters favoring Feeling and Intuition styles, and Judging raters favoring Thinking styles was demonstrated. Another way of viewing these patterns of one style favoring specific other styles is in the rank order of the style ratings within each preference. Below are tables displaying the top three rank orders of preferences split into two tables

organized by the preferences of raters most highly represented in the sample (ISTJ) and their opposite (ENFP).

Most striking in Table 4 is the replication of results in the top three ranked styles; I, S, and T raters have the same rank order of preferences and J raters selected the same preferences as the others but in a different order. The result that Judging raters ranked Sensing behavioral styles first may be reflective of the fact that in the study sample 53% of all individuals with a Judging preference were also Sensing. In contrast, Table 5 shows that all raters selected Feeling as their first preference but there is more variation in their top three. This supports the theoretical link made above of an affinity between Sensing and Thinking and also Feeling and Intuition.

**Table 4. Rank Order of I, S, T, and J Raters Highest Ranked Vignette Preference Style**

Rank	I Raters	S Raters	T Raters	J Raters
1st	T	T	T	S
2nd	S	S	S	T
3rd	J	J	J	J

**Table 5. Rank Order of E, N, F, and P Raters Highest Ranked Vignette Preference Style**

Rank	E Raters	N Raters	F Raters	P Raters
1st	F	F	F	F
2nd	T	P	J	P
3rd	E	N	P	N

### Similarity Bias

Other relevant explanations for the like likes like pattern are found in the concepts of *similarity bias* and *perceiver effects*. Most people hold a bias to be well-disposed toward people they perceive as similar to themselves and/or their in-group. Research has demonstrated that empathy is more easily and automatically extended to family members and people of our

perceived in-group (Hein et al., 2010; Levine, Prosser, Evans, & Reicher, 2005). Batson et al. (2005) found that rather than similarity, invoking an attitude of nurturing toward the targeted other predicted empathy. Batson et al.'s study had a significant limitation in that the research participants were all young women (college-aged). On the other hand, a nurturing aspect of empathy fits with consistent results of MBTI Feeling, BFI Agreeableness, and women all scoring consistently higher in dispositional empathy. A limitation of the vignettes in our study may be precisely along these lines of not providing adequate discrimination among similarity, liking, and empathy, three closely related concepts.

### Perceiver Effects

Intuition and Feeling were the most empathic MBTI preferences as measured by the IRI, and Intuition and Feeling raters rated all other preferences in the vignettes higher across the board than any other preference. This result can be understood as deriving, in part, from a perceiver effect, also called an assumed similarity bias or self-based heuristic, in which people tend to see others through a filter of their own traits (Wood, Vazier, & Harms, 2010). To be clear, this is not projection, as understood in psychodynamics, in which a person sees their traits in others, rather the perceiver effect predicts people's evaluations of others by the perceiver's own personality traits. In other words, a highly Agreeable person may not see their own agreeableness in others (i.e., projection) but will be more favorable in their evaluations of others because they are agreeable by nature. Results of Intuition and Feeling preferences predictably scoring higher in empathy and also being more generous in their evaluations of various preference

styles on the vignettes, may be similar to perceiver effect results demonstrated in studies with the Big Five traits. Wood et al. (2010) studied how people's evaluations of others were related to their BFI measured traits and found, for example, the following:

- People high in Agreeableness were associated with perceiving others as significantly more Conscientious, less Neurotic, and more Open.
- People low on Neuroticism were associated with seeing others as more Agreeable.
- Depressed raters judged others as significantly more Extraverted, less Agreeable, and more Neurotic.
- Narcissistic raters judged others more negatively across all categories.
- Raters with higher IQs judged people as less Open.

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## CONCLUSION

EMPATHY MUST BE MORE than simply liking another or perceiving similarity, otherwise it would be constrained to people in our in-group. As a disposition, empathy involves not only an intuitive and emotional openness, but is defined also by at least a tolerance, if not acceptance and affirmation, of differences in and between others. That is, empathy is a bridge between self and other and for this reason is highly prized in society. Considering the insight provided by our study that empathy is characterized by the openness of feeling and intuition, inviting others to intuitively and emotionally

imagine themselves in the position of others who are different from them, may be an effective tool to increase empathy. For people who are innately disposed toward Intuition and Feeling, this appears to be a ready capacity. Finally, our study and reflections lead us to ask: How can we encourage and support people with attributes other than Intuition and Feeling to be open and more generous in their evaluations of others? Our hope is that the reflections, analyses, and insights offered in this paper provide fertile ground to further the conversation and inspire future research in type and empathy.

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## APPENDIX

**Effect of feedback on vignette behavioral style ratings.** There were no significant differences in the summed ratings of persons A or B for any of the four type domain vignettes (eight different behavioral styles) as a function of MBTI Complete versus other conditions (all  $p > .25$ ). The means and standard deviations are shown in the table below.

**Table 1: Means/Standard Deviations for Vignette Behavior Ratings for Different Experimental Treatments**

Experimental Treatment	Mean	Standard Deviation	N	ANOVA Results
<b>EI_Vignette: Introverted Behavior</b> MBTI® Complete/feedback	3 3.25	9. 292	4	F (2, 256) = .009 p = .991
Big Five Inventory	3 3.38	8. 833	5	
MBTI® Form M/no feedback	3 3.42	8. 025	0	
<b>EI_Vignette: Extraverted Behavior</b> MBTI® Complete/feedback	3 2.29	8. 940	4	F (2, 256) = .102 p = .903
Big Five Inventory	3 2.04	7. 582	5	
MBTI® Form M/no feedback	3 2.58	7 281	0	
<b>SN_Vignette: Intuitive Behavior</b> MBTI® Complete/feedback	3 1.49	8. 953	4	F (2, 256) = .619 p = .539
Big Five Inventory	3 2.54	9. 607	5	
MBTI® Form M/no feedback	3 1.09	8. 051	0	
<b>SN_Vignette: Sensing Behavior</b> MBTI® Complete/feedback	3 4.32	8. 981	4	F (2, 256) = .379 p = .685
Big Five Inventory	3 3.81	7. 349	5	
MBTI® Form M/no feedback	3 4.83	6. 870	0	
<b>TF_Vignette: Thinking Behavior</b> MBTI® Complete/feedback	3 5.15	7. 326	4	F (2, 256) = .553 p = .588
Big Five Inventory	3 5.19	7. 026	5	
MBTI® Form M/no feedback	3 4.23	6. 557	0	
<b>F_Vignette: Feeling Behavior</b> MBTI® Complete/feedback	3 5.05	7. 115	4	F (2, 256) = .304 p = .738
Big Five Inventory	4 .24	7. 878	5	
MBTI® Form M/no feedback	3 4.42	6 255	0	
<b>JP_Vignette: Judging Behavior</b> MBTI® Complete/feedback	3 3.45	6. 331	4	F (2, 256) = 1.37 p = .256
Big Five Inventory	3 5.13	8. 049	5	
MBTI® Form M/no feedback	3 3.27	8. 011	0	
<b>JP_Vignette: Perceiving Behavior</b> MBTI® Complete/feedback	3 3.99	7. 217	4	F (2, 256) = .508 p = .602
Big Five Inventory	3 2.82	7. 997	5	
MBTI® Form M/no feedback	3 3.64	7. 930	0	

**Table 3: Rater Preferences and Vignette Behavioral Style.**

Matched Rater preferences with vignette behavioral styles had the highest mean scores across the board.

Rater Preference	Behavioral Style	Mean Total Rating (std. dev)	N	ANOVA interaction
E	E	34.68 (7.38)	57	F (1,269) = 7.44 p = .001
E	I	31.33 (8.67)		
I	E	31.90 (7.71)	214	
I	I	33.90 (8.39)		
S	S	35.84 (7.78)	139	F (1,269) = 20.28 p < .001
S	N	29.81 (9.17)		
N	S	33.10 (7.20)	132	
N	N	34.17 (7.73)		
T	T	35.69 (6.64)	156	F (1,270) = 26.94 p < .001
T	F	32.53 (7.31)		
F	T	33.51 (6.76)	116	
F	F	37.06 (5.88)		
J	J	35.55 (8.05)	154	F (1,268) = 13.63 p < .001
J	P	32.08 (7.60)		
P	J	32.12 (7.78)	116	
P	P	34.74 (7.30)		

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