

# Personality Differences in Thinking and Feeling between Introverts and Extroverts

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## Abstract

It has been widely claimed that introverts are cool-headed beings who tend to be thinkers while extroverts tend to follow their heart and are thus, more of feelers. However, this claim is not backed by research since it has never been tested. This research paper sets out to test this hypothesis through establishing a correlational link between the two meta-programs of introversion-extroversion and thinking-feeling. In order to measure this, an online questionnaire was administered to 102 participants between the age group of 18-25 years, which consisted of the Myers-Briggs Type Indicator (MBTI) Scale that computed scores for both the meta-programs. Correlational analysis using SPSS showed a moderate positive correlation between introversion and thinking and a moderate positive correlation between extroversion and feeling. Thus, the findings supported the hypothesis since introversion shared a direct relationship with thinking while extroversion directly related with feeling, however, the reason is not known due to the nature of correlation analysis.

*Keywords:* Introversion, Extroversion, Thinking-Feeling

## Aim

To investigate the relationship between the meta program of internal state: thinking v/s feeling with the personality variables of introversion/extroversion.

## Objective

To establish a direct link between the variables of introversion and thinking as well as extroversion and feeling through correlational analysis.

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## Introduction

Initially introduced by Carl Jung (1923), introversion and extraversion are personality traits which refer to the different attitudes that people may use to direct their energy. To be specific, he describes introversion as an “attitude-type characterized by orientation in life through subjective psychic contents” whereas extraversion as “an attitude type characterized by concentration of interest on the external object” (Jung, Carl (1995). *Memories, Dreams, Reflections*, 414–415). Introverted individuals may direct their energy toward themselves and their own feelings and thoughts, whereas extraverted individuals may prefer to direct their attention toward other people and the outside world. However, introversion and extraversion are suggested to be a single continuum where each is at one end of the continuum (Jung, 1910). So being higher at one end of the continuum suggests being low in the other. Introversion and shyness should not be confused with one another. Introverted individuals prefer to be by themselves or to engage in activities with minimal stimulation. This is because social situations give them no reward or may even drain their energy and hence make them feel overwhelmed. On the other hand, shy individuals have a fear associated with such situations specifically towards negative judgment.

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Hence there is no direct association between introversion and shyness, even though introverted individuals may be perceived to be shy and reserved (Carrigan, 1960). In fact some psychologists have proposed a model with four quadrants of personality types: calm extrovers, anxious (or impulsive) extrovers, calm introverts, and anxious introverts (Cain, 2012).

It is estimated that extrovers outnumber introverts by about three to one (Cain, 2012) and extraversion is also the preferred personality trait- meaning it is more valued as compared to the introversion trait. As described by Susan Cain, 'Society has a cultural bias towards extrovers.' She moves on to explain that society naturally tends to favor extroverted traits such as being outgoing, sociable, and self-assured. This is reflected in many settings beginning right from childhood in schools and social institutions, and later onto various types of workplaces. Individuals observed to be comfortable and confident in working in group settings tend to be perceived as more influential, hardworking and capable than those who prefer working alone or find themselves to be more productive working one on one. Workplace tends to be a major setting in which extrovers are highlighted into a more privileged position compared to introverts. These include meetings and interviews which are frequently required in such a setting and need great communication skills, eloquence in speech and instant responses. This may be naturally more comfortable for an extroverted individual to display as they are more instantaneous in speaking than introverts who tend to think and reflect before speaking. Therefore, making extrovers more favourable to their supervisors/employers.

As Individuals with different personality types, we are guided by our "meta-programs". Meta-programs in NLP are unconscious mental processes which manage, guide, and direct other mental processes (Hoag, 2008). Thus, they are "automatic" processes functioning at a level higher than, or in other words, meta to the mental processes that they affect. These are subjective to each individual and determine what one pays attention to and what gets filtered out in various contexts.

Several meta-programs exist, each guiding one's behavior through various different ways. One such meta-program has to do with the person's internal state. Based on this meta-program, people are classified along the continuum of thinking v/s feeling. Individuals lying towards the thinking end of the continuum value logic, facts and other

impersonal sources during decision-making and other such cognitive processes, while those lying towards the feeling end of the spectrum tend to rely on their personal values, emotions and feelings of others while engaging in such processes. However, it must be noted that like every other meta-program, people are not classified into either of the two categories. Rather, they fall under different points on the spectrum. A reliance on feelings doesn't necessarily imply a lack of logic and vice-versa. Falling towards either end of the continuum is indicative of an individual's respective preference that guides their behavior. To sum up, making a decision requires knowledge about facts and values as well as involves the deliberation about consequences of the selected choice (Bechara and Van Der Linden, 2005).

As far as the thinking-end of this metaprogram is concerned, Myers-Briggs Personality theory points out two types of thinking: introverted thinking and extroverted thinking. While introverted thinking is more internally-focused with an emphasis on categorizing concepts and theories, extroverted thinking is more externally-focused involving categorisation of the outside world (Moore, 2018). Similarly, extroverted feeling focuses on evaluating the world outside one's self and seeks to organize the outer world for maintenance of harmony and interpersonal effectiveness. On the other hand, introverted feeling involves deep internal focus on one's own personal values and emotions, leading to greater self-awareness (Storm et al., 2021).

The current study aims to establish a link between the two metaprograms of introversion-extraversion and thinking-feeling. It is predicted that extrovers are more likely to be feelers due to their need for building relationships and forming connections with others, which are also congruent with the characteristics of a person lying towards the feeling end of the meta-program. Hence, conversely it is anticipated that introverts are more likely to lie towards the thinking end due to the existence of common features like an emphasis on rules and logic over people and feelings.

Thus the hypothesis of this study is an alternative directional one, which states that individuals having higher introversion scores will be more likely to have higher scores in thinking as well, while individuals with higher extraversion scores will be more likely to have higher scores in feeling.

## Method

### Participants

102 undergraduate college students of both genders—male and female, belonging to the age group of 18 to 25 years comprised the sample.

### Materials

The Myers-Briggs Type Indicator (MBTI) questionnaire consisting of 70 items and 4 subscales was administered through an online Google form to the participants. Its scoring sheet was referred to for the purpose of scoring manually.

### Design

The study seeks to establish a relationship, if any, between the introversion/extroversion scores and thinking/feeling scores which are the two variables of interest in the present study, computed through the Myers-Briggs Type Indicator (MBTI test). Pearson's Correlation Coefficient will be used to determine the relationship between the two variables.

### Reliability and validity of the scale

All four MBTI scales have relatively high internal consistency regardless of the method used to split the item pool. Furthermore, studies have demonstrated that the coefficients determined by the split-half and coefficient alpha methods are almost identical.

The reliability coefficients ranged from .83 to .95 (MBTI® | Reliability | Validity | Statistics | Factual Information, 2021). Exploratory factor analyses of the MBTI instrument have shown that the MBTI result structure—the four scales of the Myers-Briggs model—are strongly correlated with the test items.

### Procedure

The online questionnaire consisting of the MBTI Scale was administered through a google form to 102 participants belonging to both genders and between 18 and 25 years of age. The scoring manual was referred to for the purpose of calculating scores on both meta-programs. Correlational analysis between the two meta-programs was then performed using SPSS.

## Results

In the current study, introversion-extroversion as well as thinking-feeling scores were computed through the administration of a single scale—The MBTI personality scale, to the 102 respondents. The mean values for the extroversion and introversion scores stood at 4.32 and 5.68 respectively, on a scale of 0 to 10 while the mean values for the thinking and feeling scores stood at 9.79 and 10.13 respectively, out of a possible range of 0 to 20.

Pearson's correlation coefficient was used to analyze the relationship between extroversion and thinking, extroversion and feeling as well as introversion and thinking, introversion and feeling. The correlation between extroversion ( $SD= 2.430$ ) and thinking ( $SD= 4.269$ ) was found to be a moderate negative one,  $r(102)= -0.401, p<0.01$ . On the other hand, the correlation between extroversion and feeling ( $SD=4.382$ ) indicated a moderate positive relationship,  $r(102)= 0.371, p<0.01$ . With respect to the introversion scores, the correlation coefficient between introversion and thinking signified a moderate positive relationship,  $r(102)= 0.401, p<0.01$ . Lastly, the correlation coefficient between introversion and feeling was indicative of a moderate negative correlation,  $r(102)= -0.371, p<0.01$ .

Thus, the results are in line with the hypothesis. Extroversion scores shared a direct relationship with feeling but an inverse relationship with thinking while introversion scores were found to have a direct relationship with thinking but an inverse one with feeling, as predicted.

**Table 1: Descriptive Statistics.**

		Minimum	Maximum	Mean	Std. Deviation
<b>Extroversion</b>	02	0	9	4.32	2.430
<b>Introversion</b>	02	1	10	5.68	2.430
<b>Thinking</b>	02	2	20	9.79	4.269
<b>Feeling</b>	02	0	18	10.13	4.382

Table 1 depicts the observed minimum and maximum scores on the 4 variables as well as the mean and standard deviation values of the N=102. According to Table 1, the sample population was slightly more inclined towards introversion than extroversion, and towards feeling than thinking.

**Table 2: Correlation.**

		Correlation	N
<b>Extroversion</b>	Thinking	-.401**	102
	Feeling	.371**	102
<b>Introversion</b>	Thinking	.401**	102
	Feeling	-.371**	102

\*\*Correlation is significant at the 0.01 level.

Table 2 depicts the correlation values between Extroversion and thinking, extroversion and feeling, introversion and thinking, and introversion and feeling. It indicates that extroversion and thinking are moderately negatively correlated with each other while extroversion and feeling are moderately positively correlated. On the other hand, Introversion and thinking are moderately positively correlated while Introversion and feeling are moderately negatively correlated, since the scores lie between 0.30 to 0.49.

**Conclusion and Discussion**

Since no prior study has directly investigated the relationship between introversion and extroversion levels of individuals and their thinking and feeling attributes, we set out to study this relationship and examine whether what people claim to be the case is true. Introverts have always been assumed to think more logically about situations and decisions unlike extroverts who may value social considerations over logical thinking. Hence, in order to study this relationship, the best possible scale was the Myers-Briggs (MBTI) Personality scale (1962) which collected scores on all 4 variables- thus making the process of data collection and calculation of scores practical and uncomplicated.

The results conclude that there exists a moderate relationship between the two meta-programs of introversion-extroversion and thinking-feeling.

Specifically, introverts were found to be more thinkers while extroverts were found to be more feelers, as hypothesized. These results give insight into the decision-making process of individuals based on their personality characteristics. In other words, Introverts are more likely to think from their head while extroverts are more likely to follow their hearts. Research into the impact of introversion/extroversion on decision-making also suggests that extroverts make more snap decisions based on what feels most natural at that particular moment. Conversely, introverts avoid making impulsive decisions through thoughtful consideration, intuition and primarily count on themselves (Khalil, 2016). Statistically, it was found that 50% of extroverts make snap decisions and quick decisions, while 79% of introverts rely on their intuition and inner thought (Noman, 2016). Thus, these figures convey that more often than not, extroverts tend to rely more on their impulse and

make in-the-moment decisions whereas introverts tend to be more level-headed and less likely to get carried away (Engel, 2015)

One possible explanation could be that introverts tend to process information and think more deeply than their extroverted counterparts. However, the biological reasoning, backed by research, points towards the differences in the brain-reward system. Although both introverts and extroverts have similar amounts of dopamine available, there is a difference in the activity of the dopamine reward network- extroverts have more sensitive brain-reward systems (Booker, 2013). The extroverted brain releasing more of the neurotransmitter dopamine leads them to feel excited and engaged with the world, leading them to be more extroverted in the first place. However, higher release of dopamine also leads to elevated levels of fatty acids and blood sugar to provide more energy along with slowed digestion and thinking, as a compensatory mechanism. This slowed thinking is what is responsible for greater snap decisions taken by extroverts, without much thought, and hence, more of a reliance on present feelings. This is a possible factor that might have led the extroverts of the present study to score higher on the “feeling” variable (Granneman, 2015).

Scherdin (1994) had surveyed librarians using the same MBTI scale used in the current study. It was hypothesized that librarians as a group would be logical problem solvers, working out solutions rationally in their head, or in other words, lying more towards the thinking-end of the spectrum. The results found that 63% of librarians were indeed introverted while the remaining 37% were extroverted, thus providing extended support for the study.

In the present study, participants were given the option of anonymity in responding which leads to lower tendency of social desirability bias and more honest responses increasing the validity of the results. Additionally, the MBTI scale has strong validity and reliability which helps with the accuracy of the conclusion made based on the results of the study. Moreover, such a research was one of its kind in connecting the two meta programs and investigating a particular relationship amongst them. The results assume great significance in the field of personality psychology through its contribution to one’s understanding of how people belonging to different points on the introversion-extroversion continuum tend to think, feel and make decisions. Thus, through the knowledge of

their patterns of thinking, it helps in understanding people a bit better. However, it should be noted that introversion or extroversion does not “cause” one to be more of a thinker or feeler. Rather, the variables are simply related and are usually found to co-occur, given that it is a correlational study. This study serves as a great starting point in the research arena of personality variables and further research is required to confirm and expand on these findings across different cultures and populations.

### **Limitations**

This study is not without its own limitations such as lack of previously conducted research on the topic. In addition, the length of the scale- which involved responding to 70 items- could have led to fatigue and lack of accuracy in responding to later items. Participants were also unsupervised while responding to the scale hence responses could be flawed. Lastly, they were given limited choice in responding to each item- where they may agree or disagree with both statements but being forced to choose one over the other. Hence, such a forced choice scale that reflects lack of subjectivity leaves little option for the participant and may not reflect their true personality. Nonetheless, the results of the study were in line with the hypothesis as well as previous research.

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