

# Are Introverts Smarter Than Extroverts?

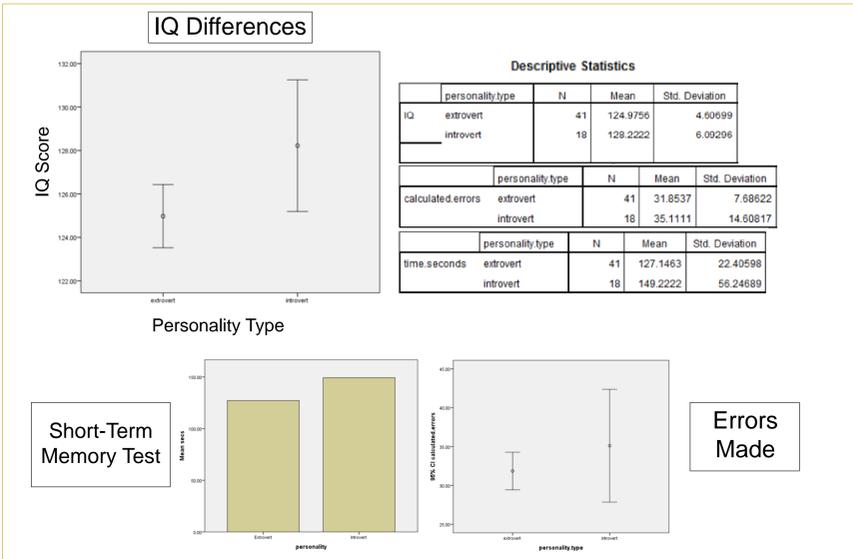
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## Introduction:

Personality theorists have identified several central traits that define a person's overall worldview and typical style of reacting to the environment. One of these traits is introversion-extroversion. Individuals will fall on this continuum based on how internally-focused or externally-focused they tend to be. As this is a central trait, it may seem logical that the level of introversion/extroversion could impact multiple, less central personality traits and cognitive abilities affecting many aspects of the individual's life. The current study was designed to explore the possibility of differences in short-term memory, IQ scores, and errors made between extroverts and introverts. As extroverts tend to be more outward-focused, it may be logical to expect extroverts to have better short-term memory retrieval than introverts. Research has supported no differences for personality types on exams of primitive knowledge, or basic knowledge, like basic math and English; however extroverts perform significantly better on procedural knowledge exams, or exams in which one is asked to do something, like Fahrenheit conversion to Celsius (Kim, 2013). It's also noted that introverts may exhibit higher IQ scores due to their calculated and analytical predisposition, because they are more prone to think through things rather than being impulsive. Because of their cautious nature in cognition, they may display fewer errors than extroverts while doing the memory task. These differences were studied and compared in a study conducted at the University of North Georgia. Approximately 59 randomly selected female undergraduate participants completed a memory test, an intelligence quotient evaluation, and a personality inventory. Data was analyzed and compared using SPSS.

## Method:

- \* Levels of introversion and extroversion were measured, along with an evaluation of their IQ and memory performance.
- \* Participants consisted of 59 female undergraduate students at a moderately-sized liberal arts college campus in the south.
- \* Participants signed up for the study on an online campus portal where they received credit for participation.
- \* Participants completed an online personality-type evaluation that determined whether they were an extrovert or introvert (Sydlo, 2015)
- \* Participants then completed an online IQ Test (Memorado, 2014)
- \* Participants then completed a timed (in seconds) memory test which accounted for errors made (Web-Games-Online, 2015).
- \* Results were analyzed and compared in SPSS using three separate t-tests.



## Results:

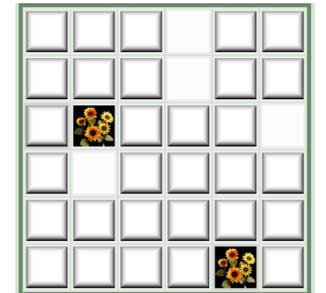
This current study concurred that there are differences in IQ scores, short-term memory task completion, and errors made between female introverts and extroverts. Female introverts (M=128.22, SD= 6.09) had significantly better IQ scores than female extroverts (M= 124.98, SD=4.61);  $t(57)=2.25, 0.02 > p > 0.05$ . The extroverts (M=127.15, SD= 22.41) completed the memory task significantly faster than did introverts (M=149.22, SD=56.25);  $t(57)=2.17, 0.02 > p > 0.05$ . In terms of errors, female extroverts (M=31.85, SD=7.69) also made significantly less errors than female introverts (M=35.11, SD=14.61;  $t(57)=1.12, p < 0.2$ ).

## IQ Test

Which shape completes the pattern?



## Memory Game



You did it in 52 tries! Percent correct: 35%

Start New Game Time: 03:36

## Discussion:

Researchers hypothesized that extroverts would perform better in the short-term memory task, because of their predisposition to be externally-focused. Generally, extroverts tend to be more impulsive, leading them to act quicker and perform faster in procedural based tasks (Kim, 2013). The results of this study affirmed these assumptions. Extroverts completed the task in significantly shorter time than introverts did. Prevalent stereotypes of introverts suggest that they would take longer to perform tasks because of their inclination to be more analytical before acting (Kim, 2013). According to these stereotypes, introverts actually did end up taking longer to complete the short-term memory task, as well as made more errors. Cognitive research shows that extroverts display more neuronal activity than introverts in brain regions associated with learning, motor control, and vigilance control, and that their premotor cortexes process external stimuli more quickly (Bennington, 2013). Overall, extroverts show significantly better performance actively utilizing their short term memory, which lowered their completion time, while introverts exhibited more careful decisions and made more errors, prolonging their completion time. In future studies, researchers wish to seek differences in academic performance, ages, and mental disorders. These findings can increase the knowledge base about the interaction between personality types and the ability to utilize short-term memory recall. Finding out the link between personality types and mental processing can be important in utilizing teaching styles, coping mechanisms, means of treating unique disorders, and enhancing social behavior understanding. When looking at short-term memory, a lot of common daily tasks can be influenced and even enhanced by understanding variation in people. Standardized testing can also be vastly influenced to accommodate gender or personality types to maximize performance in schools and jobs. Most, if not all, research on this type of memory is fairly recent and still an enigma to the research world.

## References:

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