

Exploring the Myers-Briggs Type Indicator

Oklahoma State University

Jessica Blodgett

### **Abstract**

This study examined the efficacy of an abbreviated method of a personality assessment. Whereas traditional methods of type assessment rely on multi-item questionnaires, this new method utilizes vignettes written by the scholars from the Center for Applications of Psychological Type.. Other measures included in the study were the Anxiety Sensitivity Index, Rotter's Locus of Control, and the Relationship Satisfaction Assessment used to measure the predictive validity of this single-item measure, however, these results were not discussed in the thesis. Using a pattern analysis in the OOM software, the Qualtrics MBTI and the Humanmetrics MBTI were compared to one another to see if their observations matched in a unit-to-unit pattern. The results revealed that the observations between the Qualtrics and Humanmetrics MBTIs did not match up in a unit-to-unit fashion and do not support previous studies that state single-item measure are as effective as multi item measures.

## Exploring the Myers-Briggs Type Indicator

### **Introduction**

Carl Jung is widely known for the personality typology he created. The first component of his typology is the distinction between extroversion and introversion. Extroverts prefer to engage the external world filled with people and activities while introverts are content to remain in their own internal world filled with their thoughts and feelings. Both extroverts and introverts deal with the inner and outer world in their own way that makes it feel comfortable for them (Boeree, 2006; Myers & McCaulley, 1985). Jung suggested there are four different ways or functions in how people deal with the world, which are categorized into two groups: perception and judgment. Sensing and intuition are in the perception category. Sensing refers to the act of obtaining information through the five senses to understand what is occurring in that moment. Individuals more oriented toward sensing perception tend to enjoy life in whatever present moment they find themselves in, and they have acute powers of observation. Intuition operates outside the usual conscious processes. Intuition refers to the perception of obtained information beyond what the visual senses report, and these types of individuals tend to be more imaginative and future oriented (Boeree, 2006; Myers & McCaulley, 1985). Thinking and feeling are in the judgment category. Thinking refers to the evaluation of information or ideas through logical and rational processes. Individuals oriented in this type of judgment think in terms of cause and effect and can appear impersonal in social settings. Feeling refers to the evaluation of information based on a person's overall emotional response to information. Individuals who are more oriented toward the feeling function are more in tune with not only their own values but others' as well. They will make their decisions based on other's values, which implies they have a high understanding of people. All functions are used when individuals deal with both their

inner and outer world but some functions are superior to another's in terms of use and development (Boeree, 2006; Myers & McCaulley, 1985). Judging and perceiving were not part of Jung's original dimensions of personality but were added by Katherine Briggs and Isabel Briggs Myers. These two new additions were designed to determine an individual's attitudes and behaviors to the outer world and whether the judgment or perception function is dominant. Individuals who have a perceptive attitude are sensitive to incoming information and are characterized as curious, spontaneous, and open to change. In contrast, individuals who hold a judging attitude prefer to withhold their initial perception of an event until they have obtained all of the information to make a decision. They are characterized as organized and decisive (Boeree, 2006; Myers & McCaulley, 1985).

The Myers-Briggs Type Indicator (MBTI) is the most popular measure using Jung's typology and was developed by Katharine Briggs and her daughter Isabel Briggs Myers. They found Jung's type and functions of people's personalities fascinating. It was during World War II that they decided to develop a paper and pencil method because they saw numerous people taking jobs that did not match their personalities. They hoped that this indicator could be used by people to describe themselves in Jung's model and find a better job. Work on the MBTI began in 1942 and twenty years later it was published in the Educational Testing Services only as research instrument. The publishing of the MBTI allowed researchers to discover the MBTI and use it in their dissertations in the late 1960s and 1970s. In 1975, the MBTI was considered ready for applied use and the Counseling Psychologists Press became its publisher. The MTBI became a universal personality instrument that could be used in counseling, businesses and organizations, the education community, and religious community settings to understand and appreciate individual differences to either help the individual or organization thrive (McCaulley, 1990).

In regards to reliability, split half reliability estimates were used to find that younger students produced scores with lower reliability coefficients compared to adults at least 20 years and older, and higher achieving students' demonstrated higher reliability indices compared to underachieving students (Caparo R.M. & Caparo M.M., 2002). Cronbach's alpha was calculated for large sample studies acquired from the Center for Applications of Psychological Type (CAPT) databank. The scores reported reliability coefficients averaging EI = .79, SN = .84, TF = .74, and JP = .82 on more than 32,000 participants and a range of EI = .74 to .83, SN = .74 to .85, TF = .64 to .82, and JP = .78 to .84 on more than 10,000 participants (Caparo R.M. & Caparo M.M., 2002; Myers & McCaulley, 1985). The MBTI's test-retest reliabilities scores imply that scores are consistent over time. The test-retest coefficients from 1 week to 2.5 years ranged from .93 to .69 on the SN scale, .93 to .75 on the EI scale, .89 to .64 on the JP scale, and .89 to .48 on the TF scale (Caparo R.M. & Caparo M.M., 2002 ; Myers & McCaulley, 1989).

Correlating scores with the findings of other personality instruments and inventories is how to establish the validity of the MBTI scores. There were statistically significant correlations found between MBTI scores, behaviors associated with MBTI constructs, and person's self-assessment of their own MBTI type (Caparo R.M. & Caparo M.M., 2000).

There are four forms of the MBTI: Form M, Form M self-scorable, Step II Form Q, and Step III. Both Form M and Form M self-scorable are the standard form consisting of 93 items and are scored to report a four letter type and preference clarity indexes. The only difference between the two is that the individual taking the MBTI can either score Form M self-scorable himself/herself or have a professional do it. Step II Form Q consists of a 144 items used to generate a four type letter and scores on each of the five facets associated with each of the four primary MTBI preferences. These facets provide more information on each individual MBTI

type and in depth individual feedback is provided. The Step III contains 222 items and is designed to provide information to those who want to learn how they use their MBTI type in everyday life. It is required to meet with a trained Step III professional to interpret the results in an in-depth session (“*Versions of the MBTI Questionnaire*”, n.d.).

Scoring the MBTI consists of adding all points of each choice the individual the individual made for each of the four preferences. For example, the EI preference scorer would add all of the answers that lean towards either the E or I preference. Each answer carries of weight 0,1, or 2. Preference scores consist of one letter to represent the direction of the preference and a number to show the consistency of the preference (e.g., E31). Continuous scores are a linear transformation of preference scores, which makes it easier for statistical analyses. The mid point of the score is 100 and the preference score is added if the preference is I, N, F, or P and the score is subtracted if the preference is E,S, T, or J. For example a transformation of preference score to a continuous score is that E 43 would change to E 57. Once all the scores for each preference are calculated, an individual can receive his/ her MBTI type. An MBTI personality type is identified by four letters and then placed into one of the sixteen MBTI types: ENFJ, ENFP, ENTJ, ENTP, ESFJ, ESFP, ENTJ, ENTP, INFJ, INFP, INTJ, INTP, ESFJ, ISFP, ISTJ, and ISTP. No type is described as being entirely negative or positive and the identification of a MBTI type allows the individual a chance to explore his or her personality (McCaulley, 1990; Boeree, 2006).

Previous research has shown that single items are a viable approach to assessing personality traits such as narcissism (van der Linden & Rosenthal, 2016), and Big Five personality traits (Woods & Hampson, 2005; Brown & Grice, 2011; Grice , Mignogna, Badzinski, 2011), need for consistency (Nichols & Webster, 2014) and death anxiety (Abdel-

Khalek, 1998). These studies support the idea that single-item measures can be an effective way to assess personality compared to multi-item measures because the results produced similar predictive power and consistent test-retest reliability.

In the current study we investigated a single item approach to Jung's types. Whereas traditional methods of personality type assessment rely on multi-item questionnaires, our method utilized a series of vignettes created by scholars at CAPT. Eight vignettes were written that provide descriptions of persons who identify as Introvert-Sensing, Introvert-Feeling, Introvert-Thinking, Introvert-Intuitive, Extrovert-Feeling, Extrovert-Thinking, Extrovert-Sensing, and Extrovert-Intuitive. Participants read vignettes in predetermined orders and chose those that best fit their personalities. Once all of the choices were made, their personalities were typed using the traditional MBTI scheme (e.g., INTJ, INFP, ESTJ, etc.). In addition to examining the efficiency of our abbreviated personality assessment to a multi-item personality assessment, we also examined its predictive validity regarding self-reported behaviors of sensitivity to anxiety, locus of control and relationship satisfaction; however, the results from these analyses are not discussed in this thesis.

## Method

### *Participants*

A total of 70 undergraduate students volunteered to participate in exchange for 1 course credit. No restrictions were placed on gender, ethnicity, or other demographic variables. Participants were recruited from the participant pool at Oklahoma State University who were registered with the SONA system (online computer software that manages the participant pool.) Complete data were obtained for 67, among whom 46 participants were female (70.15%) and 21 were male (29.85%).

### *Materials*

*MBTI Vignettes.* Scholars from the Center for Applications of Psychological Type (CAPT) wrote these vignettes (see *Appendix A* for complete descriptions). The vignettes were written to provide descriptions persons who identify as Introvert-Sensing, Introvert-Feeling, Introvert-Thinking, Introvert-Intuitive, Extrovert-Feeling, Extrovert-Thinking, Extrovert-Sensing, or Extrovert-Intuitive. Participants were shown a pair of opposite type vignettes (e.g. Extrovert Feeling and Introvert-Feeling) and asked to choose the one they identify with more in order determine their letters for the E/I designation. Based on their initial choice, the computer program generated three more subsequent pairs of opposite type vignettes and each was shown individually to the participant in a predetermined order to determine their S/N, T/F, and J/P letter designation. The J/P letter designation was determined when the participant chose between his/her S/F or N/T letters. The N/S represents Perceiving and the T/F represents Judging.

*Anxiety Sensitivity Index (ASI).* The Anxiety Sensitivity Index (Reiss, Peterson, Gursky, & McNally, 1986) is a 16 item self-report questionnaire that assesses an individual's sensitivity level to anxiety. Participants ranked their level of agreement for each statement on a 5-point



Likert type scale ranging from a score of 0 to 4. A higher score indicates a higher level of anxiety sensitivity (see *Appendix B* for example question).

*Rotter's Locus of Control Scale.* According to Rotter (1966) individuals who attribute their achievements to their own behaviors and actions have a high internal locus of control while those who attribute their achievements to outside forces beyond their control have a high external locus of control. Rotter created this measure of internal-external control that consists of 29 items, including six filler items. This scale's items consist of questions that cover all aspects of life such as love, social-political events, academics and general life philosophy. Participants were given a choice between two statements with one statement being associated with internal locus of control and the other with external locus of control. This study used only eight items, including two filler items, in this study (see *Appendix C* for example question).

Relationship assessment scale was designed by Hendrick (1988) to assess global relationship satisfaction. It is a seven-item questionnaire and each answer is rated on a five point Likert type scale. This scale is best suited for those who engaged in an intimate relationship such as couples who either married, engaged, cohabitating, or students who are dating (see *Appendix D* for an example).

### *Procedure*

At the beginning of each session participants were given a consent form to read and sign. Next, participants sat privately in front of a computer and read four pairs of MBTI vignettes in a predetermined order. Participants then completed a questionnaire that consisted of questions from the ASI, Rotter's locus of control, and the relationship assessment scale. Once participants finished these questionnaires they finally completed an online, open-access Humanmetrics version of the MBTI called the Jung Typology test (see *Appendix E* for questions). When they

finished with the online version of the MBTI, the experimenter recorded their results.

Participants received the debriefing form at the end of the study and were given the opportunity to ask any questions before they were released.

## Results

A cross orderings pattern analysis in in OOM was used to match the observed patterns between the Qualtrics and Humanmetrics MBTI personality types. The results reported only 16 of the 67 observations (23.88%) observations matched on the expected one-to- one-unit pattern with a c-value  $<0.001$ (see Appendix F). There were 47 (70.15%) matched observations between the Humanmetrics and Qualtrics E/I dichotomies with c-value 0.04. The Humanmetrics EI dichotomy reported 48 extroverts 19 introverts while the Qualtrics E/I dichotomy reported only 46 extroverts and 21 introverts.

Using the build test model option in OOM, both Humanmetrics MBTI and Qualtrics MBTI were compared to gender. On both of the results, a majority of the female participants reported they were extroverts. The two most common personality types were ESFJ and ESFP on the Qualtrics MBTI (c-value .015) while the two most popular personality types on the Humanmetrics MBTI were ESFJ and ENFJ (c-value 0.06).

A post hoc analysis using the build test model option in OOM was done to compare each Qualtrics and Humanmetrics dichotomy to gender. Both the Qualtrics and Humanmetrics E/I, T/F, and J/P dichotomies revealed a majority of female participants reported themselves as either an extroverted, feeling, or judging type while male participants reported themselves as an introverted, thinking, or perceiving type. There was a significant difference reported between the Qualtrics and Humanmetrics N/S dichotomy. The Qualtrics N/S dichotomy reported 38 females were typed as feeling compared to 8 typed as thinking (c-value 0.05). The Humanmetrics dichotomy reported 23 female participants identifying as either the sensing or intuitive type (c-value 0.62).

### **Discussion**

The hypothesis was that there would be a one-to-one unit pattern match between the single item measure (Qualtrics MBTI) and the multi item measure (Humanmetrics MBTI). The results did not support the hypothesis. The results were inconsistent with past research examining the efficiency of single item measures. These results suggested it could be too difficult to achieve an exact match of the 16 MBTI personality types with a single-item measure. Only 16 matched observations were found when comparing the Humanmetrics and Qualtrics MBTI and of the matches nine were the ESFJ personality type.

According to the CAPT, the range of ESFJ personality type frequency in the U.S is 9-14%. The frequency of the ESFJ personality type in the Humanmetrics MBTI and Qualtrics MBTI is 8.6% and 2.9%. The type frequency of extroverts and introverts in the U.S is typically a 50/50 split with reported 49.3% extroverts and 50.7% introverts. The Qualtrics MBTI reported 65.7% extroverts and 30% introverts. The Humanmetrics MBTI reported 68.57% extroverts and 27.14% introverts. These results could be due to the small sample size and the majority of the participants were female who identified themselves as extroverts. The results of the Qualtrics N/S dichotomy supports the frequency result of the CAPT while the Human N/S dichotomy does not (Center for Applications of Psychological Type, n.d.).

A source of potential bias originates from the participants who volunteered for the study. Since the Myers-Briggs Type indicator is one of the most popular used personality measurement tools, it is possible participants already know their MBTI personality type and answer the questions in a particular way to achieve the same result. The participants could have answered

the questions in a particular way that is more socially acceptable since extroversion is highly favored in society compared to introversion. A third source of potential bias is this study became active on the SONA system during the last month of the spring semester. The timing could have influenced what types of students volunteered to participate because there are some students who achieve the required amount of SONA credits early in the semester and those who rush in the end to receive SONA credits.

One factor that could have affected the results of the study is due to imprecision of measures. Instead of using the standard form of the MBTI, our study used an online version of the MBTI based on Carl Jung's and Isabel Myers' personality type theory called the Jung Typology Test. We used this version in our study because we did not have the funds to purchase the standard form.

Future directions would involve a replication of this study but instead compare the results of the single-item measure to the standard form of the MBTI. Second, researchers could compare the continuous scores of the standard MBTI form to the confidence levels asked in the study. Lastly, researchers could replicate and extend this study by seeking a variety of college students with different majors or who have never taken a Psychology class before. It is possible a majority of the participants only volunteered for this study because they were rushing to achieve the required amount of SONA credits required for their Psychology class.

In conclusion, multi-item personality assessments are long, expensive, and take a substantial amount of time to complete and score. Results from other studies support the idea multi items may not be required when measuring personality traits and instead single item measures are a viable option. These single-item measures simplify the process of taking a personality assessment.

## References

- Abdel-Khalek, A. M. (1998). Single-versus multi-item scales in measuring death anxiety. *Death Studies, 22*(8), 763-772.
- Boeree, C. G. (2006). Carl Jung . Retrieved May 04, 2017, from <http://webpace.ship.edu/cgboer/jung.html>
- Brown, E. A., & Grice, J. W. (2011). One is enough: single-item measurement via the dynamic analog scale. *SAGE Open, 1*(3), 2158244011428647.
- Capraro, R. M., & Capraro, M. M. (2002). Myers-briggs type indicator score reliability across: Studies a meta-analytic reliability generalization study. *Educational and Psychological Measurement, 62*(4), 590-602.
- Center for Applications of Psychological Type. (n.d.). Estimated Frequencies of the Types in the United States Population. Retrieved May 11, 2017, from <https://www.capt.org/mbti-assessment/estimated-frequencies.htm?bhcp=1>.
- Grice, J., Mignogna, M., & Badzinski, S. (2011). The Dynamic Analog Scale: A generic method for single-item measurement. *Personality And Individual Differences, 50*(4), 481-485.  
doi:10.1016/j.paid.2010.11.012
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family, 50*, 93-98.
- McCaulley, M. H. (1990). The Myers-Briggs Type Indicator: A measure for individuals and groups. *Measurement and Evaluation in Counseling and Development*.

Myers & Briggs Foundation. (n.d.). Versions of the MBTI Questionnaire . Retrieved May 05, 2017, from <http://www.myersbriggs.org/using-type-as-a-professional/versions-of-the-mbti-questionnaire/>

Myers, I. B., & McCaulley, M. H. (1985). *Manual, a guide to the development and use of the Myers-Briggs type indicator* (R. Most, Ed.). Palo Alto, CA: Consulting Psychologists Press.

Nichols, A. L., & Webster, G. D. (2014). The single-item Need for Consistency Scale. *Individual Differences Research*, 12(2), 50-58.

Reiss, S., Peterson, R. A., Gursky, D. M., & McNally, R. J. (1986). Anxiety sensitivity, anxiety frequency, and the prediction of fearfulness. *Behavior Research and Therapy*, 24, 1–8.

Rotter, J. B. (1966) Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*: 1966, 90, Whole No. 609.

van der Linden, S., & Rosenthal, S. A. (2016). Measuring narcissism with a single question? A replication and extension of the Single-Item Narcissism Scale (SINS). *Personality And Individual Differences*, 90238-241. doi:10.1016/j.paid.2015.10.050

Woods, S. A., & Hampson, S. E. (2005). Measuring the Big Five with single items using a bipolar response scale. *European Journal of Personality*, 19(5), 373-390.

## Appendix A

## MBTI vignettes

## Extrovert-Feeling

I'm outgoing, warm, and empathic "people person." Relationships matter a great deal to me. I like people, enjoy actively connecting with them, tend to make friends easily, and enjoy building and nurturing supportive relationships. Considerate and tactful, I work towards harmony in my interactions with others and with my surroundings as a whole. I tend to be an idealist and where good will can win cooperation, I can often get people to work together. I'm very attuned to social customs and to expectations in relationships; helping communication and interactions go smoothly feels good to me. I tend to be aware of other's situations and how people feel and am known for my sympathetic ear. I enjoy helping and supporting others in any way I can and I often tend to sacrifice myself for other people. I'm a pretty accepting person and I also find pleasure in being able to say the right thing that helps someone feel good and important. I am persevering and conscientious in my work and relationships and criticism and praise both impact me strongly. Feelings are a vital part of who I am; I would describe myself as an emotionally expressive person who responds strongly to things I care about, and I know readily where I stand on things. Sometimes I'm so focused on harmony that I lose track of what I feel and so idealistic that I may ignore disagreeable facts.

## Extrovert-Thinking

I'm a dynamic, analytical and organized person who enjoys making decisions and getting things done. I view myself as an objective person and strive to base my actions on ruling principles, intellectual conclusions and logical considerations. I hold both myself and others to high standards and ruling codes, and I have a clear sense of the right and wrong way to do things. Justice and truth matter to me. I believe the world operates by cause-and-effect and it's important to me to develop a consistent understanding of the laws by which the world and other people work. It feels good to plan, to actively organize the world around me and to get people moving to accomplish things. I have a high need for closure and forward movement. I have a strong need to get decisions made, to apply rational methods and procedures. I'm comfortable saying what I think out loud and good at debating pros and cons of an idea. I confidently argue the merits of my position and others can experience me as overly assertive and convinced of my rightness of my point of view. I believe it's important to control emotions so that in any given situation the truth may be discovered and effective action may be taken. I view myself as a positive and productive person. I can be so driven to logically organize the world around me and to get things done that I can be single-minded and perhaps inattentive to my impact on others.

## Extrovert-Sensing

I'm an active, fun-loving and realistic person; I don't like to sit still. I am drawn to and immerse myself in the rush and excitement of real physical life. I enjoy a life of pleasure, lived to the full, and I like anything that stimulates my senses, especially if the sensations and experiences are intense. The experience itself is the thing and I tend to take people and things as they are. I am



quick-moving, responsive to my environment, live in the moment, and prefer to make my own rules. I like parties, activities, get-togethers, good food, and fine things. I'm good with facts, prefer straightforward language, and want to talk about things that are really happening. I'm inclined to accept people, things and events at face value, without trying to make them into something else. In this way, I am practical and realistic, because to me things are what they are. I trust my ability to deal with realities of life and to find what works. I generally have a good command of and memory for the details of everyday life. If I can't experience something with my senses, then it's not real to me. I'm a down-to-earth person and don't have much patience for the theatrical or imaginary.

#### Extrovert-Intuition

I'm a spontaneous, enthusiastic and creative person who enjoys brainstorming ideas out loud and actively pursuing new opportunities. I would describe myself as innovative and imaginative, often wondering "what might be" and what new things can be done with whatever I encounter. I orient to the world and the future with a sense of expectancy and I have a passion for new possibilities, projects and experiences. Vision is everything to me and I trust my hunches. I enjoy approaching things in novel ways, strongly value my freedom and become quickly bored with things as they are and with activities I've done before. To me, everything is connected, and in my movement from one idea or topic to another, I do find myself easily distracted. I like conceptual, symbolic thinking and tend to grasp complex ideas quickly. In my expressive, stream-of-consciousness approach to conversation, I make rapid connections between ideas, and I can at times be dramatic. I'm naturally inclined to read between the lines and to notice patterns in the world around me. It's easy for me to adapt and flex as needed for the environment and I can change directions readily. With the way my mind moves. I often give little attention to time, to schedules, or how long it actually takes to get things done.

#### Introvert-Thinking

I'm a reflective, logical and rational person who turns inward to analyze and understand the world by uncovering the logical principles behind how things work. I am constantly seeking the rational truth through, penetrating questioning, systematic analysis, and doubt. I know that with enough examination and analysis, the world can and will make sense. I want order in the world of ideas and value precision in my language and thinking. The pursuit of knowledge is important to me and clarification and analysis of basic concepts appeals to me. I view myself as a critical thinker who is also comfortable critiquing others' thinking. Concepts often interest me more than the things themselves. Other people can experience me as tough-minded, headstrong and perhaps somewhat tactless at times. I can become so inwardly absorbed in idea or problem that I neglect those around me. I may also come across as a bit detached, cool or even reclusive. I trust my own logic and judgment, draw on my own conclusions and do not let others' feelings about my analyses influence my pursuit of the truth. However, I am open to logical argument and to a better idea. Traditions do not particularly interest me. In my lone pursuit of ideas, I'm in danger of overcomplicating things and it can also feel like too much trouble to explain my thinking to others.

#### Introvert-Feeling

I'm a thoughtful and realistic person with deep values and strong feelings that may not be readily apparent to others. My outer behavior is often low-key or quietly harmony-seeking. Harmony in my inner feelings life is essential; I need who I am to be in line with what I value. I know where I stand on things-- what is written in y heart- and have a strong sense of what is important. I can be a quiet positive influence in getting people to consider the ethical impact of their decisions or actions. I strongly resist changing what I believe or do because others value or believe something different. When an action or decision conflicts with a personal value, I can be immovable. In this way, I may seem to others to be close-minded or stubborn. I may also come across a bit removed or aloof, but others cannot guess at how passionately I care about certain people, ideas or issues. I view myself as a warm and tender person. however, I tend to guard and protect my feelings and so am not necessarily emotionally expressive. My deep feeling may only be apparent in my quiet faithfulness and loyalty to those that I care about, or in the intensity with which I focus on a cause or ideal. I have a strong sense of commitment. being such an idealist, I'm in danger of losing confidence and feeling disappointed and mistrustful whenever people, life in general, or I myself seem to fall short of those standards.

#### Introvert-Sensing

I'm a reflective, practical, and calm person. I like to keep things stable and settle. I view myself as a concrete person, dealing with things as they are. I'm good with facts and details. Traditions matter to me. I tend to keep my thoughts and emotions inside, and others can experience me as contained and hard to know. Though I may appear contained, on the inside I am often having very strong reactions, associations and memories related to what is happening. My strong reactions are related to the meaning and significance of the vent to me, even though the event that triggered it may not seem like that big a thing. My memories can be very vivid, calling forth the original feelings I had at the time of the event. I can get immersed in intense inner responses to something. I sometimes process things so deeply that others may see me as taking too much time or getting bogged down on the same topic. I'm not always quick to response to the actual events around me. In processing so deeply, I can have delayed reactions, often laugh much later at a joke- and sometimes my own humor is so "dry" or quirky that others don't even know I'm joking. I'm more interested in the meaning of the present than in imagining all the possibilities of the future.

#### Introvert-Intuition

I'm a reflective, insightful and creative person, immersed in a rich inner world that is a stream of images, ideas and associations. These inner insights emerge from nowhere, and are often symbolic, metaphorical or vision-like. They may carry a strong sense of knowing and frequently capture the essence of a thing, but it can be difficult to express the insights. I'm a bit of a daydreamer, am often quiet, and others may experience me as distant. I have deep felt sense of patters in how things and events are all interconnected. I appreciate multiple perspectives, am intensely attuned to the possible, and natural orient to the future and what may or could be. I often have an uncanny ability to know will happen, and at time it seems I have almost psychic hunches. I tend to find theory, complexity, and abstract approaches to thinking appealing. Ideas and images are constant motion in my mind, and experiencing an insight itself is often more invigorating than doing something with it. I enjoy seeking out new viewpoints for understanding

and interpreting life. In the pursuit of inner insight and understanding, I often miss the details of everyday life, perhaps being oblivious to people and the world around me, forgetting specifics, or being absentminded.

## Appendix B

## Anxiety Sensitivity Index

If they chose 0 then their answer was scored as they agreed “very little” with the statement. If they chose 4, then their answer indicated that they agreed “very much” with the statement. A few example questions were “It is important for me not to appear nervous, It scares me when I feel faint, and It scares me when I become short of breath.”

## Appendix C

## Rotter's Locus of Control

An example item on the questions consist of the following statement “Many times I feel that I have little influence over the things that happen to me vs. “It is impossible for me to believe that chance or luck play an important role in my life.”

Appendix D

Relationship Assessment Scale

An example item on this questionnaire is “How well does your partner meet your needs?”

## Appendix E

## Humanmetrics: Jung's Typology Test

1. You are almost never late for your appointments  
 YES  yes  uncertain  no  NO
2. You like to be engaged in an active and fast-paced job  
 YES  yes  uncertain  no  NO
3. You enjoy having a wide circle of acquaintances  
 YES  yes  uncertain  no  NO
4. You feel involved when watching TV soaps  
 YES  yes  uncertain  no  NO
5. You are usually the first to react to a sudden event: the telephone ringing or unexpected question  
 YES  yes  uncertain  no  NO
6. You feel that the world is founded on compassion  
 YES  yes  uncertain  no  NO
7. You think that everything in the world is relative  
 YES  yes  uncertain  no  NO
8. Strict observance of the established rules is likely to prevent attaining a good outcome  
 YES  yes  uncertain  no  NO
9. It is difficult to get you excited  
 YES  yes  uncertain  no  NO
10. When making a decision, you rely more on your feelings than on analysis of the situation  
 YES  yes  uncertain  no  NO
11. You often think about humankind and its destiny  
 YES  yes  uncertain  no  NO
12. You believe the best decision is one which can be easily changed  
 YES  yes  uncertain  no  NO
13. You often ponder the root cause of phenomena and things  
 YES  yes  uncertain  no  NO
14. You prefer to act immediately rather than speculate about various options  
 YES  yes  uncertain  no  NO
15. You trust reason rather than feelings  
 YES  yes  uncertain  no  NO
16. You are inclined to rely more on improvisation than on prior planning  
 YES  yes  uncertain  no  NO
17. You spend your leisure time actively socializing with a group of people, attending parties, shopping, etc.  
 YES  yes  uncertain  no  NO
18. You usually plan your actions in advance

- YES  yes  uncertain  no  NO
19. Your actions are frequently influenced by your emotions
- YES  yes  uncertain  no  NO
20. You are a person somewhat reserved and distant in communication
- YES  yes  uncertain  no  NO
21. You know how to put every minute of your time to good purpose
- YES  yes  uncertain  no  NO
22. You often contemplate the complexity of life
- YES  yes  uncertain  no  NO
23. After prolonged socializing you feel you need to get away and be alone
- YES  yes  uncertain  no  NO
24. You often do jobs in a hurry
- YES  yes  uncertain  no  NO
25. You easily see the general principle behind specific occurrences
- YES  yes  uncertain  no  NO
26. You frequently and easily express your feelings and emotions
- YES  yes  uncertain  no  NO
27. You find it difficult to speak loudly
- YES  yes  uncertain  no  NO
28. You get bored if you have to read theoretical books
- YES  yes  uncertain  no  NO
29. You tend to sympathize with other people
- YES  yes  uncertain  no  NO
30. You value justice higher than mercy
- YES  yes  uncertain  no  NO
31. You rapidly get involved in the social life of a new workplace
- YES  yes  uncertain  no  NO
32. The more people you speak to, the better you feel
- YES  yes  uncertain  no  NO
33. You tend to rely on your experience rather than on theoretical alternatives
- YES  yes  uncertain  no  NO
34. As a rule, you proceed only when you have a clear and detailed plan
- YES  yes  uncertain  no  NO
35. You easily empathize with the concerns of other people
- YES  yes  uncertain  no  NO
36. Often you prefer to read a book than go to a party
- YES  yes  uncertain  no  NO
37. When with a group of people, you enjoy being directly involved and being at the centre of attention
- YES  yes  uncertain  no  NO



38. You are more inclined to experiment than to follow familiar approaches

YES  yes  uncertain  no  NO

39. You are strongly touched by the stories about people's troubles

YES  yes  uncertain  no  NO

40. Deadlines seem to you to be of relative rather than absolute importance

YES  yes  uncertain  no  NO

41. You prefer to isolate yourself from outside noises

YES  yes  uncertain  no  NO

42. For you, it is easier to gain knowledge through hands-on experience than from books or manuals

YES  yes  uncertain  no  NO

43. You think that almost everything can be analyzed

YES  yes  uncertain  no  NO

44. For you, no surprises is better than surprises - bad or good ones

YES  yes  uncertain  no  NO

45. You take pleasure in putting things in order

YES  yes  uncertain  no  NO

46. You feel at ease in a crowd

YES  yes  uncertain  no  NO

47. You have good control over your desires and temptations

YES  yes  uncertain  no  NO

48. You easily understand new theoretical principles

YES  yes  uncertain  no  NO

49. You usually place yourself nearer to the side than in the center of the room

YES  yes  uncertain  no  NO

50. When solving a problem you would rather follow a familiar approach than seek a new one

YES  yes  uncertain  no  NO

51. A thirst for adventure is something close to your heart

YES  yes  uncertain  no  NO

52. When considering a situation you pay more attention to the current situation and less to a possible sequence of events

YES  yes  uncertain  no  NO

53. When solving a problem you consider the rational approach to be the best

YES  yes  uncertain  no  NO

54. You find it difficult to talk about your feelings

YES  yes  uncertain  no  NO

55. Your decisions are based more on the feeling of a moment than on the thorough planning

YES  yes  uncertain  no  NO

56. You prefer to spend your leisure time alone or relaxing in a tranquil atmosphere

YES  yes  uncertain  no  NO

57. You feel more comfortable sticking to conventional ways

YES  yes  uncertain  no  NO

58. You are easily affected by strong emotions

YES  yes  uncertain  no  NO

59. You are always looking for opportunities

YES  yes  uncertain  no  NO

60. As a rule, current preoccupations worry you more than your future plans

YES  yes  uncertain  no  NO

61. It is easy for you to communicate in social situations

YES  yes  uncertain  no  NO

62. You rarely deviate from your habits

YES  yes  uncertain  no  NO

63. You willingly involve yourself in matters which engage your sympathies

YES  yes  uncertain  no  NO

64. You easily perceive various ways in which events could develop

YES  yes  uncertain  no  NO

Appendix F

Pattern Analysis: Cross Orderings Humanmetrics MBTI versus Qualtrics MBTI

		Qualtrics MBTI															
		ENFJ	ENFP	ENTJ	ENTP	ESFJ	ESFP	ESTJ	ESTP	INFJ	INFP	INTJ	INTP	ISFJ	ISFP	ISTJ	ISTP
Humanmetrics MBTI	ENFJ	2	2			2	3							1	1		
	ENFP		2			1	1				1				1		
	ENTJ			1		1											1
	ENTP				2										1		
	ESFJ	1				2	3	1	2						1		
	ESFP		1			1	2	1	1				1				2
	ESTJ					1	1	1									
	ESTP								1							1	
	INFJ									1					1	1	
	INFP		1								1						1
	INTJ			1			1	2				1			1	1	
	INTP												1				
	ISFJ										1				1		
	ISFP						1									1	
	ISTJ			1				1									1
	ISTP						1								1		1