PERSONALITY DIFFERENCES IN AUTISTIC AND TYPICALLY DEVELOPING CHILDREN

A thesis presented to the faculty of the Graduate School of Western Carolina University in partial fulfillment of the requirements for the degree of Master of Arts in Psychology

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ABSTRACT

PERSONALITY DIFFERENCES IN AUTISTIC AND TYPICALLY DEVELOPING CHILDREN

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The prevalence of autism continues to steadily rise over time. As of yet, no clear cause or cure has been identified. Nevertheless, behavioral and pharmacological treatments have been developed to lessen the deficits characteristic of autism. These treatments yield the best results when implemented early in a child's life. Early identification of autism lends itself to early intervention. Many assessments have been developed for this purpose. Most measurements have focused on specific symptoms of autism. More recently, this effort has expanded to include assessments based on temperament and personality. The present study used the M5-PS Questionnaire based on the Five-Factor Model to compare personality differences in children with autism and typically developing children age 3 to 5. Typically developing children achieved significantly higher scores on Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. The groups did not differ on Neuroticism.

CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

Autism is a pervasive developmental disorder that profoundly affects social skills and language abilities (American Psychiatric Association [*DSM-IV-TR*], 2000). Children with autism display deficits in social interaction, often resulting in isolation and few relationships with peers. They also show impairment in communication. Many have difficulty with spoken language, and initiating and/or reciprocating conversation. Repetitive behaviors are also characteristic of the disorder. This includes self-stimulatory behaviors, such as rocking and hand-flapping, as well as rigid routines and rituals. Behaviors characteristic of autism are disruptive to typical development and extremely pervasive (*DSM-IV-TR*, 2000). More disturbing is the significant increase in incidence since its identification some 60 plus years ago (Center for Disease control [CDC], 2009).

The occurrence of autism has notably increased within recent years (CDC, 2009). Kanner (1943) was the first to describe autism, which at the time was considered a rare disorder affecting 2 to 4 out of every 10,000 children. Most recent statistics as indicated by the Autism and Developmental Disabilities Monitoring Network (ADDM) show that 1 in 110 children are diagnosed on the spectrum of autism (CDC, 2009). This is a notable increase when compared to data from 6 years prior, which indicated 1 in 149 children with autism (CDC, 2007). Also, children are being diagnosed with autism at an earlier age (CDC, 2009). Children were most commonly diagnosed between the ages of 53 and 66 months in 2002, compared to 50-60 months of age in 2006 (CDC, 2009).

Several theories attempt to explain the increased prevalence and earlier diagnosis of autism. Many argue that broadened diagnostic criteria are responsible (CDC, 2009; Wing & Potter, 2009). It is also widely attributed to increased awareness among parents

and teachers (Wing & Potter, 2009). While these explanations may partially account for some of the increase in prevalence, a true rise in incidence is also likely.

Causes of autism

No definitive causes have been identified as of yet, although several genetic and environmental factors are discussed. Kanner (1943) acknowledged genetic predisposition as a contributor to autism, but also suggested that it was a result of "lack of maternal warmth (Kanner, 1949)," which concurred with the dominant psychoanalytic approach at the time. Many attributed autistic behaviors to faulty parenting, until the focus once again began to shift towards biological explanations for autism in the 1960s (Rimland, 1964). Research suggested that autism was associated with disordered brain development (Rimland, 1964). This increase in scientific research yielded evidence supporting a genetic basis for the disorder. Bailey et al. (1995) found a significant discrepancy between concordance rates of autism in monozygotic and dizygotic twins. Monozygotic twins expressed a 60% concordance rate, while dizygotic twins had no concordance in diagnosis. This suggests significant genetic factors in autism. Evidence has also suggested that environmental factors correlate with the relatively recent increase incidence of autism. Shelton et al. (2010) found a link between maternal age and incidence of the disorder. Mothers over the age of 40 were more likely to have children with autism when compared to mothers ages 25 to 29. One can reason that the steady rise in prevalence is related to the increase in delayed childbearing in women. Rogers and colleagues (1999) found that diet impacts behavioral symptoms in children with autism. Other suggested components include environmental pollutants, antibiotics, and vaccines (Wing & Potter, 2002). While no definitive answer has resolved the nature versus

nurture debate regarding autism's origin, many agree that a true rise in incidence exists (Waterhouse, 2008; Wing & Potter, 2002). Until the cause of autism or a cure is identified, effective treatment is the best means to ensure a child's healthy development. The implications involved in the efficacy of early intervention lend itself to the need for early identification of autism. Current diagnostic measures, such as the Childhood Autism Rating Scale (CARS; Schopler et al., 1986) and the Modified Checklist for Autism in Toddlers (M-CHAT; Robins et al., 1999) identify symptoms and traits of autism within a child's behavior. While these assessment tools have proved useful in the diagnosis of autism, other measures would assist in their clinical usefulness (Bryson, Rogers, & Fombonne, 2003). Perhaps a more effective diagnostic tool would assess individual differences in children and examine behaviors characteristic of autism as extensions of behaviors associated with typical development.

Behavior and individual differences

Traditionally, individual differences were regarded as a product of a child's temperament. Temperament refers to individual differences of a biological basis that are often consistent throughout one's lifetime (Goldsmith et al., 1987). While 'temperament' has become a widely accepted term when referring to individual differences in children, a satisfactory definition of the term remains in debate (DePauw, Mervielde & Leeuwan, 2009). Recently, individual differences in children have been examined as a result of personality rather than temperament. Personality differs from temperament in that it encompasses one's thoughts, feelings and beliefs that are acquired over time in addition to one's inherent disposition (DePauw et al., 2009). A divide between temperament and personality exists, but without strong empirical evidence (DePauw et al., 2009). DePauw

and colleagues (2009) examined maladaptive behaviors and traits in children using both temperament and personality measures. Children were administered three reliable measures of temperament: the Behavioral Styles Questionnaire, the EAS Temperament Survey, and the Child Behavior Questionnaire - short form, while the Hierarchical Personality Inventory for Children was administered to assess personality based on the Five-Factor Model of personality. The study indicated a large overlap in temperament and personality, suggesting an unwarranted divide between the two. In fact, this study indicated that children presented with the five dimensions of personality of the Five-Factor Model, suggesting that personality is not acquired during adulthood as previously presumed.

The Five-Factor Model (FFM) of personality provides an adequate nomenclature of personality by classifying traits into five categories (Norman, 1963). This conceptual model incorporates extraversion, agreeableness, conscientiousness, neuroticism and openness as the five dominant traits of personality. Extraversion refers to traits such as sociability, assertiveness, gregariousness, and affection. Agreeableness is described as trust, generosity, and flexibility. Conscientiousness means careful, hard-working and perceptive. Neuroticism refers to worry, self-conscious, and a negative affect in general. Finally, openness is described as imaginative, original, and adventurous. While many had speculated different approaches to trait taxonomy, McCrae and Costa (1987) validated the use of the FFM as a reliable measure of personality. The study compared self-ratings and peer-ratings of participants using adjective-rating scales and the NEO Personality Inventory (McCrae & Costa, 1985). Results yielded significant reliability of the FFM across instruments and observers. Extraversion, agreeableness, conscientiousness,

neuroticism and openness were clearly demonstrated in the participants. Within recent years, the FFM has become the predominant view of personality.

The M5 Personality Questionnaire (McCord, 2002) was developed based on the FFM using Goldberg's (1999) International Personality Item Pool project (IPIP). The IPIP yielded 2,413 personality items. These items were then correlated with the NEO-PI-R (Costa & McCrae, 1992), and resulted in 336 items. The M5 is a scale consisting of these remaining 336 items, and measures the five factors of the model using six components of each factor. The Extraversion scale measures one's overall need for interaction, activity level, and capacity for joy. Six facets compose this scale, including friendliness, gregariousness, assertiveness, activity level, excitement-seeking, and cheerfulness. Agreeableness "assesses the quality of one's interpersonal orientation along a continuum from compassion to antagonism in thoughts, feelings, and actions" (McCord, 2002). This is based on trust, morality, altruism, cooperation, modesty and sympathy. Conscientiousness refers to one's level of organization and motivation of goal-directed behavior. This is measured with self-efficacy, orderliness, dutifulness, achievement-striving, self-discipline and cautiousness. Neuroticism assesses the continuum of one's adjustment to the environment and emotional instability. Six components are used to assess this, including anxiety, anger, depression, self-consciousness, impulsiveness and vulnerability. Finally, Openness to Experience refers to one's exploration of the unfamiliar. Imagination, artistic interests, emotionality, adventurousness, intellect and liberalism measure this factor. Recently, the M5 Personality Questionnaire was adapted into the M5-Preschool Questionnaire (M5-PS), and uses the same approach as the M5 to assess the five factors of personality in children

(Grist & McCord, 2006). The M5-PS consists of 90 items, and uses a five-point Likert scale ranging from accurate to inaccurate. While the M5-PS has not been used as a diagnostic measure of autism, the personality domains assessed by this measure are evident in current assessments of autism.

Current Assessment of Autism

The M-CHAT is 23 item questionnaire consisting of yes/no questions answered by parents (Robins et al., 1999). This measure was adapted from the Checklist for Autism in Toddlers (CHAT; Baron-Cohen, Allen, & Gillberg, 1992), which utilizes observation as well as parent response. The M-CHAT is meant to diagnose children ages 18 to 24 months (Zwaigenbaum et al., 2003). It includes nine questions from the CHAT with additional items focusing on more developmental aspects affected by autism (Robins et al., 1999). These developmental facets can be equated to the five domains of personality according to the FFM as seen in Table 1.

Table 1. M-CHAT Items matched with Personality Factors

M-CHAT Item	**Personality Factor**
Does your child take interest in other children?	Extraversion
Does your child enjoy playing peek-a-boo/hide-and-seek?	Extraversion
Does your child every bring objects over to you (parent) to show you something?	Extraversion
Does your child try to attract your attention to his/her own activity?	Extraversion
Does your child ever use his/her index finger to point, to ask for something?	Extraversion
Does your child ever use his/her index finger to point, to indicate interest in something?	Extraversion
Does your child respond to his/her name when you call?	Extraversion
Does your child smile in response to your face or your smile?	Extraversion, Agreeableness
Does your child look at your face to check your reaction when faced with something unfamiliar?	Extraversion, Agreeableness
Does your child imitate you? (e.g. you make a face – will your	Agreeableness

child imitate it?)	
Does your child look at things you are looking at?	Agreeableness
If you point at a toy across the room, does your child look at it?	Agreeableness
Does your child look you in the eye for more than a second or two?	Agreeableness, Neuroticism
Have you ever wondered if your child is deaf?	Neuroticism
Does your child make unusual finger movements near his/her face?	Neuroticism
Does your child sometimes stare at nothing or wander with no purpose?	Conscientiousness, Neuroticism
Does your child ever seem oversensitive to noise? (e.g. plugging ears)	Neuroticism, Conscientiousness
Does your child enjoy being swung, bounced on your knee, etc.?	Openness to Experience
Can your child play properly with small toys (e.g. cars or blocks) without just mouthing, fiddling, or dropping them?	Openness to Experience
Does your child like climbing on things, such as up stairs?	Openness to Experience
Does your child ever pretend, for example, to talk on the phone or take care of a doll or pretend other things?	Openness to Experience
Does your child walk?	Openness to Experience

Similar to the M-CHAT, the Childhood Autism Rating Scale (CARS; Schopler et al., 1986) assesses areas of development associated with symptoms and traits characteristic of autism. 15 items are rated using a 7 point scale, focusing on developmental and social deficits. These items also relate to the five personality domains, as seen in Table 2.

Table 2. CARS Items Matched with Personality Factors

CARS Item	Personality Factor
Social-Emotional Understanding: Social-emotional understanding addresses a person's *cognitive* understanding of others' communication, behaviors, and differing perspectives, as well as the nature of social relationships. The dimensions of social understanding that are included in this item are the ability to read the nonverbal cues of others and the ability to take another person's perspective. This item does not reflect whether or not someone has friends or is in a relationship. Rather, it deals with a person's ability to perceive and articulate how another person may feel or what his or her perspective may be on a given situation.	Extraversion, Agreeableness
Emotional Expression and Regulation of Emotions: This item refers to the capacity to express feelings and regulate one's emotions. This item is based on both direct observation and the reports of others who have witnessed this person's behavior in other settings	Extraversion
Relating to People: This item related to the first two items, which also rate aspects of social relationships. This item differs in that it is confined to dimensions related to direct interpersonal interactions and the person's expression and reaction to another person. The two dimensions that are rated in this item are the person's initiation of interactions and the reciprocal nature of the interactions.	Extraversion, Agreeableness
Body Use: This scale represents grossly deviant body movements and also subtler forms of fine motor and coordination problems. Any obvious current deviant behaviors --- including posturing, spinning, rocking, toe-walking, and self-directed aggression --- automatically merit a rating of 3 or higher, depending on the persistence of the behavior.	Conscientiousness, Neuroticism
Object Use in Play: This rating includes the person's interest in and use of objects. In addition to the traditional issues related to repetitive play with parts of objects, the focus of this item also includes the degree to which the person engages in imaginative symbolic play and the degree to which toy figures are used as agents.	Extraversion, Openness to Experience
Adaptation to Change/Restricted Interests: This item includes difficulty coping with changes, ritualistic behaviors, and restricted special interests.	Conscientiousness
Visual Response: This item covers use of vision in three areas: the degree to which vision is coordinated with other senses, the ease with which the person can shift visual attention, and the degree to which the person's eye contact is integrated with	Conscientiousness, Agreeableness

actions and communication.	
Listening Response: This rating is based on the person's response to sounds and how the listening response in coordinated with the use of other senses.	Conscientiousness
Taste, Smell, and Touch Response and Use: This item addresses the person's response to stimulation of the near receptors of taste, smell, touch, and pain. Subtler aspects of the stimulation of these senses include responses to the texture of clothing or food such that the person wears a limited variety of clothes or eats a limited variety of clothes or eats a limited variety of foods.	Openness to Experience
Fear or Anxiety: This item focuses on the degree to which the person has unusual fear or anxiety compared to what is appropriate for the situation or context.	Neuroticism
Verbal Communication: This is a rating of all facets of the person's speech and language skills, and is best evaluated by direct interaction with the person. This item includes verbal oddities --- such as formal language, unusual tone or inflection, and repetitive or made-up phrases --- and the ability to carry on a reciprocal conversation.	Extraversion, Agreeableness
Nonverbal Communication: This item rates all forms of nonverbal communication, including the use of gaze to regulate and understand interactions and the used of facial expressions and gestures in combination with verbalizations for a variety of communication functions --- instrumental, descriptive, and emphatic.	Extraversion
Thinking/Cognitive Integration Skills: This is a rating of the person's ability to understand the meaning of larger concepts and the ability of the person to integrate relevant details into a meaningful overview (central coherence). Part of this process involves the person's ability to discriminate between relevant and irrelevant details.	Conscientiousness
Level and Consistency of Intellectual Response: This rating is concerned with the discrepancies in and consistency of the individual's skills across different areas, as well as the person's general level of intellectual functioning.	Conscientiousness

Both the M-CHAT and the CARS consist of items that relate to the five factors of personality. Therefore, it stands to reason that the M5-PS can predictably discriminate individual differences in typically developing children and those with autism. One can speculate that individual differences, particularly at the extreme ends of the continuum, may be early indicators for risk factors of autism.

Statement of the Problem

The prevalence of autism continues to increase at an alarming rate. Although many studies have sought to identify the underlying mechanism of autism, none have definitively found the cause. Current diagnostic measures focus on developmental delays associated with autism, but they do not examine the importance of individual differences. Due to the apparent implications of the disorder on one's social and emotional presentation, one might reason that those diagnosed with autism would display differences in personality from typically developing children. Further diagnostic measures that include personality discrepancies between typically developing and autistic children would benefit early diagnosis, and thus intervention. Effective assessment that identifies social and emotional deficits could result in more effective treatment. The present study examines these individual differences using the M5-PS Questionnaire, and explores personality differences in children with autism and typically developing children.

CHAPTER TWO: METHOD

Participants

Participants were recruited from a suburban daycare center. The children were from varying socioeconomic status, ranging from lower to upper-class. Ages ranged from 3 to 5 years, with an average age of 4.00 years for typically developing children (Group 1), and 3.88 years for autistic children (Group 2). Children with autism were diagnosed using the CARS. Group 1 consisted of 4 boys and 3 girls. One child was of mixed ethnicity, while all other children were White. Group 2 consisted of all boys, and all 8 of the children were White.

Materials

Children were rated by parents using the M5-PS Questionnaire. This questionnaire consists of 90 items measuring personality factors according to the Five-Factor Model. This measure was developed using Goldberg's (1999) International Personality Item Pool (IPIP) and adapting the items to better suit preschool-age children. Each question uses a 5-point Likert scale, ranging from Inaccurate to Accurate. The M5-PS has demonstrated exceptional internal reliability as found by Grist and McCord (2009). This instrument also shows high correlations with existing scales measuring similar constructs (Scheck & Grist, 2008). A copy of the informed consent and questionnaire is included as Appendices A and B.

Procedure

The M5-PS and consent form were sent home with the children. Parents completed the questionnaires, and returned them to the teacher. Data were analyzed with SPSS 17.0. A MANOVA was used to compare the differences between the two groups

on the five factor scales as a group. Group differences on each individual dependent variable were examined with univariate ANOVAs. In addition, due to the small sample size and likely violation that variables are not normally distributed, Mann-Whitney *U* was also calculated.

CHAPTER THREE: RESULTS

The overall MANOVA was statistically significant, Wilks' Lambda (5, 9) = .138, p = .001, η^2 = .862). Thus, the two groups differed across the five personality factors overall. Next, differences between groups on each personality factor were examined with univariate analyses. Results of these analyses are shown in Table 3. Groups differed significantly on three of the five personality factors. See Table 4 for means and standard deviations. Typically developing children achieved significantly higher scores on Extraversion, Conscientiousness, and Openness to Experience. The groups did not differ on Agreeableness and Neuroticism. Because of the very small sample size and thus the very likely violation of assumptions of MANOVA (e.g., normal distribution of data), group differences on means were also examined non-parametrically. The Mann-Whitney *U* yielded a significant difference in Agreeableness in addition to Extraversion, Conscientiousness, and Openness to Experience. Results of this analysis are shown in Table 5. Furthermore, each subject's scores were converted into Z-scores. The scores were plotted by group and personality factors. These graphs are seen in Table 6. Individuals' scores were plotted as well, and these are available in Appendix C.

Table 3. MANOVA: Differences Between Groups on Each Personality Factor

Personality Factor	***F***	**df**	**Significance**	η^2
Extraversion	6.048	1, 13	.029*	.318
Agreeableness	3.833	1, 13	.072	.228
Conscientiousness	30.296	1, 13	.000*	.700
Neuroticism	1.181	1, 13	.297	.083
Openness	14.709	1, 13	.002*	.531

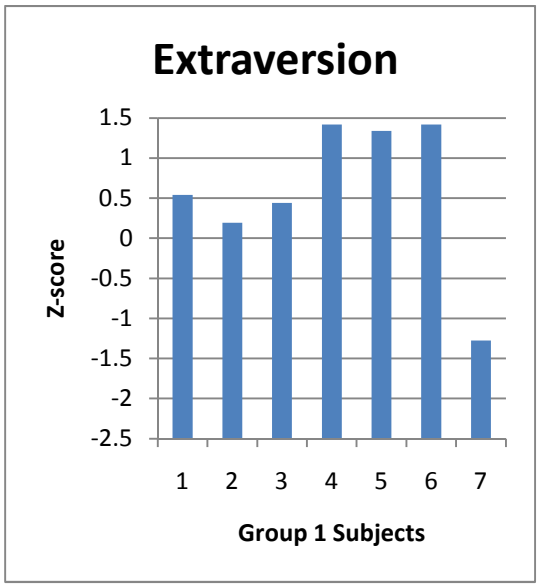
Table 4. MANOVA: Means and Standard Deviations Between Groups

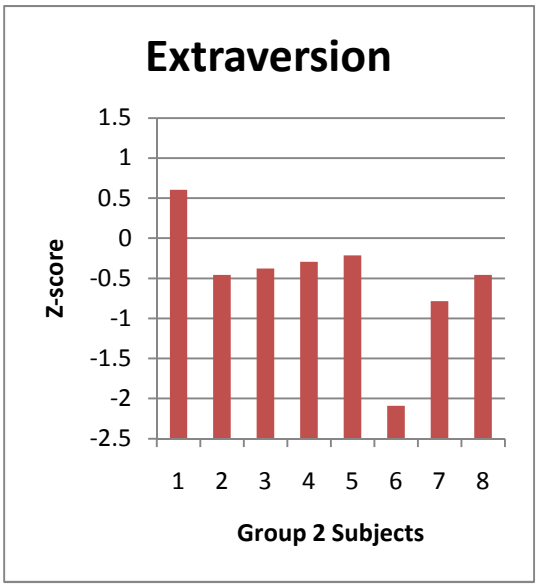
Group	Mean	Standard Deviation	N
Extraversion			
Typically Developing	4.26	0.65	7
Autistic	3.52	0.51	8
Total	3.86	0.68	15
Agreeableness			
Typically Developing	3.70	0.37	7
Autistic	3.38	0.24	8
Total	3.53	0.34	15
Conscientiousness			
Typically Developing	4.08	0.38	7
Autistic	3.15	0.26	8
Total	3.59259	0.57	15
Neuroticism			
Typically Developing	2.55	0.64	7
Autistic	2.95	0.77	8
Total	2.77	0.72	15
Openness to Experience			
Typically Developing	3.66	0.36	7
Autistic	2.95	0.35	8
Total	3.28	0.50	15

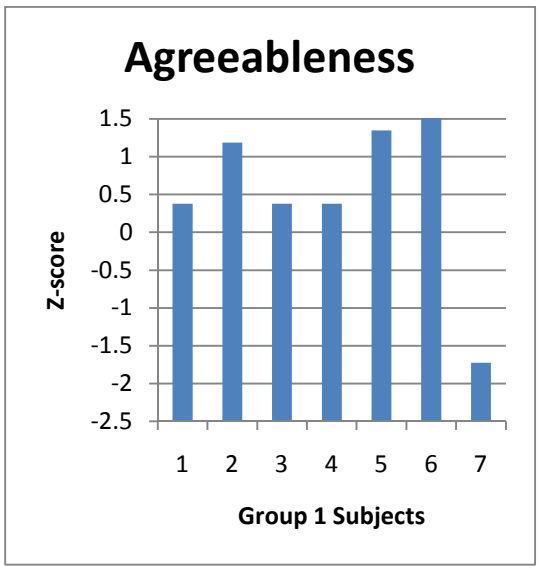
Table 5. Mann-Whitney *U*: Mean Rank and Significance Level

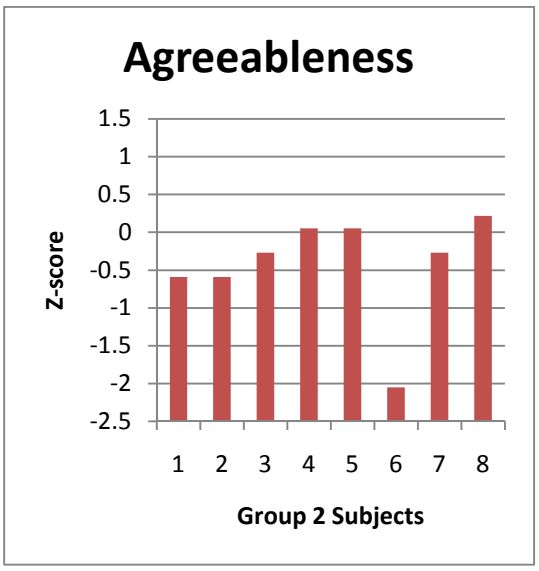
Factor	**Group 1**	**Group 2**	***U***	***p***
Extraversion	10.57	5.75	10.00	0.037*
Agreeableness	11.00	5.38	7.00	0.014*
Conscientiousness	12.00	4.50	0.00	0.001*
Neuroticism	6.57	9.25	18.00	0.247
Openness to Experience	11.29	5.13	5.00	0.008*

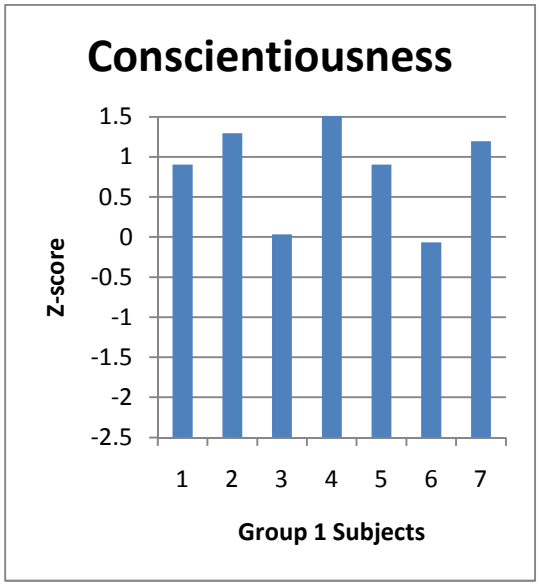
Table 6. Z-scores of Typically Developing (Group 1) and Autistic Children (Group 2) in Each Domain










Conscientiousness
Z-score
1.5
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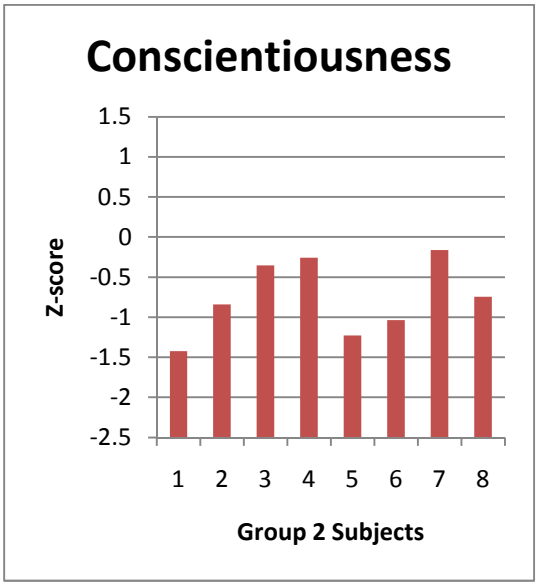
0.5
0
-0.5
-1
-1.5
-2
-2.5
1 2 3 4 5 6 7
Group 1 Subjects


Conscientiousness
Z-score
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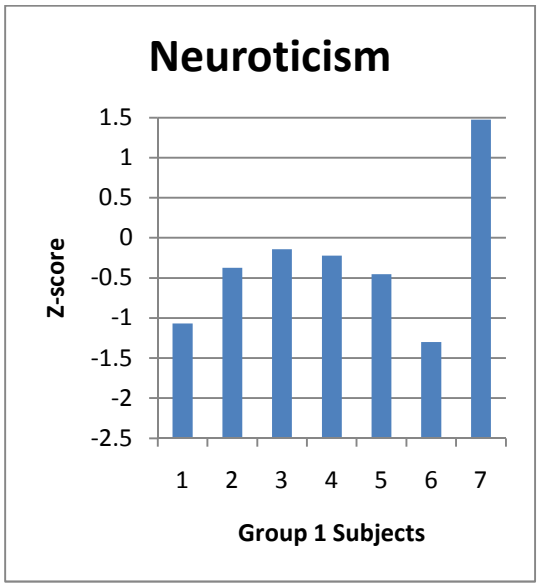
-1.5
-2
-2.5
1 2 3 4 5 6 7 8
Group 2 Subjects


Neuroticism
Z-score
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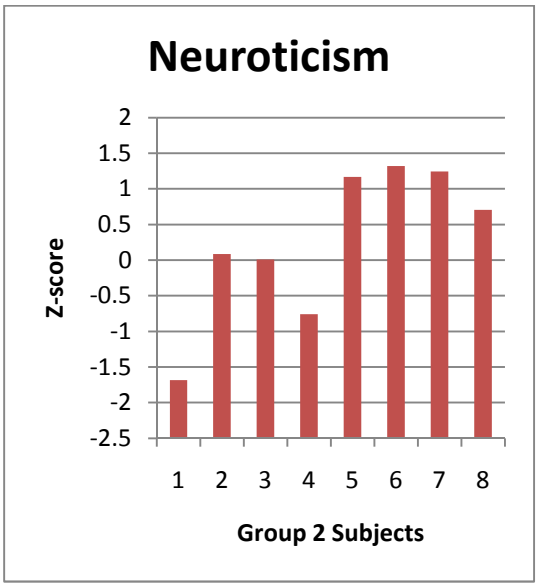
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
1 2 3 4 5 6 7
Group 1 Subjects


Neuroticism
Z-score
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-2
-2.5
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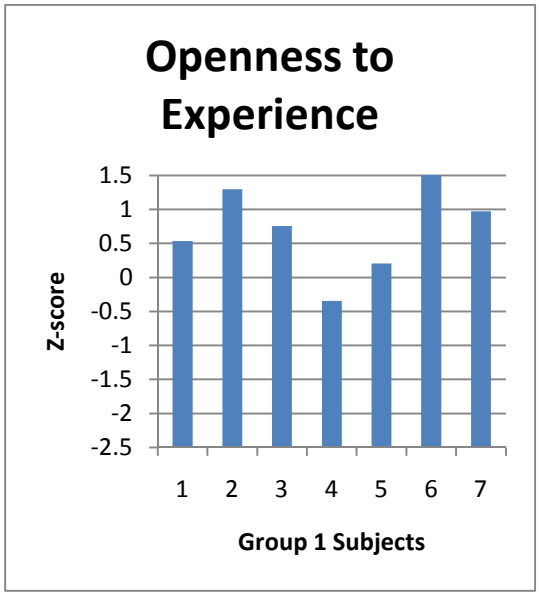
Group 2 Subjects


Openness to Experience
Z-score
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0.5
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-1
-1.5
-2
-2.5
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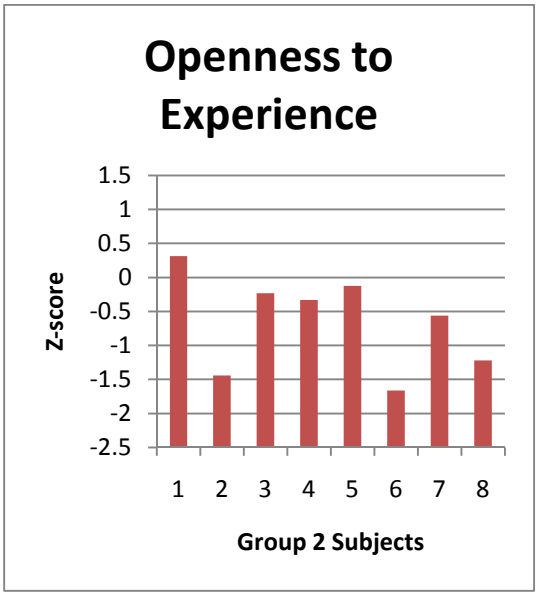
Group 1 Subjects


Openness to Experience
Z-score
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
1 2 3 4 5 6 7 8
Group 2 Subjects

CHAPTER THREE: DISCUSSION

Typically developing children exhibited significantly higher Extraversion. This is likely due to the social deficits characteristic of autism. Autistic children are less likely to interact with peers as a result of social impairment (*DSM-IV-TR*, 2000). This reasoning can also apply to the significant discrepancy between groups on the Conscientiousness factor. Typically developing children display more socially interactive behaviors, and have a better understanding of social reciprocity. Typically developing children also scored significantly higher on the Openness to Experience scale. This is likely related to the rigid behavior presented in autism (*DSM-IV-TR*, 2000). Autistic children do not often stray from routine, and fixate easily. One could reason this would result in a lack in openness to experience. Neuroticism did not show significant differences between groups. However, the graphs in Table 6 indicate that a larger sample might yield a significant difference in this domain as well.

While the findings of this research indicate personality differences in the two groups, the five domains may be expressed differently in typically developing children and those with autism. Extraversion and Agreeableness are highly interpersonal in nature, and therefore clearly related to autism. Both domains are likely expressed in similar ways in both groups. Neuroticism is also displayed similarly between groups, manifested in irritability, discomfort and anxiety. Conscientiousness might have a different manifestation in those with autism. This scale would likely affect organization and orderliness in typically developing children. Perhaps this scale would measure rigidity more than organization in children with autism. Similarly, the constructs of Openness to Experience might differ between groups. Based on the definitive concepts

of autism, autistic children would likely focus more objects rather than people, whereas typically developing children would have analogous interest in objects and people.

The apparent discrepancies in personality between groups indicate areas that should be the focus of treatment in autism. Children with autism generally demonstrate a clear deficit in social interaction as demonstrated in the significantly lower scores in the Extraversion and Agreeableness scales. Lower scores in Conscientiousness and Openness to Experience may correlate with autistic children's rigidity and tendency to fixate. These differences between groups indicate that behavioral intervention should focus on social and emotional deficits, as well as the child's ability to effectively adapt to his or her environment.

Limitations and Future Research

The small sample size of this study presents as a limitation. A larger number would allow for more robust results. Also, the homogeneity of both groups' ethnicity also limits this study's ability to be generalized to a larger population. The group of autistic children consisted of boys only, which could limit encompassing behaviors of both autistic boys and girls. In addition, teachers did not complete the questionnaire, which does not allow for interrater reliability.

Future research should expand the current study to a larger population. Broader diversity would also increase the generalization of the study. Future studies could administer the M5-PS in addition to other test batteries for a broader assessment of autism, as well as for comparative reasons. Studies comparing teacher and parent ratings for autistic children using this measure would examine both evaluators' experience with the child's behaviors, as well as demonstrate the variability of behaviors according to

environment. The M5-PS could also be used to compare personality traits in children with autism and those with Asperger's Syndrome. Expanding the current study into a longitudinal design would allow one to observe personality changes over time, and could examine the result of varying treatment for autism. A longitudinal study could also yield the effectiveness of early diagnosis, and thus intervention.

Both autism and personality traits in children have gained attention in more recent years. While individual differences in children have more recently been acknowledged as personality traits rather than temperament, personality in autistic children in particular has received little attention. Merging the focus on autism and personality is long overdue, and beneficial for the diagnosis and treatment of the disorder.

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Appendix A

Informed Consent

You are being asked to participate in a research study on personality characteristics in young children. Your participation is voluntary. The purpose of the study is to examine the development of personality traits in the pre-school age group.

If you agree, you are asked to complete a brief, 90-item rating form describing your child's personality characteristics. Each rating will require approximately 10 minutes of your time. A copy of this rating is attached.

The research data are entirely confidential, and neither the identities of the individual children or their teachers will be revealed. The data will be analyzed as a group and no individual results will be utilized in this study.

Your signature below indicates that you have read and agreed to these statements, and you hereby allow your child to be rated by their teacher.

You are welcome to contact the Principal Investigator, listed below, in order to obtain a report of the results of this project subsequent to its completion.

Questions about this study should be addressed to:

Carrie Fortenberry, Principal Investigator
Department of Psychology
Western Carolina University
828.227.7361
CarrieFortenberry@gmail.com

WCU Institutional Review Board:

Dr. Chris Cooper, Chair (ccooper@email.wcu.edu)

_____ _____

Signature Date

Appendix B

M5-PS Questionnaire

Cathy L. Grist and David M. McCord
Western Carolina University

Child's Name: _____ Age: _____ M F Date: _____

Child's Ethnicity (circle one): White Black Hispanic Asian Native American Other

Teacher's Name: _____ Years of Experience: _____

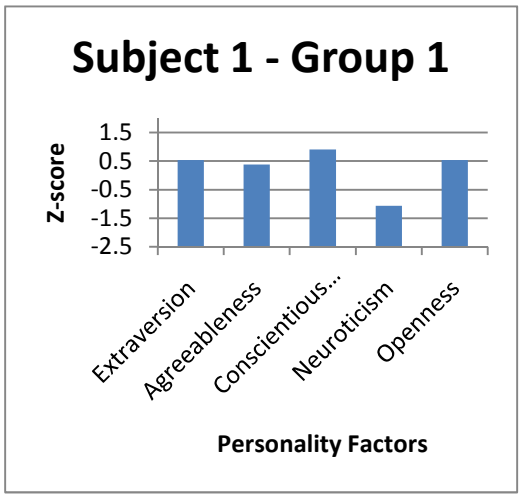
- This is a personality questionnaire, which should take about 10 minutes. There are no right or wrong answers to these questions; you simply respond with the choice that describes the child best.
- Without spending too much time dwelling on any one item, just give the first reaction that comes to mind.
- In order to score this test accurately, it is very important that you answer *every* item, without skipping any. You may change an answer if you wish

M5-PS Questionnaire						
		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Accurate
1	Worries about things	O	O	O	O	O
2	Has a vivid imagination	O	O	O	O	O
3	Distrusts people	O	O	O	O	O
4	Completes tasks successfully	O	O	O	O	O
5	Gets angry easily	O	O	O	O	O
6	Takes charge	O	O	O	O	O
7	Seldom gets emotional	O	O	O	O	O
8	Breaks rules	O	O	O	O	O
9	Is easily intimidated	O	O	O	O	O
10	Makes friends easily	O	O	O	O	O
11	Trusts others	O	O	O	O	O
12	Gets irritated easily	O	O	O	O	O
13	Likes music	O	O	O	O	O
14	Experiences emotions intensely	O	O	O	O	O
15	Tries to follow the rules	O	O	O	O	O
16	Is always busy	O	O	O	O	O
17	Prefers to stick with things that he/she knows	O	O	O	O	O
18	Is easy to satisfy	O	O	O	O	O
19	Likes to solve complex problems	O	O	O	O	O
20	Radiates joy	O	O	O	O	O
21	Jumps into things without thinking	O	O	O	O	O
22	Tries to excel at what they do	O	O	O	O	O
23	Is indifferent to the feelings of others	O	O	O	O	O
24	Is comfortable in unfamiliar situations	O	O	O	O	O
25	Is always on the go	O	O	O	O	O
26	Dislikes changes	O	O	O	O	O
27	Can't stand confrontations	O	O	O	O	O
28	Has a lot of fun	O	O	O	O	O
29	Is afraid of many things	O	O	O	O	O
30	Loves to daydream	O	O	O	O	O
31	Is wary of others	O	O	O	O	O
32	Sticks to the rules	O	O	O	O	O
33	Feels comfortable with him/herself	O	O	O	O	O
34	Tries to lead others	O	O	O	O	O
35	Is not easily affected by his/her emotions	O	O	O	O	O
36	Likes to take his/her time	O	O	O	O	O
37	Works hard	O	O	O	O	O
38	Seeks adventure	O	O	O	O	O
39	Becomes overwhelmed by events	O	O	O	O	O
40	Is relaxed most of the time	O	O	O	O	O
		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Accurate

8

M5-PS Questionnaire						Page 2
		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Accurate
41	Does not understand things	O	O	O	O	O
42	Gets upset easily	O	O	O	O	O
43	Does not like crowded events	O	O	O	O	O
44	Knows how to get around the rules	O	O	O	O	O
45	Wants everything to be "just right"	O	O	O	O	O
46	Does not like the idea of change	O	O	O	O	O
47	Loves action	O	O	O	O	O
48	Feels comfortable around other people	O	O	O	O	O
49	Trust what people say	O	O	O	O	O
50	Loves order and regularity	O	O	O	O	O
51	Loves to help others	O	O	O	O	O
52	Is a creature of habit	O	O	O	O	O
53	Yells at people	O	O	O	O	O
54	Plunges into tasks with all their heart	O	O	O	O	O
55	Has a rich vocabulary	O	O	O	O	O
56	Knows the answers to many questions	O	O	O	O	O
57	Knows how to cope	O	O	O	O	O
58	Gets stressed out easily	O	O	O	O	O
59	Acts comfortably with others	O	O	O	O	O
60	Enjoys being part of a group	O	O	O	O	O
61	Leaves his/her belongings around	O	O	O	O	O
62	Tries to influence others	O	O	O	O	O
63	Is concerned about others	O	O	O	O	O
64	Tells the truth	O	O	O	O	O
65	Is interested in many things	O	O	O	O	O
66	Involve others in what he/she is doing	O	O	O	O	O
67	Has frequent mood swings	O	O	O	O	O
68	Experiences very few emotional highs and lows	O	O	O	O	O
69	Does the opposite of what is asked	O	O	O	O	O
70	Insults people	O	O	O	O	O
71	Has difficulty starting tasks	O	O	O	O	O
72	Loses his/her temper	O	O	O	O	O
73	Likes to begin new things	O	O	O	O	O
74	Gets back at others	O	O	O	O	O
75	Gets overwhelmed by emotions	O	O	O	O	O
76	Laughs aloud	O	O	O	O	O
77	Suffers from others' sorrows	O	O	O	O	O
78	Acts without thinking	O	O	O	O	O
79	Adapts easily to new situations	O	O	O	O	O
80	Does't see the consequences of things	O	O	O	O	O
81	Is able to stand up for his/herself	O	O	O	O	O
82	Makes him/herself the center of attention	O	O	O	O	O
83	Amuses his/her friends	O	O	O	O	O
84	Sympathizes with others' feelings	O	O	O	O	O
85	Is easily frustrated	O	O	O	O	O
86	Respects others	O	O	O	O	O
87	Messes things up	O	O	O	O	O
88	Is demanding	O	O	O	O	O
89	Starts conversations	O	O	O	O	O
90	Finishes what he/she starts	O	O	O	O	O
		Innacurate	Moderately Innacurate	Neither	Moderately Accurate	Accurate

Appendix C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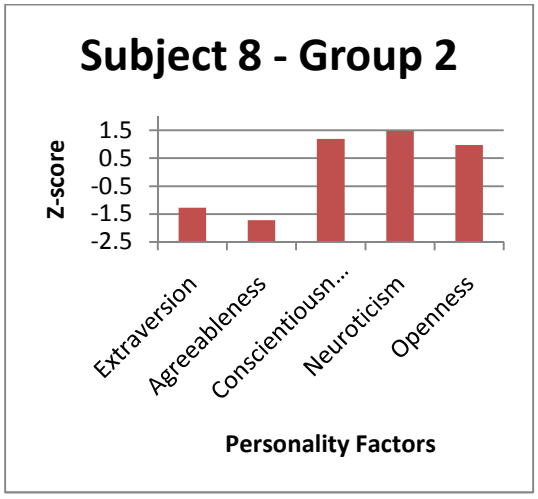
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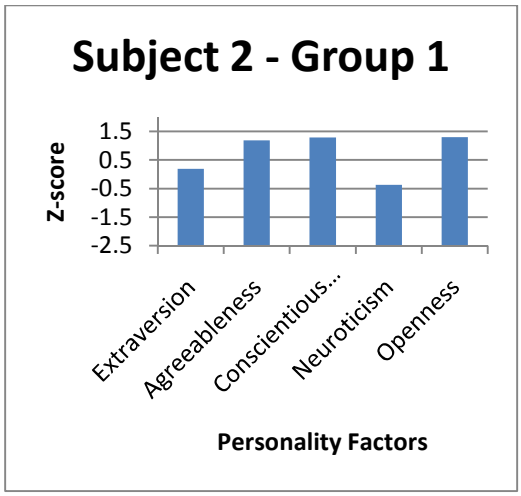
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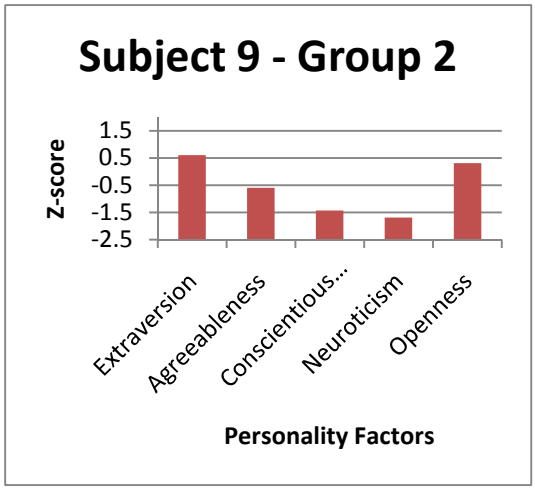
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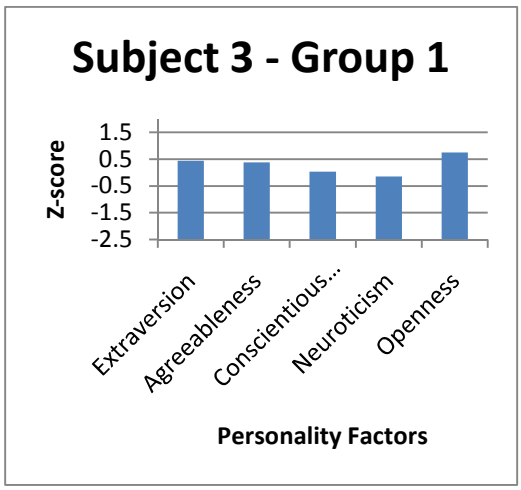
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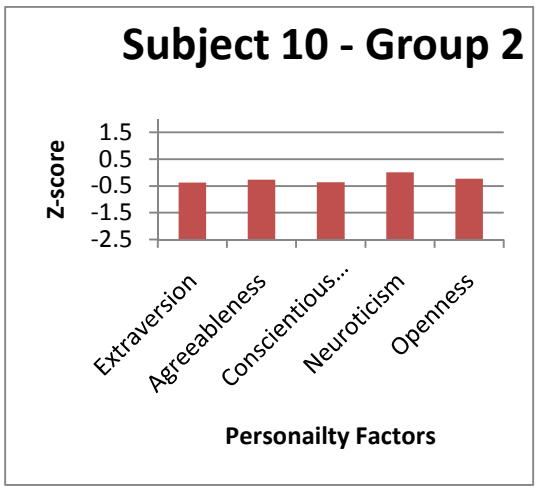
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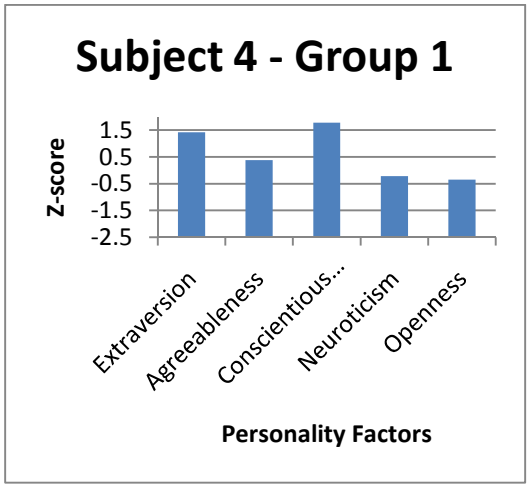
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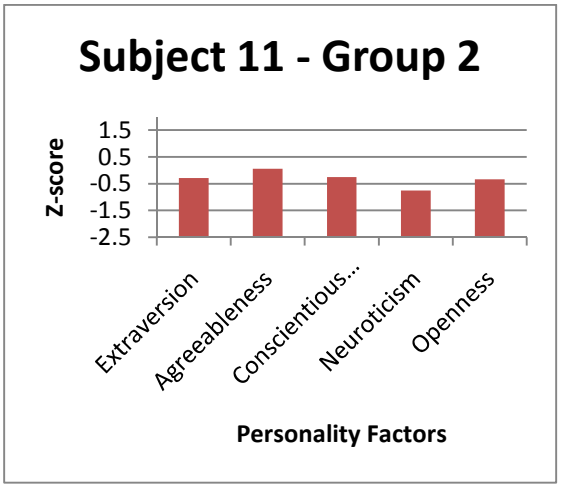
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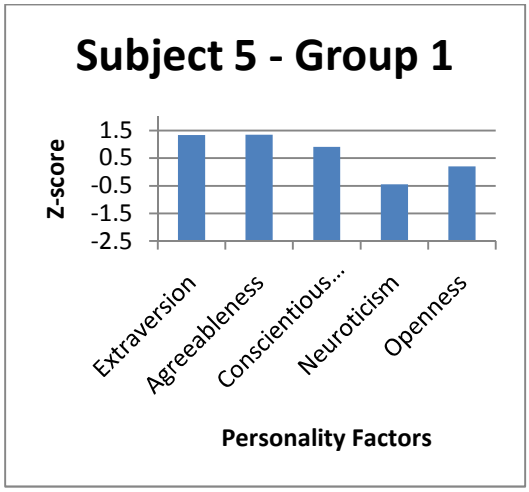
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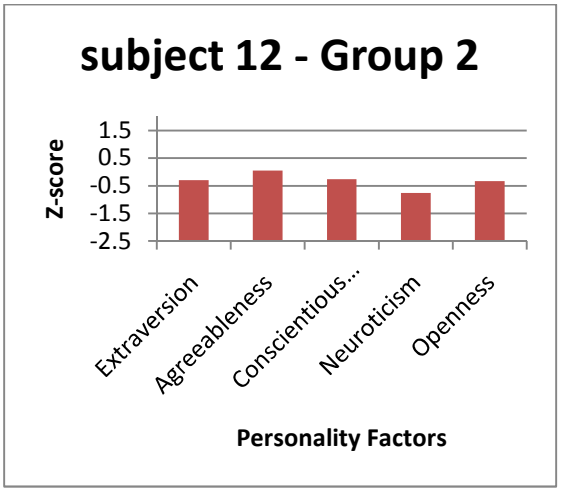
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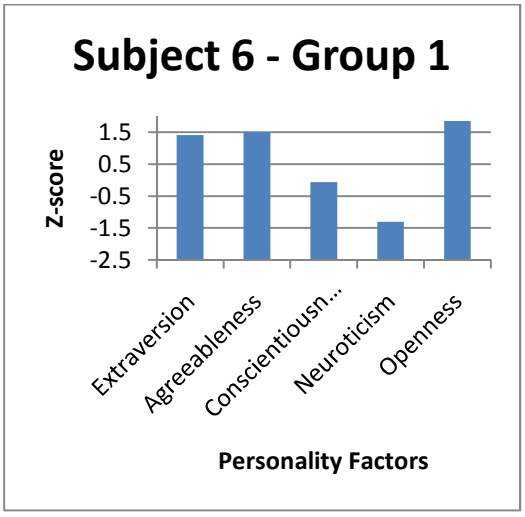
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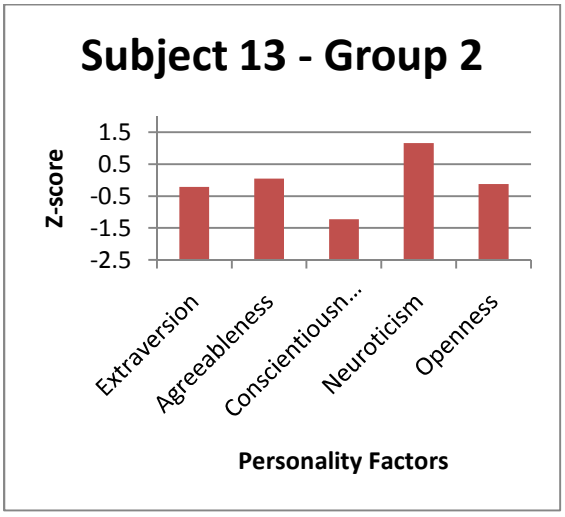
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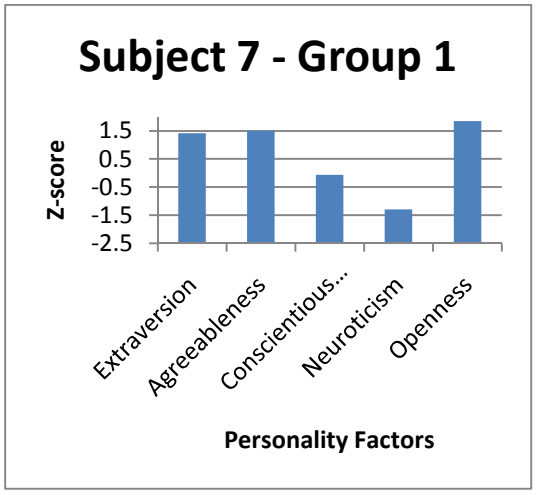
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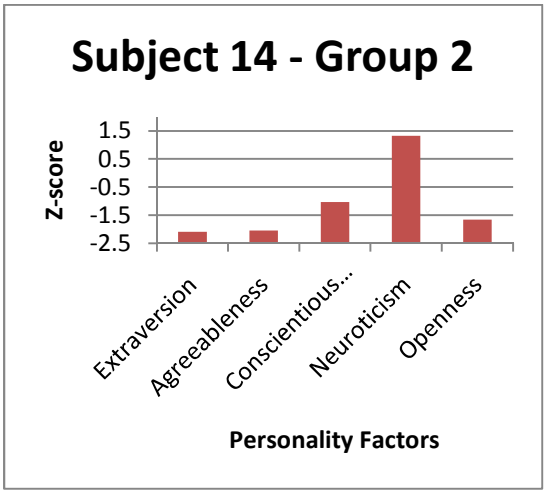
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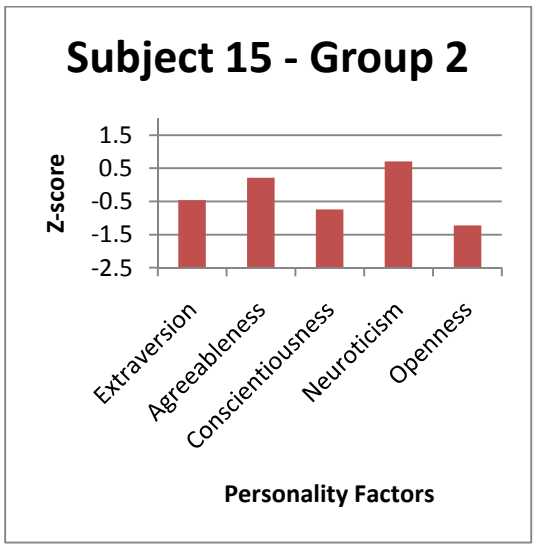
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