

Correlations between the Five Factor Model of Personality and Problem Behavior in Children

by

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A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
December 18, 2009

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Abstract

The validity of the Five Factor Model of personality traits has been mainly assessed with adults and late adolescents. Research has shown that adolescents are able to give reliable self-reports regarding their personality dispositions, but only a few studies have explored self-ratings in children younger than 12 years. Consistent patterns of relationships between the five factors and behavior have been found, but more research with children is needed. Further, while a substantial number of international studies have been done, more cross-cultural and cross-national studies are needed to verify the universality of the five factors in children. The purpose of this study was to examine whether previously found relations among personality and behavior can be replicated using the Five Factor Personality Inventory-Children (FFPI-C) and the Behavior Assessment System for Children-Second Edition (BASC-2). A sample of 80 9–14 year old Pakistani children, their parents and teachers completed the instruments. In addition to replicating the previously found relationships, the results showed that the means of all the five dimensions of personality traits on FFPI-C were higher for the Pakistani sample as compared to the American sample. When teacher, parent and child responses were compared to assess inter-rater agreement of views about the children's personalities, some significant correlations were found yet the magnitudes of these correlations were small.

Acknowledgements

This dissertation is an accumulation of work facilitated by many people to whom I would like to express my warmest thanks. First of all I am very grateful to the principal, teachers, parents and all the students who took part in the study, without their willing cooperation this study could not have been conducted. My deepest gratitude is to my advisor, Dr. Buckhalt. I have been amazingly fortunate to have such a caring and wise advisor who gave me the freedom to explore on my own, the guidance to recover when my steps faltered, and provided consistent feedback on my writings through the many revisions of this manuscript. I am so grateful for his oversight, encouragement, patience and support which helped me overcome many crisis situations and finish this dissertation. I am deeply grateful to Dr. Reilly who has been always there to listen and give advice and support when I needed it the most. Dr. Dagley's insightful comments and constructive criticisms at different stages of my research were thought-provoking and they helped me focus my ideas. Dr. Vazsonyi's feedback helped me sort out the technical details of my work.

I would like to acknowledge Nancy Evans, our student coordinator, who had been there to help every step of the way; also thanks to Altamese Stroud-Hill who helped me format this dissertation, and Ms. Huggins who allowed me to sit in the computer room of the Learning Resource Center for hours.

Most importantly, none of this would have been possible without the love and patience of my family. My special thanks go to Linda, god mother of our children, who helped me stay sane

through these difficult years. My husband and best friend, Faraz, has been a constant source of love, concern, support and strength all these years. His presence in my life made it possible for me to overcome setbacks and stay focused on my graduate study. I greatly value our friendship. My children, Hadi, Homa and Zaki who put up with my impatience, never stopped loving me and gave me new hope every morning. I would like to express my heart-felt gratitude to my mother-in-law, Maimoona for her encouragement and prayers and to my sister-in-law, Uzma for her continuous encouragement. I thank with all my heart my dearest parents, Akram and Sultana for their eternal love and support throughout my life and for being the best parents. They have aided and encouraged me throughout this endeavor. My sister Seemin, her husband, Mateen, and my nephews Ammar and Adil who helped me tremendously during this research. I want to acknowledge Shahbaz, my brother, for his valor and perseverance and Pasha, my youngest brother for his determination, which has been a source of constant inspiration throughout the dissertation process.

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I. INTRODUCTION

Pakistan is located in the northwestern part of the South Asian subcontinent; it has a unique and diverse culture due to its geopolitical situation bordering Afghanistan and Iran to its North West and West, China to its North East and India to its South and South East. Pakistan struggles to meet the educational needs of its 132 million people, roughly only about one-third of the population being literate. Compounding the problem, more than half the population is below 17 years of age, with the proportion of youth increasing incrementally. With less than 60 percent of children enrolled in school, there are already signs of stress. Student-teacher ratios in government schools exceed 35:1 and have been rising (United Nations Development Programme [UNDP], 1997a).

Pakistan's urban population is rapidly increasing and urban centers do not have the infrastructure capable of housing or employing this influx. This has resulted in high rates of adult unemployment with a large number of families living on the edge of poverty. High population growth and smaller landholdings in the rural areas have led to high rates of rural migration to the cities resulting in many hazardous problems such as high population density, unemployment, and increase in crimes, homelessness, child labor and even starvation. These conditions have serious implications for the lives of many children who have to learn to fend for themselves and their families from a very early age. For many of these children, family ties become increasingly weakened and the home plays less of a role in their lives (Khan, 2000).

Research literature has emphasized the association between stressful experiences and psychological dysfunction in children. A recent review of the association between stressors and symptoms of psychopathology in children and adolescents found that the relationship between stressors and psychopathology is reciprocal, i.e. stressors predict increases in symptoms of psychopathology and symptoms of psychopathology predict increases in stressful life events (Grant et al., 2004).

Pakistan is prone to such stressful life events and natural disasters, including earthquakes, floods, landslides and droughts. The military and the wealthy rural landowners keep their hold on political power and it is hard for people to hold the government to account. The political and security situation is currently volatile and unpredictable. Levels of poverty, pollution, congestion, crime and violence have increased in most of the metropolitan cities (Khan, 1999).

As can be expected, all such stressors have been shown to negatively affect a person's performance (Williams & Cooper, 1998). There is expansive literature on the implications of psychosocial stress on academic achievement, behavior disorders, and depression (Compas, 1987; Grannis, 1992). As research has established an association between stressful life events and psychopathology in childhood and adolescence (Grant et al., 2004; Williamson et al., 2003), children are key sources of information in seeking to design interventions that reduce the deleterious effects of stressful life events on adjustment (Cowen, Pryor-Brown, & Lotyczewski, 1989). An improved understanding of children's perceptions will enhance teachers' professional judgment when they make decisions that will affect children's lives. An indirect aim of this research is to see if being born and raised in such a stressful environment has a significant effect on personality and as a result on behavior.

Personality is one of the key factors in the relationship of adjustment and stress. Personality can be defined as the pattern of collective character, behavioral, temperamental, emotional, and mental traits of a person (McAdams, 2001). According to McCrae and Costa (1990), “traits are the dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions” (p. 7).

The variation of traits represented in people’s personalities can allow for considerably different responses to stress (Sarason & Sarason, 2005). Some traits are related to how we can understand our own thoughts and feelings. It is proposed that awareness of one’s own feelings can help more effectively cope with stress (Sarason & Sarason, 2005). This makes it reasonable to inquire that certain personality traits can allow the person to better observe their own thoughts and feelings in challenging situations which can allow them to more effectively perform under stress.

One tool that has been helpful to organizations to better understand the relationship between stress and performance is the Five Factor Model. The Five Factor Model of personality is the classification of a person’s personality into five broad factors or personality traits found through inductive statistical analysis of the traits that were most frequently observed in the population (Srivastava, 2006). Practically, the Five Factor Model has captured commonalities among existing personality descriptions at a broad level of abstraction, and presents an integrative descriptive model from which widespread research on personality can be generated (John & Srivastava, 1999). It has enabled researchers to empirically examine the relationship between five generally accepted personality traits and performance in an organized and consistent method (Witt, Burke, Barrick, & Mount, 2002). Additionally, the language of the

model is not biased in favor of any existing theoretical conceptions, which allows for a more favorable reception of the Five Factor Model across theoretical fields (John & Srivastava, 1999).

Since the 1980s, the field of personality research has been dominated by the Five-Factor Model of personality structure (Costa & McCrae, 1985), a variant of the Big Five factor structure found in English-language lexical research (Goldberg, 1990). This model can be traced indirectly to Allport and Odbert's (1936) list of English-language trait names (Costa & McCrae, 1985). The Big Five Model is a lexical approach theorizing that the most salient and socially relevant individual differences in people's lives will eventually become encoded as single terms in their language (Saucier & Goldberg, 1996). The Five-Factor Model has been more commonly associated with studies of traits using personality questionnaires (Costa & McCrae, 1985). The two research traditions/terms are often used interchangeably. The only difference between the lexical and questionnaire approaches is their definition and interpretation of the fifth factor, called Intellect-Imagination by many lexical researchers and Openness to Experience by many questionnaire researchers (Srivastava, 2009).

The past two decades have seen an increased attention from personality researchers to the Five Factor Model (FFM) and it has become the most widely used approach to personality traits. According to this model, five broad and independent domains can effectively be employed to describe personality traits. These five domains are Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness (McCrae & Costa, 1999).

Because the FFM was discovered by American researchers in American samples using instruments based on English-language trait terms, it is reasonable to ask if it is strictly an American structure, or whether it characterizes human beings everywhere. Since 1971, when Guthrie and Bennett (1971) examined the structure of personality perceptions among

Philippines, there has been considerable research on this question. Lexical studies, which examine personality factors in trait adjectives from different languages, have had somewhat mixed results. E, A, and C factors almost always appear, but N and O sometimes do not (Saucier & Goldberg, 2001). It is not clear from these studies whether those factors are missing from the culture, or merely from the set of adjectives studied.

One of the FFM measures which have been used extensively in cross-cultural research is the NEO-PI-R. This personality assessment has been translated into more than 40 languages and/or dialects and used in over 30 different cultures. Research results have shown that the NEO-PI-R traits hold together in a reasonable approximation to their intended structure (McCrae & Allik, 2002). This suggests that the test has continued utility outside of its Western place of origin (USA).

Research in the field of personality has provided empirical evidence for the FFM factors and expanded the applicability of these factors in different applied fields. With regard to cross-cultural generalizability, for example, the Big-Five factors have been substantially verified in studies conducted in numerous countries including Germany (Angleitner & Ostendorf, 1989), Hungary (Szirmai & De Raad, 1994), Italy (Caprara & Perugini, 1994), Japan (Isaka, 1990), Russia (Shmelyov & Pokhil'ko, 1993), and The Netherlands (De Raad, 1992). The five-factor structure of personality has also been verified in samples of adults, children, and adolescents describing individual differences (Castelin, 2009; Costa & McCrae, 1995; Digman & Inouye, 1986; Ehrler, Evans, & McGee, 1999; Goldberg, 1990; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994; McCrae & Costa, 1997).

While FFM research has gained considerable momentum in many countries, some areas of the world have received little or no study. The Indian subcontinent has had few studies done in

this area, and none has been conducted in the author's home country of Pakistan which has one of the largest cohorts of young people in its history, with approximately 25 million young people aged 15 to 24 years (Government of Pakistan, 2001) yet research on young people is still relatively scarce (Khan 2000). There is a need for research examining the applicability of the FFM in Pakistan, especially in the school context where the author has observed that student-related decisions are routinely based on personality judgments.

Moreover, almost all cross-cultural research on self-perception and self-regard has been conducted with adults. This is unfortunate because cultural differences may be a result of socialization and may not apply uniformly at all stages of development. For example, Yoshida, Kojo, and Kaku (1982) found an increase with age in East Asians' tendency to value modesty as a personal attribute, which is associated with processes of self-evaluation. Therefore, data on children's and adolescents' self-perceptions would provide valuable information about the process of cultural involvement in the development of the self.

The aim of this study is to examine the relationship between the Five Factor Model personality traits and a more specific level of adjustment. Maladjustment would cause behavior problems. Two traits that have consistently been found to bring about individual differences in people's adjustment levels are neuroticism and conscientiousness. Sarason and Sarason (2005) assert that people with the ability to remain composed and effectively control and act on impulse are better able to cope with stress. Also, people who can observe and adeptly control their own thoughts, feelings, and behaviors engage in more constructive problem solving (Sarason & Sarason, 2005). Conscientiousness involves the way people competently control, regulate, and direct our own impulses (Johnson, 2006). People high in conscientiousness are inclined to be diligent, exacting, disciplined, purposeful, and methodical (Witt et al., 2002). People scoring

high in conscientiousness should be able to more effectively perform under stressful situations because of their capability to more thoroughly and purposefully direct their impulses and overall behavior.

People scoring high in neuroticism are often negatively affected because of their vulnerability to stress and their tendency to experience negative feelings for unusually long periods of time (Johnson, 2006). People scoring high in neuroticism are more likely than other personality types to experience anxiety, anger, or depression, and it is these problems with emotional regulation that inhibit the ability of that person to make decisions, think clearly, and effectively cope with stress (Johnson, 2006; Srivastava, 2006). A person's vulnerability to stress decreases their ability to effectively carry out tasks (Sarason & Sarason, 2005).

II. REVIEW OF LITERATURE

Defining the Five Factor Model

In the frame work of the Five Factor Model (FFM) of personality, two approaches are usually differentiated: lexical (taxonomic) and dispositional (questionnaire; John & Srivastava, 1999). For lexical researchers, the Five Factor Model has been derived from lexical data. It is a model of personality attributes, and it is therefore, descriptive rather than explanatory (Saucier & Goldberg, 1996). On the other hand, the Five Factor Model in a dispositional approach is based on factor analysis of questionnaire scales. It is assumed that the five factors correspond to biologically based traits, which can explain behavior (McCrae & Costa, 1996).

The Five Factor Model is a hierarchical model of trait structure in which relatively narrow and specific traits are organized in terms of five broad factors. These five factors of Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C) jointly describe the personality dimensions that account for most of the variance seen in self and observer ratings across a wide range of instruments, rating formats and subject populations. These five factors are summary constructs that characterize personality from the stand point of the observer than from that of the actor (Hogan, 1983). In this sense they may be said to describe the map but not the territory of personality (Lanning, 1991).

Proponents of the FFM indicate that it is comprehensive because it encompasses all major dimensions of personality, and thus replaces older trait models like Eysenck's (Eysenck & Eysenck, 1976), and Guilford's (Guilford & Zimmerman, 1976). The FFM is substantially

descriptive, with emphasis on the taxonomic aspect, that is, in the way in which personality can be divided into a smaller number of fundamental constructs (Macdonald, Bore, & Munro, 2008). According to the Five Factor Personality theory, personality can be described by means of five factors: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Intellect, or Openness to Experience (Pervin & John, 1997). These five factors represent personality in the highest degree of abstraction, and each of these dimensions includes a large number of distinct specific characteristics.

Extraversion factor accounts for the amount and intensity of social interaction, activity level, the need for external stimulation and the feature of joy. Individuals scoring high on this dimension can be described as friendly, full of life, venturesome, talkative, optimistic, as ones who like parties, fun and who are warm-hearted. As opposed to them, persons scoring low on this dimension are described as unfriendly, quiet, reserved, un-exuberant, balanced, serious, aloof, and task-oriented.

Agreeableness factor assesses the quality of interpersonal orientation towards the others along a continuum from pity and compassion to adversarial and antagonistic in thoughts, emotions and actions. Persons scoring high on this dimension can be described as soft-hearted, good-natured, trusting, helping, forgiving, open, honest and straightforward, whereas those on the opposite pole of the dimension are seen as pessimistic, contemptuous, rude, irritable, suspicious, cruel, uncooperative and manipulative.

Conscientiousness factor describes task and goal-oriented behavior and the demonstration of socially required impulse control. Individuals scoring high on this dimension are known as organized, reliable, self-assured, self-disciplined, punctual, meticulous, efficient, polite, considerate, ambitious, committed, and persistent. As opposed to them, persons with low

scores are viewed as unreliable, sluggish, careless, negligent, irresponsible, inconsiderate, indifferent, weak-willed, inert, self-indulgent, aimless, and having no aspirations.

The Neuroticism factor identifies persons who tend to develop negative emotions (anxiety, bitterness, sorrow), who suffer from unrealistic ideas, excessive yearning and urges and have maladaptive stress-coping strategies. Persons highly positioned on this dimension are exemplified as worrying, nervous, irritable, over-emotional and insecure. Low scoring individuals in this area are seen to be calm, relaxed, more emotionally stable, resilient, secure, and self-satisfied.

Openness to Experience assesses practical and appreciation of skill for its own sake, tolerance for the unknown and exploration of the unknown. It also is said to assess the width, depth and complexity of one's "spiritual world" and life experience. Persons scoring high on this dimension are described as inquisitive, of broad interests, original, operational, imaginative and non-conventional. On the contrary, those scoring low are traditional, down-to-earth, narrow-hearted, restricted, dogmatic and un-inquisitive (Pervin & John, 1997).

Emergence of the Five Factor Model

Looking back into history, Francis Galton (as cited by John & Srivastava, 1999) was the first to scan a dictionary and assemble about 1,000 personality descriptors. Galton's work and that of other early investigators was relatively unsystematic and had little impact on the field. According to Taylor and MacDonald (1999), the model was originally put forward by Galton (1884; as cited by John & Srivastava, 1999) and had its roots in the lexical hypothesis (Goldberg, 1993).

The Big Five Model made a contemporary breakthrough 70 years ago when Louis Thurstone (1934) commented on his factor analysis of 60 adjectives used by subjects to rate

well-known acquaintances, “it is of considerable psychological interest to know that the whole list of sixty adjectives can be accounted for by postulating only five independent common factors” (Thurston, 1934, p. 26). While his conclusions appear intriguing in hindsight, they evidently failed to generate any further investigation at this time.

Extending the work of Spearman (1904) and his *g* factor of intelligence, Webb (1915) found a factor quite different from *g* which was indicated by such characteristics as Tendency not to abandon task, Perseverance in the face of obstacle, and Conscientiousness. Webb interpreted this as Will (Digman, 1990). After analyzing Webb’s correlations further, Garnett (1919) found a third factor he named Cleverness (comparable to Openness factor of the Big Five). By 1919, one finds evidence in literature for three broad factors accounting for individual differences, Intellect, Conscientiousness, and Extraversion (Digman, 1990).

However, when Klages (1926) argued that the study of language would benefit our understanding of personality, Franziska Baumgarten (1933) responded with a systematic study to examine Klages’ speculation that there were roughly 4,000 German words of inner states. Baumgarten assembled the most frequently used personality-descriptive terms both from various dictionaries and from the publications of German characterologists. Her list consisted of merely 941 trait-descriptors, fewer than what Klages had estimated.

Following Baumgarten’s (1933) work in German, Allport and Odbert (1936) conducted a seminal lexical study of the personality-relevant terms in an unabridged English dictionary. They included all the terms that could be used to distinguish the behavior of one human being from that of another. Their complete list amounted to almost 18,000 terms. Looking for the person descriptors in the dictionary, Allport and Odbert (as cited in John & Srivastava, 1999) identified four major categories. The first category included personality traits (e.g., sociable, aggressive,

and fearful) which they defined as generalized and personalized determining tendencies, consistent and stable modes of an individual's adjustment to his environment. The second category included temporary states, moods, and activities, such as afraid, rejoicing, and elated. The third category consisted of highly evaluative judgments of personal conduct and reputation, such as excellent, worthy, average, and irritating.

Cattell (1946) used Allport and Odbert's listing as a starting point for the development of a broad multi-dimensional model of personality structure. Relying on factor analysis, Cattell (1950) developed a comprehensive system of personality. For Cattell (1950), the central problem in personality psychology is the prediction of behavior. Cattell defined personality as, "that which permits a prediction of what a person will do in a given situation" (p. 3). Like Allport, Cattell viewed trait as a central personality variable. Cattell conducted several oblique factor analyses and concluded that he had identified 12 personality factors, which eventually became part of his 16 Personality Factors (16PF) questionnaire (Cattell, Eber, & Tatsuoka, 1970).

Cattell's pioneering work and the availability of a relatively short list of variables, stimulated other researchers to examine the dimensional structure of trait ratings. Several investigators were involved in the discovery and clarification of the Big Five dimensions. First, Fiske (1949) constructed much simplified descriptions from 22 of Cattell's variables; the factor structures derived from self-ratings, ratings by peers, and ratings by psychological staff members were highly similar and resembled what would be later known as the Big Five. He labeled these recurrent factors as social adaptation, emotional control, conformity, inquiring intellect, and confident self-expression. On the basis of the scales defining these factors, the first four may be recognized as today's Extraversion, Agreeableness, Emotional Stability, and Intellect. Missing from this list is Conscientiousness, although Digman and Takemoto-Chock (1981) in their

reanalysis of Fiske's (1949) study, found evidence for this dimension, indicated by such Conscientious markers as Conscientious-Not Conscientious, Serious-Frivolous, and Predictable-Unpredictable.

More than a decade after the publication of Fiske's study, two Air Force researchers, Ernest Tupes and Raymond Christal (1961), using a set of 30 scales borrowed from Cattell's (1950) slightly larger list, reanalyzed correlation matrices from eight different samples, ranging from airmen with no more than high-school education to first-year graduate students, and included ratings by peers, supervisors, teachers or experienced clinicians in settings as diverse as military training courses and sorority houses. In all their analyses, Tupes and Christal (1961) found five relatively strong and recurrent factors and they labeled these as Surgency (talkativeness, adventurousness, assertiveness, sociability, cheerfulness), Agreeableness (good-natured, emotionally mature, mildness, cooperativeness, trustfulness, adaptability, and self-sufficiency, and energetic), Dependability (orderliness, responsibility, conscientiousness, perseverance, and conventionality), Emotional Stability (placid, poised, calm, and emotionally stable), and Culture (imaginative, independent-minded, and cultured). One of the goals of Tupes and Christal (1961) studies was to help clarify the personality trait-rating domain which had promptly turned into a tangled web after the first independent results in the psycholexical field produced by Fiske (1949) and Cattell (1947). Fiske was the "first discoverer" (Goldberg, 1993) of today's Big Five structure. He factored three data sets, the two with staff ratings also used by Tupes and Christal (1961) and a third one comprising self-ratings. The result was a five-factorial structure that was replicated across different samples.

In addition, Tupes and Christal (1961) conducted a meta-analysis, relating their own results to results obtained by analyzing the correlations of other investigators and comparing the

factors across studies. It was unlucky that the results of these studies were published as Air Force Technical Reports and thus were seen by few researchers of personality. Despite this anonymity, the report marks the beginning of a serious interest in the five-factor model, at least on the part of a few researchers (Digman, 1996).

One such researcher was Warren Norman (1963) who offered a five-factor solution of 20 peer rating scales. He later expanded his investigations, beginning with the development of the original list of personality terms of Allport and Odbert extending to 2,800 trait-descriptive terms (Norman, 1967). He was certain that there must be factors beyond the five found in his early studies. Goldberg (1990) also looked at this commonly accepted belief, running analyses of 75 trait scales based on some 1,431 items. He found that although it held true for five factor solutions, it was not as reliable for more complex solutions.

Borgatta (1964) collected ratings of sorority and fraternity members using rating scales based on the five factor solutions of Tupes and Christal. However, unlike those investigators, who had used Cattell's bipolar scales, Borgatta designed his own rating scales, which consisted of brief sentence stems (e.g., "is assertive"). Analysis of 34 such scales produced five clear factors, to which Borgatta gave the names Assertiveness, Likeability, Responsibility, Emotionality, and Intelligence.

Smith (1961, as cited by Digman, 1990) engaged 42 bipolar rating scales based on the work of Allport and Odbert (1936) and Cattell (1947). His subjects were first year college students who were rated by other members of their study group. Factor analysis of the correlation of three independent group of students lead Smith to interpret the factors as Extraversion, Agreeableness, Emotionality, Strength of Character (Conscientiousness) and Refinement (Intellect/Openness) (Digman, 1990).

All of this prior research and psychometric effort geared towards the fundamental dimensionality of personality constructs had failed to produce a widely accepted model. Cronbach (1970) believed that the efforts of bringing order to the field of personality traits via factor analyses, where one system resulted in a minimum of 16 essential personality factors, yet another offered a very simple model with only three factors was unrealistic. He concluded that these efforts are a “game” — the word that summed up the results of factor approach to personality; it was all far from something serious.

After a several years’ hiatus personality psychology rediscovered the Five Factor Model in the 1980s. Goldberg (1980) attempted to bring together his five factor analyses of self and peer ratings while Digman (1996) tried to figure out the teacher’s ratings of children; both concluded that the Five Factor solutions were outstandingly stable across studies, whereas more complex solutions were not. Costa and McCrae (1976), who had developed a three-factor view of personality in the form of three clusters (Neuroticism, Extraversion, Openness) were propelled to add Agreeableness and Conscientiousness, and the first inventory based on the Big Five Factor was launched (Costa & McCrae, 1985). Costa and McCrae (1985, 1988, & 1992) produced a series of studies offering convincing evidence of the presence of some or all of the Big Five in many well-known inventories, such as the Personality Research Form (Jackson, 1984), the California Q-Set (Block, 1961), and the Myers-Briggs Type Indicator (Myers & McCauley, 1985). The FFM includes the major dimensions from the 16 personality Factor Questionnaire -16PF (Cattell, 1949; Costa & McCrae, 1976), the Guilford-Zimmerman Temperament Survey (Costa & McCrae, 1985), the Eysenck Personality Questionnaire (Costa & McCrae, 1985) and the California Q-Set (McCrae, Costa & Busch, 1986).

Early in 1981, Goldberg (Antonioni, 1998) contended that the five dimensions of rating personality could serve as a framework for many theories of personality at the time, including the views of Cattell (1957), Norman (1963), Eysenck and Eysenck (1970), and Guilford (1975). Earlier empirical work (e.g., Fiske, 1949; Tupes & Christal, 1992) suggested that there existed five fairly strong and recurrent personality factors, Surgency (termed as Extraversion by many others), Agreeableness, Dependability (including such dimensions as Responsibility and Conscientiousness), Emotional Stability, and Culture. More recent empirical investigations have also demonstrated a strong existence of the five personality domains (e.g., Digman, 1994; Goldberg, 1990) that have been given slightly different names.

Universality and Applicability of the Five Factor Model

A universal model should be replicable regardless of methods, subjects, languages, or setting. It should be cross-culturally meaningful and useful. Digman and Inouye (1986) supported the FFM's universality by using teacher's rating scales for school children in a Hawaiian sample. A meta analysis of six studies by Digman and Takemoto-Chock (1981), which included the early work of Cattell (1947), Digman (1972), Fiske (1949), Norman (1963), and Tupes and Christal (1961), supported these findings thus heightening interest in the FFM.

Recently, several cross-cultural studies were conducted to test the universality of the FFM. For example, one of the FFM measures which have been used extensively in cross-cultural research is the NEO-PI-R. This personality assessment has been translated into more than 40 languages and/or dialects and used in over 30 different cultures. Rolland (2002) compared the NEO-PI-R factor structure obtained in 16 countries and observed that the FFM replicated well in all countries. Rossier and colleagues (2005) extended these results from Asian and Western cultures to Africa by analyzing the NEO-PI-R factor structure in Burkina Faso and found it to be

very similar to the American normative structure, with a total congruence coefficient of 0.94. At the same time, McCrae and colleagues (2005) also analyzed the replicability of the FFM personality structure using observer-rating personality data from 50 cultures representing 6 of the 7 continents. Factor analyses within cultures showed that the FFM personality structure replicated in most cultures and was recognizable in all. Moreover, mean personality profiles were found to be geographically organized. Countries separated by a small cultural distance had similar personality profiles: European and American cultures contrasted with Asian and African cultures. The European and American cultures were higher in Extraversion and Openness to Experience and lower in Agreeableness than people from Asian and African cultures (McCrae, et al., 2004, 2005). Thus the FFM has shown widespread cross-cultural replicability and seems universal, even when considering cultures separated by a great cultural distance (McCrae, 2005).

According to Eysenck (1991), however, the validity of the Big Five should be examined against socially relevant criteria such as criminality, mental illness, academic aptitude, achievement, and work performance. A large study of adolescents has addressed this challenge examining three of Eysenck's criteria: juvenile delinquency, childhood psychopathology, and academic performance (John et al., 1994). The findings suggest that the Big Five can help understand theoretically, socially, and developmentally significant life outcomes. For example, low Agreeableness and low Conscientiousness predict juvenile delinquency. In terms of psychopathology, Neuroticism and low Conscientiousness predict internalizing disorders. Conscientiousness and Openness have been evaluated to predict school performance. These findings suggest that the Big Five dimensions can be used as indicators of risk for subsequent maladjustment.

Huey and Weisz's (1997) study further supported the versatility and universality of FFM. Their results suggested that the links between personality and life outcomes hold up in a clinical sample as well. These findings may help researchers use Big Five profiles to identify children at risk and ultimately design appropriate interventions such as teaching children relevant behaviors and skills (e.g., strategies for delaying gratification).

The availability of the Big Five taxonomy has also renewed interest in the links between personality and adult psychopathology (e.g., Costa & Widiger, 1994; Wiggins & Pincus, 1989). It has helped bring order to the many, often confusing, findings linking personality traits to physical health (Adams et al., 1998; Friedman, Hawley, & Tucker, 1994; Friedman et al., 1995). Evidence now suggests that regular and well-structured lives led by individuals high in Conscientiousness contributes to better health outcomes and endurance, whereas antagonistic hostility (low Agreeableness) and negative affect (high Neuroticism) appear to be risk factors. The emerging nomological network for each of the Big Five now includes an ever-broadening range of life outcome variables, such as leadership (Extraversion), helping others and donating to charity (Agreeableness), school and college grades (Conscientiousness), vulnerability to depression (Neuroticism), creative performance (Openness). These findings have been summarized in several recent reviews (e.g., Graziano & Eisenberg, 1997; Hogan & Ones, 1997; McCrae & Costa, 1996; Watson & Clark, 1997).

Although the Five Factor Model (FFM) originates from studies with adults, there is accumulating evidence that the model is also useful in describing individual differences in children and adolescents. The 108-item Inventory of Children's Individual Differences (ICID; Halverson et al., 2003) has provided researchers with an age and culture neutral instrument

designed specifically to assess the FFM of personality in children and adolescents, ages 2 to 15, using parental, non-parental, or self-reports.

Using the Children's Personality Questionnaire (CPQ), Porter and Cattell (1972) further confirmed the strength and applicability of the FFM by showing that children with learning problems score low on the scales related to traits of agreeableness, emotional stability, conscientiousness, and perseverance, while at the same time scoring high on the traits of withdrawal and impulsivity. Graziano and Ward (1992) supported these findings through teacher ratings of 11 to 14 year old girls and boys using 40 bipolar scales adapted from Digman and Inouye (1986).

John, Caspi, Robins, Moffitt, and Stouthamer-Loeber (1994) used the California Child Q-set (CCQ) to explore the structure of personality in early adolescence and to develop scales to measure the Big Five dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Mothers provided Q-sorts of 350 ethnically diverse boys between 12 and 13 years old. Analyses provided a nomological network relating the Big Five to theoretically and socially important criterion variables, such as juvenile delinquency, externalizing and internalizing disorders of childhood psychopathology, school performance, intelligence, socio-economic-status, and race.

Overall these studies showed that children at age 12 years have already developed abilities required for observing one's own personality dispositions and for giving reliable self-reports on the basis of these observations. Concerning children aged 9 to 12, many uncertainties remain. Only a few studies explore self-ratings reliabilities. For example, Barbaranelli, Caprara, Rabasca, and Pastorelli (2003) measured the Big Five factors in late childhood through self-report as well as parent and teacher ratings. They conducted several factor analyses on the self-

report and teacher and parent ratings of elementary and junior high school children by using a 65-item questionnaire developed for assessing the Big Five. Five clear factors emerged from these analyses. Intellect/Openness and Conscientiousness were important predictors of Academic Achievement. Externalizing problems were associated with low Conscientiousness and low Emotional Stability and internalizing problems with low Emotional Stability. The Big Five factors were used as concurrent predictors of academic achievement and of externalizing and internalizing problematic behavior syndromes.

Verifying the versatility further of FFM, Mervielde (1994) demonstrated the presence of five factors in temperament and extended them to younger children. They asked teachers to provide ratings for a sample of 2240 children aged 4 to 12 years on a set of bipolar adjective scales selected from Goldberg's (1980) 50 bipolar markers for the Big Five (Mervielde, 1992). The authors concluded that the emergence of the five factor structure coincides with the beginning of elementary education.

Measelle, John, Ablow, Cowan and Cowan (2005), realizing that research using the FFM on early childhood personality has been scarce, measured self-reports of Big Five personality traits longitudinally with the Berkeley Puppet Interview when children were five, six and seven years of age. For comparative purposes, they also collected Big Five self-reports in a sample of college students. The children's self-reports showed levels of consistency and differentiation that approached those of the college age sample. Children's personality self-reports demonstrated significant correlations across the 1- and 2-year longitudinal intervals. Substantial and increasing convergence was found between children's self-reports of Extraversion, Agreeableness, and Conscientiousness and conceptually relevant behavior ratings provided by mothers, fathers, and teachers. Children's self-reports of Neuroticism were unrelated to adults' reports but did predict

sadness and anxious behavior observed in the laboratory. Their results provide an account of how the Big Five dimensions begin to be salient and emerge as coherent, stable, and valid self-perceptions in several instruments that have been developed for adults and adolescents.

The structure of personality can be studied within the trait perspective on personality (Allport, 1937). Personality traits are isolated and an individual's personality is described by a unique pattern of these traits. FFM provides the description of these patterns. It can be applied to the description of adult, adolescent, and children's personality patterns (Digman, 1990). The following sections describe some of the instruments developed according to the Five Factor Model to measure the personality patterns of adults, adolescents and children.

Measuring Personality in Adults using the Five Factor Model

FFM was developed to account for the major dimensions of adult personality in English language trait names (Tupes & Christal, 1961). Research (Costa & McCrae, 1985b; Goldberg, 1981) has confirmed that the five factors of Neuroticism vs. Emotional Stability, Extraversion or Surgency, Openness to Experience or Culture, Agreeableness, and Conscientiousness constitute a comprehensive taxonomy of normal adult personality traits.

Many instruments have been developed to assess the five factors in adults. Costa and McCrae's (1985; 1992) NEO-PI-R is the most frequently used personality questionnaire to assess the five factors in adults and college students. According to Costa, McCrae and Johnson (2002), this measure has been used widely in both normal and clinical populations for research, clinical, and organizational applications. An individual's score on the NEO-PI-R reflects the motivations, tendencies, and capacities that characterize his or her ongoing interactions with the environment. The inventory measures the five broad factors of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Each of these five factors also has six facet

scales designed to measure specific aspects of each domain. The NEO-PI-R is composed of 240 simple sentences that describe specific behaviors or attitudes, and the individual is required to rate each sentence on a five-point Likert scale from strongly disagree to strongly agree. In addition to the self-report form, there is also a rater version that contains the same items, but they are worded in the third person (Piedmont, 1998). Reliability estimates for the inventory range from .86 to .93 for the five broad domains and from .56 to .87 for the facet scales. Additionally, the NEO-PI-R has been used in over a thousand published studies and has demonstrated longitudinal stability, predictive utility, and consensual validation (Costa, McCrae, & Johnson, 2002).

The Five-Factor Personality Inventory (FFPI; Hendriks et al., 1999; Hendriks, Hofstee, & De Raad, 1999b) is another instrument that measures an adult's position on the dimensions Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Autonomy. The FFPI consists of 100 brief and simple behaviorally descriptive items in the third person singular (e.g. takes risks, avoids company) that can be used for other-ratings as well as self-ratings. Ratings are made on a five-point scale running from not at all applicable to entirely applicable. A person's position on each of the five dimensions is based on (differentially) weighted sums of all his or her 100 item responses (Hofstee, Ten Berge, & Hendriks, 1998). FFPI is a reliable and valid instrument (Hendriks et. al., 1999). Both internal consistency (0.83–0.89) and six month test–retest reliability (0.79–0.83) of the factor scores were satisfactory to high and correlations with convergent measures substantial (e.g. self/mean peer: 0.54– 0.72). Subsequent studies confirmed this first impression. In a variety of Dutch and Flemish samples, the replicability of the five-factor structure was demonstrated and, overall, the FFPI showed good psychometric properties (Hendriks, Hofstee & De Raad, 1999a).

Literature shows a positive relationship between various personality disorders and the domains and facets of the FFM in adults (e.g. Widiger & Costa, 2002). Overall, literature suggests that the FFM may be a valuable tool for the dimensional characterization of Axis II disorders.

One potential limitation of most instruments that assess the FFM is that they tend to focus on normal variations of these traits. To address this and other concerns, the Structured Interview for the Five-Factor Model (SIFFM; Trull & Widiger, 1997, 2002) was developed. The SIFFM is an alternative measure of the FFM, one that may have several advantages over the paper-and-pencil measures of the FFM. For clinicians and researchers in the field of personality disorders, semi-structured interviews are sometimes preferred over self-report because they allow the evaluation of the practitioner to be included in the assessment. The SIFFM was developed to provide an interview-based measure. The measure was designed to assess both adaptive and maladaptive characteristics related to the Big Five traits. SIFFM scores not only indicate the level of a trait, but also suggest degrees of dysfunction. This provides more information as to the clinical significance of the maladaptive trait. The SIFFM is usually preferred over a Big Five self-report, mainly because self-reports are affected by current mood-states and by other self-related biases, especially in clinical settings (Trull & Widiger, 2002).

A common practice among practitioners and researchers doing cross-cultural work is to transport personality inventories developed in one country to another country of interest. The issue involved is expressed in Berry's distinction between emic and etic structures (1969). Imposing a personality trait structure developed in one language (emic) as universally applicable (etic) in another language is not without risks. The Global Personality Inventory (GPI) involved input from ten teams of consultants and researchers around the world, with everyone agreeing on

the importance of the Big Five structure. All the teams participated in the production of the item pool. The GPI is a cross-cultural measure of personality designed to be used in a work context for activities including selection, development, coaching, feedback, and succession planning (Schmit, Kihm, & Robie, 2000). The GPI was developed with an equal emphasis on employing sound personality theory (McCrae & Costa, 1997) and job performance theory (Campbell, Gasser, & Oswald, 1996) and was validated across several cultural groups (including North America, Europe, and Asia). The items of a long and first version of the GPI were translated into nine languages. The GPI consists of 300 items and 37 scales. The items are rated on a 5-point Likert scale ranging from 'Strongly Disagree' (1) to 'Strongly Agree' (5). Similar to other measures, the traditional FFM traits (Agreeableness, Conscientiousness, Emotional Stability, Extroversion, and Openness to Experience) are assessed by this measure. Additionally, the GPI measures five sub-factors under the factor heading of 'derailing leadership': ego-centered, intimidating, manipulation, micro-managing, and passive-aggressive. According to the test manual the internal consistency estimates from a sample of 714 working adults range from .56 to .79 (ePredix, 2001). Schmit et al. (2000) report very similar values across a variety of other cultural subsamples.

Measuring Personality in Adolescents using the Five Factor Model

It has been demonstrated through research, ratings by parents, teachers, and other adult observers, that the Big Five traits apply to adolescent personality in the same way that they do to adult personality. Personality in adolescents can be described in terms of the same five factors found in adults (Digman & Inouye, 1986; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994) and self-report is a reliable and valid method of measuring Big Five traits in adolescents (e.g., De Fruyt, Mervielde, Hoekstra, & Rolland, 2000).

Soto, John, Gosling, and Potter (2008) studied how adolescent personality reports differed from those of adults. The authors examined Big Five self-report data from a large and diverse Internet sample to identify the year-by-year timing of developmental trends from late childhood (age 10) to early adulthood (age 20). They outlined the *within-domain coherence* (or internal consistency; the extent to which items intended to measure the same trait are highly correlated with one another. Stronger correlations among items within a domain indicate greater coherence.) and the *between-domain differentiation* (extent to which scales that assess conceptually distinct traits have low correlations with each other. Lower between-domain correlations indicate better differentiation). Results of this study showed that at younger ages, there were large individual differences in agreeable responding, beyond the effects of acquiescence, self-reports were more coherent at older ages. Furthermore, Extraversion showed especially pronounced age gains in coherence but no gains in differentiation. In contrast, Agreeableness and Conscientiousness showed large age gains in differentiation but only trivial gains in coherence. Neuroticism and Openness showed moderate gains in both coherence and differentiation. These findings have important implications for the study of personality characteristics and other psychological attributes in childhood and adolescence.

Previous studies have demonstrated that one's general reasoning level contributes only to a certain level while evaluating one's own personality (Allik et al., 2004). For instance, Allik and his colleagues demonstrated that among 12-year-olds psychometrically measured intelligence predicted the reliability of self-reports and personality trait structure measured by the NEO Five-Factorial Inventory (NEO-FFI) indicating relevance to control for reasoning ability in studies of personality among young adolescents. However, recent studies have demonstrated that young adolescents have enough abilities to understand and respond properly to items from adults' self-

report personality questionnaires (De Fruyt, Mervielde, Hoekstra & Rolland, 2000; McCrae et al., 2002). Therefore, adult personality measures can be meaningfully used in adolescent samples while still bearing in mind a possible moderating effect of the intelligence level.

Elphick, Slotboom, and Kohnstamm (1997) described three different strategies to assess FFM in non-adult groups. The first, most commonly applied approach uses an adult FFM measure for assessing children's or adolescents' traits. Parker and Stumpf (1998), for example, demonstrated that the NEO-FFI could be easily administered to gifted adolescents. More recently, De Fruyt, Mervielde, Hoekstra and Rolland (2000) showed that the more comprehensive NEO-PI-R is also structurally invariant in more heterogeneous samples of adolescents. Alternatively, item phrasing/or rating instructions of adult personality inventories are sometimes slightly adapted to make them more suitable for childhood or adolescent personality assessment, such as for the junior Eysenck Personality Inventory (Eysenck, 1965).

A second strategy derives FFM scores from childhood or adolescent inventories that are constructed to primarily operationalize another personality model than the FFM. Items and scales are rearranged in order to form reliable markers for the FFM dimensions. John et al. (1994) and Van Lieshout and Haselager (1994) derived five factor scores from re-analysis of Block's California Child Q-Set (CCQ; Block & Block, 1980). Similarly, Judge, Higgins, Thoresen and Barrick (1999) studied trait rank-order continuity across life-span derived from an FFM rescaling of Q-Sort data. Judge, Higgins, Thoresen and Barrick (1999) noted that the major drawback of this method was that these five factor measures largely depended on the theoretical framework of the original instrument, and therefore were just substitutes of the FFM dimensions.

Finally the third strategy is a bottom-up strategy, directed to the construction of a new and specific FFM inventory assessing children's or adolescents' traits. This strategy first requires

a careful analysis of the full range of personality differences that can be reliably observed in the target age group. The rationale behind this approach is that the kind and number of traits assessed should closely mirror the observable personality differences among individuals of the target age group. The Hierarchical Personality Inventory for Children (HiPIC; Mervielde & De Fruyt, 1999) was constructed along such a bottom up approach.

Measuring Personality in Children using the Five Factor Model

According to Shiner (1998) there is a substantial increase of studies exploring personality structure in middle childhood and early adolescence. A main problem of these studies, however, is the absence of a common framework for interpreting the results. There is no agreement on the nature and the number of dimensions needed to describe personality. Concluding her review, Shiner (1998) proposed a theoretical taxonomy for the classification of personality dimensions in middle childhood. This taxonomy comprised four general dimensions which can be traced back to four of the Big Five: (1) Positive Emotionality (corresponding to Extraversion); (2) Negative Emotionality (corresponding to Neuroticism); (3) Aggressiveness versus Prosocial Tendencies (corresponding to Agreeableness); and (4) Constraint (corresponding to Conscientiousness). In light of these considerations, we may wonder if the Big Five Model can be extended from adult personality to children's personality, serving thus as a reference structure for study comparison and results generalizability (Mervielde & De Fruyt, 1999, 2002).

Although many studies have investigated the Big Five in adulthood, researchers only recently began to study the Big Five in late childhood. Digman and Inouye (1986) found five factors very similar to the "adult" Big Five in factor analyses of teacher ratings of about 500 junior high school children, using 43 adjectives scales. Mervielde (1994; Mervielde, Buyst, & De Fruyt, 1995) analyzed teacher ratings on four different age groups (from 4 to 12 years old),

identifying most of the time a five factor solution consistent with the Big Five. In this study, moreover, Conscientiousness and Intellect/Openness showed high correlations with academic achievement.

The five factors which several authors found in both the free descriptions by parents of their children (Kohnstamm et al., 1998) and the descriptions by teachers of the behaviors of their pupils in the classroom (Digman & Inouye, 1986; Mervielde, 1994) might be described as: (I) Extravert-Introvert; (II) Agreeable-Disagreeable; (III) Conscientious-Non-Conscientious; (IV) Emotionally Stable-Emotionally Instable; and (V) Open-Non-Open to Experience. These factors appear comparable to the description by Costa and McCrae (1985) of the basic dimensions of the Five-Factor Model in terms of: (I) Extraversion/Surgency/Spontaneity/Activity; (II) Agreeableness/Goodness/Friendliness/Altruism/Respect; (III) Conscientiousness; (IV) Emotional Stability versus Emotional Instability/ Emotionality/Neuroticism; (V) Intellect/Openness to Experience/Culture/Creativity/Autonomy.

A comprehensive assessment of age-specific indicators of traits is crucial to studying personality and development of young children. Different approaches have been adopted to assess FFM dimensions in children and adolescents. However, it can be argued that these adapted measures are not suitable for assessment of childhood and adolescent personality differences and the developmental changes (De Clercq, De Fruyt, & Van Leeuwen, 2004). Therefore, an alternative approach that is more sensitive to subtle personality differences at young age should be developed on the basis of the full range of personality differences observable prior to adulthood.

Several researchers have developed instruments specifically designed to measure the FFM in children, all with reasonable levels of success, for example, the recently developed hierarchical five-factor questionnaire, the Hierarchical Personality Inventory for Children (HiPIC) by Mervielde and De Fruyt (1999). This 144-item inventory assesses the five trait domains of Extraversion, Benevolence (roughly corresponding to Agreeableness in the Five-Factor model), Emotional Stability (roughly corresponding to the opposite pole of Neuroticism), Conscientiousness, and Imagination (roughly corresponding to Openness to Experience). It also measures eighteen facets that are hierarchically organized under the five trait domains. The HiPIC is an observer-based measure of personality and usually the parents (often the mothers) are the informants for the description of their child's personality. The HiPIC is suited for the personality assessment of 4 to 12 year old children. All HiPIC items refer to a particular overt behavior, excluding adjectives normally used to describe personality. The items have a similar grammatical format, i.e. they are formulated in the third person singular without negations. Each item is rated on a five-point Likert scale ranging from 1 (uncharacteristic) to 5 (very characteristic). The factor structure proved highly replicable across informant groups in previous studies, with Cronbach's alphas for domain scales and facet scales all exceeding 0.80 (De Fruyt & Mervielde, 1998; Mervielde & Asendorpf, 2000).

The Big Five Questionnaire for Children is another personality measure for children created by Barbarnelli et al. (as cited in Del Barrio, Carrasco, & Holgado, 2006) and is a self-report personality measure patterned after the Big Five Questionnaire for Adults. The questionnaire contains 65 items with five answer choices ranging from hardly ever to almost always. Individuals receive scores on each of the big five dimension scales, which include Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness.

Two independent personality measures were designed for children and adolescents, both an outgrowth of Cattell's (1949) Sixteen Personality Factor Questionnaire (16PF). The Children's Personality Questionnaire is designed for ages 8 to 12, while the High School Personality Questionnaire is designed for ages 11 to 18. The authors developed these versions of the 16PF by modifying items from the adult research, administering those items with children and adolescents, and factor analyzing the results (Schuerger, 1992). Both of these measures are standardized, self-report instruments designed to measure dimensions of personality and intended for use in school and clinical settings (Goodman, Gibian, Casanueva, & Adkins, 1987). They each have four different forms with 140 items on each form, and they take approximately 40 to 60 minutes to complete (Schuerger, 1992).

The Inventory of Children's Individual Differences (ICID; Halverson et al., 2003) was developed by investigators in seven countries who collected parental free-language descriptions of children from more than 3,000 parents, resulting in a 108-item Likert-scale instrument from which 15 midlevel scales were factored into the FFM: Neuroticism (Fearful, Negative Affect, Distractible), Extraversion (Sociability, Shy, Activity Level, Positive Emotions), Openness (Intellect, Openness), Agreeableness (Considerate, Compliant, Positive Emotions, Antagonism, Strong-Willed, Negative Affect), and Conscientiousness (Organized, Achievement Oriented, Distractible, Compliant, Intellect). ICID is designed specifically to assess the FFM of personality in children and adolescents, ages 2 to 15 using parental, teacher, or self-reports. One drawback is that at 108 items, however, the ICID is a lengthy instrument.

The Five Factor Personality Inventory – Children (FFPIC; McGhee, Ehrlert, & Buckhalt, 2007) assesses personality dispositions in children and adolescents. FFPI-C is based on the Allport and Odbert (1936) theoretical model and consists of five factors of personality:

Agreeableness, Extraversion, Openness to Experience, Conscientiousness, and Neuroticism. Neuroticism was relabeled as Emotional Regulation (McGhee, Ehrler, & Buckhalt, 2007). The instrument is designed for children between the ages of 9 to 19 and it contains 75 items bipolar statements. It has two primary uses: (a) to identify children who are at risk for adjustment problems in school and community by assessing their personality traits and (b) to be used as a research tool.

Teacher and Parent Rating in Measuring Children's Personality

Teachers continuously assess students on their achievements, working attitude, motivation, and personality traits. These judgments play an important role in the student's life. Except for the work of Digman (1989) indicate that almost all the studies related to the five-factor model have been from peer ratings or self ratings of adults. Digman started a longitudinal project in 1963 studying teachers' ratings of children (Digman 1989; Digman & Inouye, 1986). Digman showed (a) children are feasible subjects in personality structure studies; (b) teacher ratings of children are sufficiently reliable for research purposes; and (c) just like studies with adults, a wide sampling of rated personality characteristics of children will typically result from five to seven factors, of which five will be recognized as the same five factors commonly observed in studies of adults.

Digman and Inouye (1986) conducted a study of teacher ratings engaging 499 6th grade school children in Hawaii as subjects. The rating scales used in their study are similar to the one used by Digman and Takemoto-Chock (1981). The analytic solution from both studies can be readily identified as consistent with the standard five-factor model.

According to Barkley (1987, 1991), rating scales completed by teachers and parents have proven to be invaluable tools in the assessment of problematic behaviors, including Attention

Deficit Hyperactivity Disorder. Rating scales completed by teachers are valuable in the assessment of attention deficits, because (1) teachers are usually the first persons to point out the age-inappropriateness of a child's behavior to his or her parents; (2) teachers spend a lot of time with the children; and (3) teachers have been proven to be objective in the assessments of their students (Atkins & Pelham, 1991).

TerLaak, DeGoede and Brugman (2001) on the other hand disagreed with Atkins and Pelham (1991) by concluding that teachers' judgments of their students are much less reliable than most people assume. They conducted a study in Netherlands to study the extent of agreement between teachers in judging characteristics of their students; they also measured the accuracy of this judgment. Their data consisted of four teachers and 87 students from grades 2 to 5 (aged 7 to 10 years). The authors found out that teachers used the same pupil characteristics and same scale levels to judge their students. These teachers produced labels for student characteristics that included sociability, self-confidence, troublesomeness, and working attitude, which matches with the Big Five. The authors observed the students' behavior using 16 categories (e.g., task behavior, approaches teacher from distance, social interaction, rumbling etc.). Accuracy of teachers' judgment was measured by comparing teachers' ratings on students' characteristics with the student's corresponding factual behavior. It was found that the teachers were not consistent among themselves in their judgments, except for troublesomeness, and there was little correspondence between teacher's ratings and the child's behavior in the classroom.

Historically, professionals have relied on parents for critical information about their child's behaviors (Edelbrock & Costello, 1985). Parents provide school social workers with unique information about a child's behavioral, social, and emotional capacities at home and in the community. Parental insights are valuable for intervention planning. Parents are routinely

involved in the assessment of child and adolescent functioning and are the most frequent initiators of child mental health referrals (Edelbrock & Costello, 1985). Parents provide unique information about a child's behavioral, social, and emotional capacities at home and in the community. Their insights are valuable for intervention planning. Parent rating scales are increasingly being used in the behavioral, social, and emotional assessment of children and adolescents (Merrell, 1999). These standardized instruments allow those who know a child or adolescent well to make global judgments about the youth's behavioral characteristics. The use of rating scales serves several functions: acquisition of status information during an initial assessment of children and adolescents, monitoring outcomes during and after treatment, allowing multiple informants (for example, parents, teachers, and youths) to contribute information, and provision of data for evaluation teams to compare perspectives across multiple informants for similarities and differences that may be relevant to intervention planning. A study conducted by Adelman, Taylor, Fuller, and Nelson (1979) found that their student self-ratings were consistently more positive than their parent ratings, whereas the parent ratings were consistently more positive than those of the children's teachers.

Even though parent evaluations of their children may be reasonably reliable for information, some researchers raise concerns about parents' subjectivity in the rating process (Schmitz et al., 1996). A main concern for parents' ratings is their own psychopathology, specifically depression (Towers et al, 2000). Youngstrom et al. (2000) collected ratings from parents, teachers, and children, along with extensive demographic data. They found that parental depression caused the parents' ratings of both internalizing and externalizing problem behavior to increase disproportionately with the same ratings by teachers and children, although the researchers also acknowledged that teachers' depression could have an effect on ratings.

Another concern with regard to parents' ratings is the increased tolerance of some behaviors (Loeber, Green, & Lahey, 1990). El-Hassan Al-Awad and Sonuga-Barke (2002) proposed that low reports of child problem behavior by the parents might be a result of more lenient standards of their own children or even stigma avoidance. Meydith, Prout, and Blaha (2003) also studied parents' tendency to respond with socially desirable answers, finding that parents may under report maladaptive behavior, especially on the externalizing scales. Other causes for low reports of problem behavior may include comparison between one's own children, leading to inflated differences (Towers, et al., 2000), cultural differences (Youngstrom et al., 2000) or simple ignorance (Loeber, Green, & Lahey, 1990) on the part of the parents.

Self Report in Measuring Children's Personality

In the assessment of children's behavioral and emotional problems, different informants' reports about children's functioning for different situations and their perspectives are not the same. Achenbach, McConaughy, and Howell (1987) showed weak convergence for ratings of childhood characteristics by conducting a meta analysis of 269 samples in 119 studies. They correlated ratings by parents, teachers, mental health workers, observers, peers, and the subjects themselves to determine the degree of consistency among different informant's reports of the behavioral/emotional problems of subjects from 1½ to 19 years. The mean correlation between all types of informants came out to be statistically significant. The mean correlations were .60 between similar informants (e.g., pairs of parents), .28 between different types of informants (e.g., parent/teacher), and .22 between subjects and other informants. Acquiring personality data directly from children is important because many childhood characteristics involve underlying subjective mood states and affectivity (Hinshaw, Han, Erhardt, & Huber, 1992).

Little is known about the consistency of self-perceptions of children. Measelle, John, Ablow, Cowan and Cowan (2005) measured self-reports of Big Five personality traits longitudinally using the Berkeley Puppet Interview with a sample of 110 children were 5, 6, and 7 years of age. For comparative purposes, the researchers collected a sample of college students. The children's self-reports showed levels of consistency and differentiation that approached those of the college age sample. Children's personality self-reports demonstrated significant correlations across the 1-and 2-year longitudinal intervals. Substantial and increasing convergence was found between children's self-reports of Extraversion, Agreeableness, and Conscientiousness and conceptually relevant behavior ratings provided by mothers, fathers, and teachers. Children's self-reports of Neuroticism were unrelated to adults' reports but did predict sadness and anxious behavior observed in the laboratory. The results help us understand how the Big Five dimensions begin to be salient and emerge as coherent, stable, and valid self-perceptions in childhood.

Self-Report Ability of 9 to14 Year Old Children

As children reach middle childhood (6 to12 years old), they develop increasing self and mental representation awareness as their cognitive skills become more refined and complex (De Civita et al., 2005). Although they may frequently describe themselves in relation to others (such as peers), they also have a growing awareness of the psychological aspects of self and emotions.

Self-report ability is linked to the development of James's Me-self concept (1890, 1892), in other words the child's developmental capacity to describe him or herself as an object. Eder and Mangelsdorf (1997) reported that in middle childhood (approximately age 6–12), children start to describe themselves and others with trait terms. Furthermore, Harter (2006) observed that they now could express emotions of opposing valences (e.g. 'I was happy that I got a present but

mad that it was not what I wanted’). Around the age of 10 or 11, children first combine and integrate trait labels and show an increased ability to express more differentiated descriptions of their behavior. In early adolescence, trait labels integrate into higher order self-concepts (e.g. ‘I am extraverted’).

Given evidence that young children may well be the best informants about their internal states as well as about behaviors that are expressed inconsistently in different contexts (Ablow et al., 1999; Kraemer et al., 2003), the inclusion of personality self-reports by young children will likely provide unique explanatory and predictive power.

FFM and Behavior Problems in Children

In adults, FFM profiles have been linked empirically to such disorders and outcomes as alcoholism (Martin & Sher, 1994), dependency and self-criticism (Mongrain, 1993), DSM-III (Costa & McCrae, 1990; Wiggins & Pincus, 1989) and DSM-IV diagnoses (Wilberg et al. 1999), and academic achievement (Digman, 1989). Conceptions of the five factors have thus served a valuable heuristic role in the formulation and interpretation of research on personality in adulthood. It would be of obvious value to determine whether similar factors are evident in childhood and whether their antecedents or correlates can be identified.

Although some child developmentalists have studied traits and temperaments (e.g., Rothbart, Ahadi, & Evans, 2000; Shiner, 1998), many have emphasized personality types (e.g., Robins, John, Caspi, Moffitt, & Stouthamer-Loeber, 1996). Child developmentalists have relied mainly on parent, teacher, or observer ratings (e.g., Block, 1993) and have been closely guided by theory (e.g., Westenberg, Blasi, & Cohn, 1998). Adult developmentalists have more often studied personality traits (Siegler, George, & Okun, 1979), used self-reports (Helson & Wink, 1992), and focused on systematic empirical investigations (Costa & McCrae, 1992b).

Barabranelli et al. (2003) measured the Big Five factors in late childhood through self-report as well as parent and teacher ratings. Several factor analyses were done to examine self-report and teacher and parent ratings on a 65-item questionnaire developed for assessing the Big Five. Five clear factors with high degree of congruence emerged from these analyses. Self-reports, parent and teacher ratings showed moderate although significant convergence. As a validation step, Big Five factors were used as concurrent predictors of academic achievement and of externalizing and internalizing problematic behavior syndromes. Intellect/Openness and Conscientiousness predicted academic achievement. Externalizing problems were associated with low Conscientiousness and low Emotional Stability, and internalizing problems with low Emotional Stability.

Behavioral-rating scales and systematic observation have been used since the 1980s to assess behavioral adjustment; however, psychometric testing of instruments was limited (Shapiro & Kratochwill, 2000). More recently, comprehensive psychometric testing of instruments has been performed, and several excellent nationally standardized measures for assessing behavior in children and adolescents are available. According to Merrell (2000, p.204), “behavior-rating scales provide summative judgments of general types of behavioral characteristics that may have occurred in a variety of settings and over a long period of time.” Behavioral-rating scales with forms for multiple respondents allow researchers to identify problematic behavior under specific conditions. Significant behavior problems tend to be expressed consistently in different surroundings or situations and with different measurement tools (Merrell, 2000). Self-report scales complement informant behavior scales and typically measure children’s and adolescents’ emotional or behavioral adjustment in domains such as internalizing problems, externalizing problems, or school maladjustment (Eckert, Dunn, Coddling, & Guiney, 2000).

Using a newly developed self-report questionnaire, the Five Factor Personality Inventory-Children (FFPI-C) and a behavioral rating scale, Behavioral Assessment System for Children, Second Edition (BASC 2), Castelin (2009) used archival data from 50 students in receiving special education services, ranging in age from 9 to 18 years. Castelin confirmed a positive correlation between Openness and Intelligence, a negative correlation between Emotional Regulation and internalizing problems, as well as a negative correlation between Agreeableness and school problems.

Also focusing on behavior problems in children, Ehrler, Evans, and McGhee (1999) conducted a study to link Big-Five personality traits with behavior problems identified in childhood. Eighty-six children ranging in age from 9 to 13 were rated by their respective classroom teacher using an experimental ratings instrument developed to measure Big-Five personality constructs and behavior concurrently. Big-Five Personality and Behavior Problem scales were correlated. Results showed distinct patterns of behavior problems associated with various personality characteristics. Children with low scores in Agreeableness and Conscientiousness scales were rated as having more social problems, conduct problems, attention deficits, and hyperactivity. Children with low scores on the Openness to Experience scale, were observed to have more problems in social behavior, conduct, and attention. The Neuroticism trait was associated with anxiety and depression. These preliminary data indicate that identifying Big-Five personality trait patterns may be a useful dimension of assessment for understanding underlying motives and predispositions associated with children's problem behavior.

Parents often give personality descriptions of their children. The descriptions are usually obtained using standardized procedures such as questionnaires, Q-sorts or checklists. These

questionnaires can either be directed toward behavior problems (e.g., the CBCL; Achenbach & Edelbrock, 1991), atypical social and emotional characteristics (e.g., Carey & McDevitt, 1995; Chess & Thomas, 1984), or toward personality differences (e.g., Eysenck Personality Questionnaire; Eysenck & Eysenck, 1975).

In addition to these parents' and teachers' reports when assessing personality, affectivity or mood states, it is important to obtain data directly from children. Adult reports have shown relatively weak convergence, essentially due to poor inter-judge agreement among informants (Hinshaw, Han, Erhardt, & Huber, 1992). However, only few studies (De Fruyt et al., 2006) have explored the rater agreement with children 9 to 14 years old.

Purpose of the Study

The purpose of this study is to continue to explore relationships between the five factors of personality and behavior problem variables using the Five Factor Personality Inventory-Children (FFPI-C; McGhee, Ehrlert & Buckhalt, 2007) and the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). Moreover, this study will explore convergence of raters among teacher, parents, and children. Further, the study will contribute to the question of generality of personality dispositions and relations between personality and behavior in a non-Western country, Pakistan.

Research Questions

Following are the research questions which are addressed in this study.

1. How do self-report measures of 9 to 14 year old Pakistani children compare with those of their teachers and parents?
2. Are the personality factors related to behavior problems for Pakistani sample in the same way as in studies in the literature?

3. Are scores for the personality factors of Agreeableness, Extraversion, Openness to Experience, Conscientiousness, and Emotional Regulation comparable to the U.S. standardization sample?

Hypotheses

- HO1. It is hypothesized that BASC-2 internalizing problems will be negatively correlated with FFPI-C Emotional Regulation, Extraversion, and Conscientiousness.
- HO2. BASC-2 School Problems will be negatively correlated with FFPI-C Agreeableness and Conscientiousness, but positively correlated with Extraversion.
- HO3. That there will be a positive correlation between Personal Adjustment and Conscientiousness, Agreeableness, Extraversion, and Emotional Regulation.
- HO4. It is hypothesized that there will be positive correlations among self, parent and teacher reports for the BASC-2 and the FFPI-C.
- HO5. Pakistani children's scores will be comparable to the U.S. standardization norms for the FFPI-C.

III. METHODS

Participants

A total of 80 English speaking student participants were randomly selected, picking out every 7th child's name from the attendance roster. Of these 80 participants, 52 were males (65%) and 28 were females (35%). Age range of the sample was 9 to 14, with 11 nine year olds (13.8%), 8 ten year olds (10%), 11 eleven year olds (13.8%), 18 twelve year olds (22.5%), 16 thirteen year olds (20%) and 16 fourteen year olds (20%). A parent of each participating child and their teacher also participated in the study. Thus a total sample of 240 participants was collected.

Even though the primary language of all Pakistanis is Urdu, English is their official language and all urban schools use English as medium of instruction. Urban-school curriculums are in English. The participating school is an International school located in the suburban district (Islamabad) of Pakistan. Most of the students, their parents and teachers have been overseas and thus are quite fluent in the English language.

This participant population was considered appropriate for inclusion in this research project because only a few studies have explored self-ratings reliability with 9 to 14 year old children with regard to personality and problem behavior. Also there was a need for research examining the applicability of the Five Factor Model in Pakistan, especially in the school context where student-related decisions are routinely based on personality judgments.

Materials

Material for the study included the following: (a) The Five Factor Personality Inventory-Children (FFPI-C), (b) The Behavior Assessment System for Children, Second Edition (BASC-2) which consists of:

- The self-report scale (SRP) has separate forms for children (ages 8–11) and adolescents (ages 12–21)
- The rating scale for teachers (TRS) for children (ages 8–11) and adolescents (ages 12–21)
- The rating scale for parents (PRS) for children (ages 8–11) and adolescents (ages 12–21);

and (c) A gift of pencil-set for participating children and weekly lesson-planners for participating teachers. Gifts were presented at the completion of the questionnaires as a token of gratitude for participation.

Procedure

The principal investigator visited the identified school (where she had previously worked for 6 years as a department head). After getting the principal's consent, the investigator obtained the 9 to 14 year old students' attendance roster and randomly selected students from each classroom by choosing every 7th student from the attendance roster. All children were assigned a numerical code (the number corresponding to their position in the list, their serial number). Teachers were then requested to send home a letter to the parents about the study and inviting them to meet with the investigator. The researcher met with the parents and after presenting an overview of the research study, had them sign the consent forms. Next the parents were given the BASC-2 PRS form in an envelope to fill out and return in a week. They were only required to

put the age and gender on the forms; no names were required and every unnecessary area on the questionnaire was blacked out. The parents were asked to use the child's code number. They were told that completing the form would not take more than 10 minutes.

Then teachers were given consent forms to sign for their participation. They were also given BASC-2 TRS forms in an envelope to fill out, and were told that completing one form would not take more than 10 minutes. They also had a week to fill out the forms. All the participating children were gathered in the auditorium; they were first asked to sign the assent form and then if still willing, were given the FFPI-C and BASC-2 SRP forms to fill out. This examiner first administered the FFPI-C to the group. It did not take more than 30 minutes to complete the self-report. After completing FFPI-C, the students raised their hand to get the BASC-2 self report questionnaire which again did not take more than 30 minutes to complete. Administration, however, was not timed. After completing both the protocols, the students were allowed to leave the auditorium and were given his/her gift for participating in the study. (If they decided to withdraw from participation at any point, they still got their gift of pencils.) Finally all the test protocols were collected by the researcher from the teachers, in sealed envelopes and they were scored and analyzed by the principal investigator herself.

Instruments

The Five-Factor Personality Inventory-Children (FFPI-C; McGhee, Ehrler, & Buckhalt, 2007) is a standardized, norm-referenced self-report personality inventory for children ages 9–18. The inventory's five scales, which include Agreeableness, Extraversion, Openness to Experience, Conscientiousness, and Emotional Regulation, are based on the five-factor model of personality. The inventory consists of 75 items that each have two opposing statements. Children are asked to choose the statement that most closely describes them and the degree to which it

describes them by filling in one of five circles between the two statements. Item scores are summed for each scale and converted to T-scores, with a mean of 50 and a standard deviation of 10. Qualitative descriptions are also given for each factor based on the T-score, and include Very Low, Low, Average, High, and Very High (McGhee, Ehrler, & Buckhalt, 2007).

To assess the reliability of the inventory, coefficient alphas and test-retest reliabilities were calculated for each of the five personality scales. The coefficient alphas were .79 for Agreeableness, .74 for Extraversion, .75 for Openness to Experience, .86 for Conscientiousness, and .81 for Emotional Regulation. Test-retest reliabilities were .88 for Agreeableness, .86 for Extraversion, .84 for Openness to Experience, .85 for Conscientiousness, and .88 for Emotional Regulation (McGhee, Ehrler, & Buckhalt, 2007).

In order to provide evidence of criterion-prediction validity, the FFPI-C and the NEO Five-Factor Inventory were administered to a group of children. Correlations between the two measures were .47 for Agreeableness, .56 for Extraversion, .45 for Openness to Experience, .58 for Conscientiousness, and -.59 for Emotional Regulation/Neuroticism (McGhee et al., 2007). The authors of the FFPI-C changed the last factor from Neuroticism to its positive counterpart Emotional Regulation, which explains the negative correlation. As evidence for construct validity, the correlations between conscientiousness and achievement ranged from .40 to .55, while no other factor was highly correlated with achievement. Correlations between the personality scales and a measure of general cognitive ability were .44 for Agreeableness, .48 for Openness to Experience, .40 for Conscientiousness, and .58 for Emotional Regulation, adding further support for the construct validity of the FFPI-C (McGhee, Ehrler, & Buckhalt, 2007).

The Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004) is a multi-method, multi-dimensional system used to evaluate the behavior and

self-perceptions of children and young adults ranging in age from 2 to 25 years. There is a rating scale for teachers (TRS) and a rating scale for parents (PRS) that gather information about the child's observable behavior. The self-report scale (SRP) used in this study allows the child to describe his or her emotions and self-perceptions of behavior. The self-report scale (SRP) has separate forms for children (ages 8–11), adolescents (ages 12–21) and young adults (ages 18–25), but each is written on a third grade reading level. The student is asked to read each statement and to think about how he or she thinks, feels, or acts. For the first set of statements, the student can answer either “True” or “False.” For the second set of statements, the student is asked to rate himself or herself by answering “Never,” “Sometimes,” “Often,” or “Almost Always.” Standard scores are reported for five composites, including School Problems, Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment, and Emotional Symptoms Index. Scores have a mean of 50 and a standard deviation of 10.

Internal consistency reliabilities, as measured by coefficient alphas, were in the middle .90s for Internalizing Problems and the Emotional Symptoms Index, and in the middle to upper .80s for School Problems, Inattention/Hyperactivity, and Personal Adjustment composites. These composite reliabilities are fairly consistent across age levels, between combined sex and separate sex groups, and between clinical and non-clinical groups. Test-retest reliabilities for the composite scales were from the upper .70s to the low .80s for children and adolescents (Reynolds & Kamphaus, 2004).

To provide evidence of concurrent criterion-related validity, the SRP-Adolescent form of the BASC-2 and the Achenbach System of Empirically Based Assessment (ASEBA) Youth Self-Report Form were given to 51 adolescents ranging in age from 12 to 18 years. The resulting correlations were .80 for the Internalizing composites, .75 for the Emotional Symptoms Index

(SRP-A) and Total Problems composite (ASEBA), .75 for Inattention/Hyperactivity (SRP) and AD/HD scale (ASEBA), .83 for Anxiety scales, and .70 for the scales of depression, social stress, and attention problems (Reynolds & Kamphaus, 2004).

Design and Analysis

Descriptive statistics was used to analyze the distribution of scores among the sample on each of the measures given. On the Five Factor Personality Inventory-Children (FFPI-C), and the Behavior Assessment System for Children, Second Edition (BASC-2) a T-score of 50 is considered average, with a standard deviation of 10. For each of the five factor scales, and for each of the behavior scales, mean scores and standard deviations were computed.

Univariate correlations were performed between all variables to determine the strength and direction of relationships between these variables. The independent variables in the analyses were the Five Factors of personality, which included Agreeableness, Extraversion, Openness, Conscientiousness, and Emotional Regulation. The dependent variables included Hyperactivity, Internalizing, School Problems, Emotional Symptoms Index, and Personal Adjustment.

IV. RESULTS

Descriptive statistics were used to analyze the distribution of scores among the sample on each of the measures given. On the Five Factor Personality Inventory-Children, raw scores are converted to T-scores with a mean of 50 and a standard deviation of 10. For each of the five factor scales, mean scores ranged from 46.85 to 52.78, with standard deviations ranging from 6.63 to 9.57 (Table 1). T-scores are also generated for the Behavior Assessment System for Children with a mean of 50 and a standard deviation of 10. Results from this analyses indicated mean scores for each of the behavior scales ranging from 46.27 to 50.17, with standard deviations ranging from 6.43 to 11.05 (Table 2).

Table 1

Means and Standard Deviations of FFPI-C Factor Scores

Personality Factor	Mean	Standard Deviation
Agreeableness	52.78	9.57
Extraversion	46.85	8.67
Openness	52.58	8.48
Conscientiousness	54.50	6.63
Emotional Regulation	50.45	7.57

Table 2

Means and Standard Deviations of BASC-2 Composite Scale Scores

Scale	Mean	Standard Deviation
School Problems	46.27	9.24
Internalizing Problems	47.88	6.43
Hyperactivity/Inattention	48.20	9.58
Emotional Symptoms	49.88	7.42
Personal Adjustment	50.17	11.05

Coefficient alphas were computed for each of the five FFPI-C scales and are depicted in Table 3. These figures are comparable to those obtained with the FFPI-C standardization sample (also shown in the Table 3) and are at acceptable levels to infer confidence in the reliability of the results.

Table 3

Coefficient Alphas of FFPI-C Factor Scales for the Pakistani Sample and the U.S. Standardized Sample from FFPI-C Manual

Personality Factor Scales	Standardized Sample	Pakistan
Agreeableness	.79	.88
Extraversion	.74	.85
Openness	.75	.89
Conscientiousness	.86	.86
Emotional Regulation	.80	.84

Univariate correlations were performed among all FFPI-C and BASC-2 scale scores to determine the strength and direction of relationships between those variables. Previous research suggested that Emotional Regulation, Extraversion, and Conscientiousness would each be negatively correlated with Internalizing Problems. Results indicated a significant negative correlation between only Emotional Regulation and Internalizing Problems ($r = -.31, p < .01$). It was also expected that Agreeableness and Conscientiousness would be negatively correlated with School Problems, while Extraversion would be positively correlated with School Problems. Results indicated a significant negative correlation between Agreeableness and School Problems ($r = -.32, p < .01$) as well as between Conscientiousness and School problems ($r = -.25, p < .05$). It was further expected that Conscientiousness, Agreeableness, Extraversion, and Emotional Regulation would each be positively correlated with Personal Adjustment. Results only indicated a significant positive correlation between Conscientiousness and Personal Adjustment ($r = .34, p < .01$) and a significant positive correlation between Agreeableness and Personal Adjustment ($r = .27, p < .05$).

Next relations were examined between the BASC-2 behavior domains as rated by children in self report, by parents using PRS and by teachers using TRS. Results in Table 4 show a significant positive correlation between the child's perception of Internalizing problems and parents' rating of Internalizing Problems ($r = .28, p < .01$), Externalizing Problems ($r = .25, p < .05$) and Behavioral Symptom Index ($r = .26, p < .05$).

Table 4

Correlations between Personality (FFPI-C) and Behavior (BASC-2) From Child's Self-Reports (SRP)

	SP	IP	Hyp/InAtt	ES	PA
Agreeableness	-.32**	-.38**	-.33**	-.47**	.27*
Extraversion	.14	.12	.12	.06	-.09
Openness	.14	.17	.21	.16	-.02
Conscientiousness	-.25*	-.38**	-.15	-.41**	.34**
Emotional Regulation	-.20	-.31**	-.07	-.27*	.14

** $p < .01$, * $p < .05$

Note. SP = School Problems, IP = Internalizing Problems, Hyp/InAttn =

Hyperactivity/Inattention, ES = Emotional Symptoms, PA = Personal Adjustment

Results in Table 5 show that child's self report about school problems significantly correlates with the teachers' account of the child's behavioral symptom index ($r = .30$, $p < .01$), Internalizing Problems ($r = .23$, $p < .05$) and Externalizing Problems ($r = .28$, $p < .05$), child's report of Hyperactivity/Inattention is significantly correlated with teacher's rating of Internalizing Problem ($r = .22$, $p < .05$) and Behavioral Symptom Index ($r = .22$, $p < .05$).

Table 5

Correlations between BASC-2 Self Report (SRP) by Child and BASC-2 Parent Rating Scale (PRS)

	EP	IP	BSI	AS
School Problem	-.02	-.09	-.05	-.21
Internal Problem	.25*	.28**	.26*	-.21
Hyperactivity/Inattention	.13	.24*	.22	-.20
Emotional Symptoms Index	.14	.22*	.15	-.11
Emotional Regulation	-.00	-.09	-.00	.073

** $p < .01$, * $p < .05$

Note. Rows = Parent's rating, Columns = Child Self-Report; EP = Externalizing Problems, IP = Internalizing Problems, BSI = Behavioral Symptom Index, AD = Adaptive Skills

Finally, to see if Pakistani children's scores were comparable to the U.S standardization norms for both FFPI-C and BASC-2, the means and standard deviations of the two tests from the Pakistani sample of $N = 80$ were compared with the means and standard deviations of the American sample of $N = 50$ from Castelin (2009) study by performing a T-test for group means. Agreeableness, Extraversion, Openness, Conscientiousness and Emotional Regulation means are all in the average range (T score 43–57) for both groups. Table 6 shows that the means of all the five dimensions of personality traits are higher than the means of behavior domains for the Pakistani sample as compared to the American sample.

Table 6

Correlations between BASC-2 Self Report (SRP) by Child and BASC-2 Teacher Rating

Scale (TRS)

	EP	IP	SP	BSI	AS
School Problem	.28*	.23*	.19	.30**	-.19
Internal Problem	.23*	.20	.27*	.29**	-.25
Hyperactivity/Inattention	.16	.22*	.09	-.22*	-.09
Emotional Symptom Index	.73	.10	.10	.12	-.10
Emotional Regulation	-.04	-.00	-.02	.037	.11

**p < .01, *p < .05

Note. Rows = Teacher's rating, Columns = Child Self-Report; EP = Externalizing Problems, IP = Internalizing Problems, SP = School Problems, BSI = Behavioral Symptom Index, AS = Adaptive Skills

Table 7

Means and Standard Deviations of FFPI-C Subscales in Pakistan and American Samples

	Pakistan (N = 80)	American (N = 50)
	FFPI-C	
Agreeableness	52.78 ± 9.57	51.60 ± 7.85
Extraversion	46.85 ± 8.67	43.36 ± 8.70
Openness	52.58 ± 8.48	48.52 ± 9.73
Conscientiousness	54.50 ± 6.63	48.52 ± 9.73
Emotional Regulation	50.45 ± 7.57	50.32 ± 8.76

Table 7 (continued)

	Pakistan (N = 80)	American (N = 50)
	BASC-2	
School Problems	46.27 \pm 9.24	60.37 \pm 11.85
Internalizing Problems	47.88 \pm 6.43	53.50 \pm 9.20
Hyperactivity/Inattention	48.20 \pm 9.58	53.20 \pm 10.51
Emotional Symptoms	49.88 \pm 7.42	53.24 \pm 9.20
Personal Adjustment	50.17 \pm 11.05	46.80 \pm 9.86

Table 8 shows the T-scores of Pakistani children on FFPI-C as tabulated against the descriptive rating range provided by the FFPI-C manual. Results show that majority of the sample scored in the average range. Out of all the five factors 5% scored above the T-score of 70 (very high) on Agreeableness, 3% Openness, and 5% on the Conscientiousness factor. On the other hand, 3% scored below 30 (very low) on the Extraversion factor.

Table 8

Means and Standard Deviations of FFPI-C Subscales in Pakistan and American Samples with T-values

	FFPI-C		T value	p
	Pakistan	American		
	(N = 80)	(N = 50)		
Agreeableness	52.78 ± 9.57	51.60 ± 7.85	0.85	ns
Extraversion	46.85 ± 8.67	43.36 ± 8.70	2.54	<.05
Openness	52.58 ± 8.48	48.50 ± 9.73	2.81	<.01
Conscientiousness	54.50 ± 6.63	48.52 ± 9.73	4.69	<.001
Emotional Regulation	50.45 ± 7.57	50.32 ± 8.76	0.10	ns

Table 9

Descriptive Ratings and Percentages for FFPI-C Scores of Pakistani Children

	Agreeab	Extraver	Openness	Conscie	Emo Reg
Very High (T-Score >70)	4 (5%)	0 (0%)	2 (3%)	4 (5%)	0 (0%)
High (T-Score 58–70)	18 (23%)	8 (10%)	18 (23%)	16 (20%)	16 (20%)
Average (T-Score 43–57)	48 (60%)	48 (60%)	50 (63%)	58 (73%)	52 (65%)
Low (T-Score 30–42)	6 (8%)	22 (28%)	10 (13%)	2 (3%)	14 (18%)
Very Low (T-Score < 30)	0 (0%)	2 (3%)	0 (0%)	0 (0%)	0 (0%)

Note. Agreeab = Agreeableness, Extraver = Extraversion, Conscie = Conscientiousness, Emo

Reg = Emotional Regulation

V. DISCUSSION

Many researchers have taken steps to examine possible relationships between behavior and a child's personality, in hopes that better and earlier prevention measures may be implemented. Research has established an association between stressful life events and psychopathology in childhood and adolescence (Grant et al., 2004; Williamson et al., 2003), and children are key sources of information in seeking to design interventions that reduce the deleterious effects of stressful life events on adjustment (Cowen, Pryor-Brown, & Lotyczewski, 1989). An improved understanding of children's perceptions can enhance teachers' professional judgment. There is a need for research examining the applicability of the FFM in Pakistan, especially in the school context where the author has observed that student-related decisions are routinely based on personality judgments. In Pakistan such decisions can have a lasting effect on children's lives as majority of the parents still do not challenge a teacher's decision. Parents of Pakistan and Bangladesh have been shown to place immense trust in the teachers, recognizing their own lack of knowledge in contrast to that of the professional, in this case, the teacher and the school system (Khan, 2000). Majority of the Pakistani parents see their role as providing "behind the scene" support, such as a supportive home and family background and to give encouragement.

Therefore the purpose of this study was to continue to explore relationships between the five factors of personality and behavior problem variables using the Five Factor Personality Inventory–Children (FFPI-C; McGhee et al., 2007) and the Behavior Assessment System for

Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004). This study also explored convergence of raters among teacher, parents, and children. And finally, the study attempted to contribute to the question of generality of personality dispositions and relations between personality and behavior in a non-Western country, Pakistan.

Although the sample size of this study was small ($n = 80$) yet the coefficient alpha values computed for each of the five FFPI-C scales (Table 3) were comparable to those obtained with the FFPI-C standardization sample (also shown in the Table 3) and were at acceptable levels to infer confidence in the reliability of the results.

The author wanted to find out if the personality factors as measured by FFPI-C related to behavior problems for Pakistani sample in the same way as in studies in the literature. Research has shown that internalizing problems, such as anxiety, depression, social inhibition, and somatization were positively correlated with Neuroticism and negatively correlated with Extraversion in samples of children ranging in age from 4–17 (Asendorpf & Van Aken, 2003; Ehrler, Evans, & McGhee, 1999; Huey & Weisz, 1997; John et al., 1994). Huey and Weisz (1997) found evidence of this relationship in their sample of 116 clinic-referred children ranging in age from 7 to 17 years. They found that internalizing problems were positively correlated with Neuroticism and negatively correlated with Extraversion, as rated by teachers. They also found that Neuroticism, or poor emotional adjustment, was the single greatest predictor of internalizing problems. In addition to the previous relationships discussed, John et al. (1994) also found in a sample of adolescent boys that those who were rated as exhibiting internalizing behaviors by their teachers were also rated as less conscientious.

Based on these studies, it was expected that Emotional Regulation, Extraversion, and Conscientiousness would each be negatively correlated with Internalizing Problems (Asendorpf

& Van Aken, 2003; Ehrler, Evans, & McGhee, 1999; Huey & Weisz, 1997; John et al., 1994). Using a sample of 50 children and adolescents receiving special education services, Castelin (2009) showed a significant negative correlation only between Emotional Regulation and Internalizing Problems. But results from the current study confirmed a significant negative correlation between Emotional Regulation, Conscientiousness and Internalizing Problems. This suggests that children and adolescents who are unable to successfully regulate their emotional states and be more organized and dutiful will be more likely to experience internalizing problems, such as anxiety, depression, social inhibition, and somatization. This is significant because students who score lower on the factor of Emotional Regulation and Conscientiousness could reasonably be identified as at-risk for internalizing problems, and thus targeted earlier with interventions.

Externalizing problems, such as aggression, hyperactivity, and conduct problems are problem behaviors that are more overt and noticeable to others than are internalizing problems. Several studies have revealed that externalizing behaviors have negative relationships with Agreeableness and Conscientiousness among school children (Asendorpf & Van Aken, 2003; Ehrler, Evans, & McGhee, 1999; Huey & Weisz, 1997; John et al., 1994). Huey and Weisz (1997) found that the factor of Agreeableness was the strongest independent predictor of externalizing behavior. In contrast, Ter Laak et al., (2003) found a significant negative relationship between Conscientiousness and externalizing behavior, but they did not find a significant relationship between Agreeableness and externalizing behavior. The researchers attributed this difference to their experimental sample of incarcerated adolescent girls and the assumption that the occurrence of externalizing behavior is less socially acceptable for girls to report (Ter Laak et al., (2003).

In addition to the relationship with Agreeableness and Conscientiousness, some researchers have also found a positive relationship between externalizing behaviors and Extraversion (Huey & Weisz, 1997; John et al., 1994). The present research replicated Castelin's (2009) results confirming a statistically significant negative correlation between Agreeableness and School Problems. This negative relationship indicates that students who are less agreeable are more likely to exhibit School Problems, such as aggression and conduct problems. These are students who have less desire to please other people and get along well with others. This attitude results in overt problem behaviors in the context of relationships with others.

On the other end of the behavior spectrum from problem behaviors is successful school adjustment. Graziano and Ward (1992) studied the relationship between personality and school adjustment with a sample of 91 public school students ranging in age from 11 to 14 years. The teachers rated their students using an adapted personality scale and an adjustment inventory. Results showed that there was a significant positive correlation between school adjustment and Conscientiousness, Agreeableness, and Extraversion. The researchers also found that there was a negative relationship between school adjustment and Neuroticism (Graziano & Ward, 1992). Based on previous research, it was expected that Conscientiousness, Agreeableness, Extraversion, and Emotional Regulation would each be positively correlated with Personal Adjustment (Castelin, 2009). Results from this study confirmed a positive correlation between Emotional Regulation and Personal Adjustment. These results coincide with the negative relationship found between Emotional Regulation and Internalizing Problems. The positive relationship between Emotional Regulation and Personal Adjustment indicated that students who are better able to regulate their emotional states are also more likely to experience successful adjustment in the school environment.

Interestingly, an unexpected relationship was found when the FFPI-C personality traits were correlated with the behavior domains of BASC-2 for the Pakistani sample. There was a negative correlation between Emotional Regulation and Emotional Symptoms Index. This means that students who are unable to regulate their emotional states will be more likely to experience emotional difficulties. More specifically, students who have difficulty regulating their emotional responses might develop depression, anxiety, a sense of inadequacy, social stress, or low self-esteem in response to different situations they encounter. These serious emotional difficulties can globally impact an individual's thoughts, feelings, and ability to function successfully in different environments.

Second, an attempt was made to find out how self-report measures of 9 to 14 year old Pakistani children compare with those of their teachers and parents. The results showed that there was a significant correlation between parent and child's report on internalizing problems even though the magnitude of this correlation was quite small. According to the BASC-2 manual, Internalizing Problems is a measure of inwardly directed distress. Scales on this composite include Atypicality, Locus of Control (a belief that external events or people are in control and may indicate a sense of helplessness. Endorsing high levels of external control may indicate mild paranoia and could possibly induce anxiety or depression. Social Stress, Anxiety, Depression, Sense of Inadequacy, and Somatization (Reynolds & Kamphaus, 2004). It is easy to see why such a correlation would be significant if we know a little about the Pakistani culture and parenting style. Pakistan is predominantly a Muslim nation, and its ethos is dictated by the doctrines of Islam. The status of parents in Islam is second only to God (Obeid, 1988), and parental authority is held in great regard; to disobey them is sacrilegious. Kagitcibasi (1996) suggests that there is more parental control, and that control is more tolerated in Asian cultures,

including Pakistan. Chao (1994) suggests that Southeast Asian families tend to score highly on the authoritarian dimension of parenting because control is considered as part of parental endearment and caring, rather than as a negative attribute. So children feel that pressure and do not object to it. Likewise parents see the resulting depression and inadequacies but do not blame their “control” because to them that is true parenting.

Results also showed that a child’s self report about school problems significantly, though again with low magnitude, correlated with the teachers’ account of the child’s behavioral symptom index, Internalizing Problems and Externalizing Problems. Also, a child’s report of Hyperactivity/Inattention is significantly correlated with teacher’s rating of Internalizing Problem and Behavioral Symptom Index. This finding reflects the typical Pakistani urban, private school culture where the student-teacher ratio is 20:1. In the author’s experience in working as a teacher in Pakistan for six years, most of the teachers in private urban schools are young, fresh graduates and enthusiastic about teaching. They try to keenly observe their students and intervene promptly. They have a strong bond with their students.

Third, this study attempted to find if the scores for the personality factors of Agreeableness, Extraversion, Openness to Experience, Conscientiousness, and Emotional Regulation were comparable to the U.S. standardization sample, using Castelin’s (2009) study for comparison since their analysis had involved FFPI-C and BASC-2 too. In general, the means of all the five dimensions of personality traits are higher than the means of behavior domains for the Pakistani sample as compared to the American sample. In the light of the descriptive ratings given in the FFPI-C manual (pg.18) both samples scored in the average range (T score 43–57) on Agreeableness, which means that the Pakistani children are as trusting, approachable, polite and friendly as the American. The scores for Extraversion are in the average range for both samples

indicating that both groups of children are comparably extraverted. The Pakistani sample's mean was higher by 3.49 scale points, which was significant at the .05 level, and suggests that more children in the American sample were relatively less extraverted. For Openness, while both groups' means were in the average range exhibiting a tendency to be moderately intellectually curious and willing to try new things, the Pakistani mean was higher, suggesting that Pakistani children may be more imaginative, curious and willing to seek challenges. The scores on the Conscientiousness scale again puts both groups in the average range, but the Pakistani mean is significantly higher, suggesting that they may be more prepared for tasks and serious about being successful. Lastly, both groups scored in the average range on Emotional Regulation scale which means that they both are generally stable and able to control their emotions.

Finally, the author compared the T-scores of Pakistani children obtained on FFPI-C with the descriptive rating range provided by the FFPI-C manual (pg.18). It was found out that majority of the Pakistani sample (n = 80) scored in the average range. Out of all the five factors, 5% scored above the T-score of 70 (very high) on Agreeableness. This means that 5% of the Pakistani sample was overly-trusting, selfless and overly apologetic. Three percent (3%) scored above the T-score of 70 (very high) on the factor of Openness to Experience, meaning 3% were abstract thinkers, and easily frustrated with routine. Moreover, 5% scored above the T-score of 70 (very high) on the Conscientiousness factor; 5% of the sample was rule bound, rigid, procrastinators and perfectionists. On the other hand, only 3% scored below 30 (very low) on the Extraversion factor, which means 3% of the Pakistani students in this study avoided being criticized and avoided danger and risks.

There are many reasons to be skeptical of this straightforward interpretation of the data. Among the issues to be concerned about are these: Are the items understood by the respondents

on equal levels? Are the items equally relevant in all cultures? Are response sets, for example, endorsing socially desirable items or tending to agree with all items, i.e., are they the same across cultures? Do cultural norms of self-presentation affect scores? For example, do Pakistanis exaggerate their good qualities while Americans minimize theirs? Are the samples representative of their culture or only of some subgroup (like children from an urban private elite school)?

All of these are excellent reasons to use great caution in comparing personality scores across cultures, but there is some evidence that they do not pose impossible barriers to interpreting scores. For example, the comprehension of items does not seem to matter much. The Pakistani sample was taken from the upper-middle class, English speaking children who had ample exposure of western culture. Further, the culture-level (i.e., average) personality data seem to make sense. For example, mean levels of Agreeableness, Extraversion and Conscientiousness predict mean national levels of subjective well-being, just as they do in individuals, and Hofstede's (2001) Individualism-Collectivism is associated with Extraversion and Openness (McCrae, 2001). We do not know whether we should believe national stereotypes or the results of this study. Resolving this issue is a challenging task for future research.

Limitations and Future Studies

A limitation of this study involves the composition of the sample and mainly the small size ($n = 80$). This study employed data from students who belonged to an upper middle class. This limits the applicability of results to this small segment of students and prevents results from being able to generalize to the population of students at large.

Statistical analysis could have shed more light on the Pakistani samples' personality and behavior profile, but the small sample size did not allow the much needed regression or a factor analysis. Future studies should seek to include all levels of socio economic status as well as

students from urban and rural population. Future studies should also attempt to translate the FFPI-C into Urdu, Pakistan's national and native language. Future research should also measure these variables within a longitudinal research design. This would provide information about the existence of long-term relationships between variables, as well as long-term implications of those relationships.

Implications

The identification of significant relationships between certain personality factors and behavior have important implications for professionals working within school settings, where the author has observed that student-related decisions are routinely based on personality judgments. One of the implications is to identify students who are at-risk for academic or emotional/behavioral problems, and provide interventions earlier to ameliorate those problems and decrease the impact on academic performance. The findings from this study indicate that the Five Factor Personality Inventory-Children (FFPI-C) could potentially be used as a screening tool to identify at-risk students. For example, it was found that students who scored low on the factor of Emotional Regulation were also more likely to experience internalizing emotional problems, such as anxiety, depression, social inhibition, and somatization. This suggested that the FFPI-C could be administered to students, and based on the results from this study, it could inform professionals about which students are at-risk for different problems. Therefore, appropriate evidence-based interventions could be implemented to target those students and their progress monitored to assess the effectiveness of the interventions.

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APPENDIX 1

INVITATION LETTER AND LETTERS OF CONSENT



COLLEGE OF EDUCATION

DEPARTMENT OF SPECIAL EDUCATION, REHABILITATION,
COUNSELING/SCHOOL PSYCHOLOGY

INVITATION LETTER / PROJECT OVERVIEW

for a Research Study entitled

*Correlations between the Five Factor Model of Personality and
Problem Behavior in Children.*

Dear Parent,

You were selected as a possible participant in this project because your child is within the appropriate age range (9-14) for this investigation. If you decide to participate, I (Ambrin F. Masood) request that you come to a meeting on the ___ of _____, 2009 in the auditorium of International School of Islamabad at 5:00 pm. I will present an overview of the study and answer any questions you might have. If you decide to participate, I will ask that you sign a consent form indicating your agreement; then you will be given a questionnaire to rate questions about your child's behavior. You will have a week to fill out that questionnaire, which should only take 10-12 minutes. You will then return the questionnaire in a sealed envelope to your child's class teacher at the gate when you come to drop your child off or you may bring it to her/him in the classroom. This research project will also collect information from your child and his/her teacher.

To minimize the risk of breach of confidentiality, a numeric code will be used on all the questionnaires instead of your names. No personal information will be displayed on the questionnaires. Any information obtained concerning in this study remains confidential. The information collected will be used in aggregate for my dissertation, in conference presentations and publications; the findings will only be reported in aggregate for all children in all cases.

There are no direct benefits for participation nor is there any compensation. Your decision whether or not to participate or to allow your child to participate will not affect your or your child's future relations with your school or Auburn University.

If you are interested please attend the meeting previously described. If you have additional questions, please call Ambrin Masood at 2105092 in Islamabad or via email, masooaf@auburn.edu. You may also contact my dissertation advisor, Dr. Joseph Buckhalt at 001-334-844-2875 or via email, buckhja@auburn.edu. **If you have questions about your rights as a research participant**, you may also contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone 001-334-844-5966 or by e-mail at hsubjcc@auburn.edu or IRBChair@auburn.edu.

Thank you.

Sincerely,

Ambrin F. Masood

The Auburn University
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has approved this document for use
from 9/9/09 to 9/8/10
Protocol # 09-226 MR 0909

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Page 1 of 1



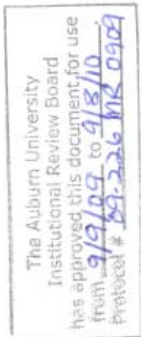
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INFORMED CONSENT FOR PARENT PARTICIPATION

for a Research Study entitled

*Correlations between the Five Factor Model of Personality and
Problem Behavior in Children.*



Dear Parents,

You are invited to participate in a research study about the relationship between personality traits and problem behaviors. The study is being conducted by Ambrin F. Masood, a doctoral student, under the direction of Dr. Joseph Buckhalt, a professor, in the Auburn University Department of Special Education, Rehabilitation, Counseling and School Psychology. You were selected as a possible participant because your child is in the appropriate age range (9-14) for this investigation.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to fill out a Behavior rating scale (BASC-2 PRS A/C) on different aspects of your child's behavior at home. Your total time commitment will be approximately 10-12 minutes.

Are there any risks or discomforts? The only risk involved in this study is the potential breach of confidentiality. To minimize this risk, your and your child's identity will be protected by assigning a numeric code which will be placed on the questionnaires instead of your names. No personal information will be displayed on the questionnaires. Moreover, the findings for this research will be used in aggregate for my dissertation, for conference presentations, and for publications.

Are there any benefits to yourself or others? There are no direct benefits for participating in this study; however, some indirect exist that may improve the educational process and the prevention efforts.

Participants' Initials _____

Page 1 of 2

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Will you receive compensation for participating? There will be no compensation offered for participating in this study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with International School of Islamabad.

If you are interested please attend the meeting previously described. If you have additional questions, please call Ambrin Masood at 2105092 in Islamabad or via email; masooaf@auburn.edu. You may also contact my dissertation advisor, Dr. Joseph Buckhalt at 001-334-844-2875 or buckhja@auburn.edu. **If you have questions about your rights as a research participant**, you may also contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone 001-334-844-5966 or by e-mail at hsubjec@auburn.edu or IRBCchair@auburn.edu.

You will be given a copy of this form to keep.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

The Auburn University
Institutional Review Board
has approved this document for use
from 9/19/09 to 9/18/10.
Protocol # 09-236 MS 0009

Parent's Signature

Print Name

Date

Investigator's signature

Print Name

Date



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PARENTAL CONSENT FOR CHILD PARTICIPATION

for a Research Study entitled

“Correlations between the Five Factor Model of Personality and

Problem Behavior in Children.

The Auburn University
Institutional Review Board
has approved this document for use
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Protocol # 09-226-102-0009

Dear Parents,

Your child is invited to participate in a research study about the relationship between personality traits and problem behaviors. The study is being conducted by Ambrin F. Masood, a doctoral student under the direction of Dr. Joseph Buckhalt, a professor in the Auburn University Department of Special Education, Rehabilitation, Counseling and School Psychology. Your child was selected as a possible participant because he or she attends the International School of Islamabad and is between the ages of 9-14. Since your child is younger than 18 years, we must have your permission to include him/her in the study.

What will be involved if your child participates? If you decide to allow your child to participate in this research study, your child will be asked to fill out two questionnaires. Your child's total time commitment will be approximately 30 to 40 minute per questionnaire. Your child's teacher and you as a parent will also be asked to fill out a rating form about your child's behavior in school and at home respectively. Ms. Toru, the principal of International School of Islamabad, has given permission to conduct this study.

Are there any risks or discomforts? The only risk involved in this study is the potential breach of confidentiality. To minimize this risk, your and your child's identity will be protected by assigning a numeric code which will be placed on the questionnaires instead of your names. No personal information will be displayed on the questionnaires. Moreover, the findings for this research will be used in aggregate for my dissertation, for conference presentations, and for publications.

Are there any benefits to yourself or others? There are no direct benefits for participating in this study; however, some indirect exist that may improve the educational process and the prevention efforts.

Parent/Guardians' Initials _____

Page 1 of 2

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Will you or your child receive compensation for participating? There will be no compensation offered for participation in this study, however, to thank your child for participating, your child will be offered a set of pencils at the end.

If you (or your child) change your mind about your child's participation, your child can be withdrawn from the study at any time. Your child's participation is completely voluntary. If you choose to withdraw your child, your child's data can be withdrawn as long as it is identifiable. Your decision about whether or not to allow your child to participate or to stop participating will not jeopardize your or your child's future relations with International School of Islamabad. If your child decides to withdraw from the study he/she will still get his/her gift as a small token of our thanks.

Your child's privacy will be protected. Any information obtained in connection with this study will remain confidential. The data collected will be protected by keeping it in a locked filing cabinet at all times.

If you are interested please attend the meeting previously described. If you have additional questions, please call Ambrin Masood at 2105092 in Islamabad or email her at masooaf@auburn.edu. You may also contact my dissertation advisor, Dr. Joseph Buckhalt at 001-334-844-2875 or via email buckhja@auburn.edu. **If you have questions about your rights as a research participant,** you may also contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone 001-334-844-5966 or by e-mail at hsubject@auburn.edu or IRBChair@auburn.edu.

You will be given a copy of this form to keep.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

Parent's Signature

Child's name

Print Name

Date

Investigator's signature

Print Name

Date

The Auburn University
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Protocol # 09-226 MR 009



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INFORMED CONSENT FOR TEACHER PARTICIPATION

for a Research Study entitled

Correlations between the Five Factor Model of Personality and Problem Behavior in Children.

The Auburn University Institutional Review Board has approved this document for use from 9/9/09 to 9/8/10. Protocol # 09-226 MR0909

Dear Teachers,

You are invited to participate in a research study about the relationship between personality traits and problem behaviors. The study is being conducted by Ambrin F. Masood, a doctoral student, under the direction of Dr. Joseph Buckhalt, a professor, in the Auburn University Department of School Psychology. You were selected as a possible participant because your student is in the appropriate age range (9-14) for this investigation.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to fill out a Behavior rating scale (BASC-2 TRS A/C) on different aspects of your student's behavior in school. Your total time commitment will be approximately 10-12 minutes.

Are there any risks or discomforts? The only risk involved in this study is the potential breach of confidentiality. To minimize this risk, your and your student's identity will be protected by assigning a numeric code which will be placed on the questionnaires instead of your names. No personal information will be displayed on the questionnaires. Moreover, the findings of this research will be used in aggregate for my dissertation, for conference presentations, and for publications.

Are there any benefits to yourself or others? There are no direct benefits for participating in this study; however, some indirect exist that may improve the educational process and the prevention efforts.

Participants' Initials _____

Page 1 of 2

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Will you receive compensation for participating? There will be no compensation offered for participating in this study. However, at the end, you will be given a small gift as a token of gratitude for your participation in this study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with International School of Islamabad. If you withdraw from the study you will still receive your gift as a token of our thanks.

If you are interested please attend the meeting previously described. If you have additional questions, please call Ambrin Masood at 2105092 in Islamabad or email her at masooaf@auburn.edu. You may also contact my dissertation advisor, Dr. Joseph Buckhalt at 001-334-844-2875 or via email buckhja@auburn.edu. **If you have questions about your rights as a research participant,** you may also contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone 001-334-844-5966 or by e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu.

You will be given a copy of this form to keep.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

The Auburn University
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Protocol # 09-226-1012-0001

Teacher's Signature

Print Name

Date

Investigator's signature

Print Name

Date

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COLLEGE OF EDUCATION
DEPARTMENT OF SPECIAL EDUCATION, REHABILITATION,
COUNSELING/SCHOOL PSYCHOLOGY

CHILD'S ASSENT

for a Research Study entitled

*“Correlations between the Five Factors of Personality and
Problem Behavior”*

You and your parents or guardian(s) are invited to be in a research study to help us understand how some children rate themselves.

If you decide you want to be in this study, you will be filling out two question-forms with other children in your school auditorium, which will take 30-40 minutes. Your parent/guardian and teacher will also be asked to fill out an almost similar question form about your behavior characteristics and habits.

You can stop at any time. Just tell your parents or teachers if you don't want to participate in this project any more. No one will be angry with you if you stop participating.

After you have filled out the two question forms, we will give you a set of pencils to show how much we appreciated your help. You will get your gift of pencils even if you decide to stop participating in this study.

If you have any questions about what you will do or what will happen, please ask your parents or guardian or ask Ms. Ambrin now. If you have questions while you are filling out your question forms, we want you to ask us.

If you have decided to help us, please sign or print your name on the line below.

The Auburn University
 Institutional Review Board
 has approved this document for use
 from 9/9/09 to 9/8/10
 Protocol # 09-226 MR-0109

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AUBURN, AL 36849-5222

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Student's Signature	Printed name	Date
Parent's Signature	Printed name	Date
<i>(Parent/Guardian must also sign Parent/Guardian Permission form!)</i>		
Investigator's Signature	Printed name	Date