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Aggression and the Big Five Personality Factors of Grades and Attendance

Juan J. Barthelemy
University of Tennessee - Knoxville

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To the Graduate Council:

I am submitting herewith a dissertation written by Juan J. Barthelemy entitled "Aggression and the Big Five Personality Factors of Grades and Attendance." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Social Work.

David Dupper, Major Professor

We have read this dissertation and recommend its acceptance:

John Orme, Halima Bensmail, David Patterson, John Lounsbury

Accepted for the Council:


Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

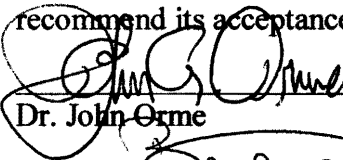
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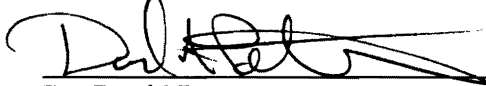
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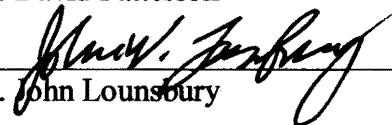
Dr. John Orme



Dr. Halima Bensmail

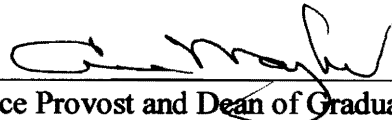


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Vice Provost and Dean of Graduate Studies

AGGRESSION AND THE BIG FIVE
PERSONALITY FACTORS OF GRADES AND ATTENDANCE

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Juan J. Barthelemy
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ABSTRACT

The focus of this study was to determine whether aggression adds incremental validity above and beyond the big five personality factors in predicting academic success. An archival data analysis was used in this study. The data was consisted of all of the eight grade students who were present when the data was collected in a middle school in the Southeastern region of the United States. The students completed the Personal Style Inventory-Adolescent (PSI-A), which is a 120 item survey instrument designed to measure the big five personality factors and aggression. Results from this study indicated that aggression does in fact add incremental validity above and beyond the big five personality factors in a sample of middle school students. The results of the study also indicated that the big five personality factors are significantly correlated with academic performance. More specifically, conscientiousness, openness, agreeableness, and emotional stability are significantly correlated with grades in the current sample. When aggression is added into the statistical model, conscientiousness, openness and aggression are significantly correlated with grades. The limitations, implications and conclusions are also discussed.

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To my family, this would not have been possible without all of your support over the years. You have inspired, encouraged and supported me at every turn of the way and I say thank you. I would also like to thank all of my friends who have been so supportive over the years as well.

DEDICATION

This dissertation is dedicated to my parents, Jerry Barthelemy and Mary Louise Barthelemy, my sister and brother, Marlo Reed and Mark P. Barthelemy, my cousin, Sheron Sherman, and the rest of my family and friends for always having my back and supporting my dreams along this journey that we call life.

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CHAPTER I

Introduction

Research has shown that aggressive behaviors contribute significantly to school failure, delinquency, peer rejection and substance abuse (Pope & Bierman, 1999; Kupersmidt & Coie, 1990; and Loeber, 1990). Adolescents who engage in aggressive behaviors may eventually experience school problems and develop deviant peer groups (Pope & Bierman, 1999). Current research has produced some support for the use of personality measures to predict real world-job performance criteria in adults (Paunonen & Ashton, 2001). The current literature has indicated that the Big-Five personality factors predict academic success in adolescents (Van Der Zee, Thijs, & Schakel, 2002). The Big-Five measures the following personality traits: Openness, agreeableness, conscientiousness, neuroticism/emotional stability, and extraversion. A number of researchers consider the Big-Five to be universal across cultures (Paunonen & Ashton, 2001; McCrae, Costa, del Pilar, Rolland, & Parker, 1998).

Past research indicates that much of human behavior can be explained by five personality factors (Paunonen & Ashton, 2001). The Big-Five personality theory can trace its origins back to the personality factor structure research by Fiske (1949) and research looking at the five factor taxonomy by Norman (1963). Ehrler, Evans, and McGhee (1999) also contend that the Big-Five personality theory has gained a large degree of acceptance for its utility over the last 15 years in the field of psychology. Studies have shown that the Big-Five model has been stable over time (Ehrler, Evans, & McGhee, 1999; Costa & McCrae, 1988; Digman, 1990; Goldberg, 1990; Norman, 1963).

However, there are some who believe that there are behavioral traits that are not adequately explained by the Big-Five (Ashton, Lee, & Son, 2000; Saucier & Goldberg, 1998). Paunonen and Ashton (2001) also posit that even if the Big-Five captures the major elements of all behaviors, the prediction and understanding of behaviors may be better understood by other variables. For instance, there may be some behaviors that are so specific that they are not fully explained by the broad traits. While the narrow trait of aggression may be related to agreeableness, the broad trait of agreeableness may not adequately explain aggression (Paunonen & Ashton, 2001). Furthermore, narrow facets of behaviors that are subsumed under the broad personality factors may provide a more predictive ability than the broad personality factors. Ashton (1998) did a study looking at the predictive abilities of broad versus narrow traits in workplace delinquency. Ashton's results indicated that the traits of responsibilities and risk taking were better predictors than the broad traits of the big five personality factors (1998).

Ones and Viswesvaran (1996) have been very strong proponents of the use of broad bandwidth versus narrow bandwidth personality predictors. Paunonen, Rothstein, and Jackson (1999) disagree stating that "the use of multiple unidimensional predictors (e.g., factor scale) provides important advantages over the use of multidimensional aggregates of those predictors" (P.389). The problem with both of these positions is that they have primarily focused on personality as a predictor in personnel selection for future job performance. Therefore, it is not clear as to which of these positions are more valid for the use of personality traits in predicting academic success and school related behavior problems.

Paunonen, et. al. (1999) states that broad and narrow personality traits can be seen as points on a continuum. Using the Big Five model, the trait “conscientiousness” can be thought of as a broad trait, which encompasses many multidimensional narrow traits such as achievement. Paunonen et al. (1999) contend that when broad traits are used to describe different outcomes, then the individual loses some of their individuality, which can result in the misidentification of certain individuals. For example, Paunonen and Ashton (2001) found that the two narrow traits of need for achievement and need for understanding were better predictors of academic performance, as measured by undergraduate grade point average for a selected sample, than the broad traits of the big five personality factors.

Rationale for Study

The understanding of personality characteristics can help school social workers, counselors and other professionals to identify potential patterns of violence, which will aid in prevention and intervention efforts with the adolescent population (Sharpe & Desai, 2001).

Even though research is able to demonstrate that there is a clear problem with adolescent aggression and school violence, the need still exists for good reliable and valid instruments to measure the problem within the specific contexts within which the problems occur. Thus it is necessary to continue to develop and refine instruments that are appropriate for adolescents in school settings. Context specific instruments will also be helpful in evaluating the effectiveness of interventions designed to reduce aggression and to improve academic achievement. Additionally, attention should also be given to

whether students differ with regard to gender, ethnicity, geographic and socioeconomic differences.

Mathiesen, Cash, and Hudson (2002) stated that it is necessary to develop measurement tools that address multiple problem areas in order to develop a better understanding of the relationship between individuals and the social environment. Furthermore, these measures should be understandable as it relates to individuals in the social context in which these behaviors occur. The researchers stated that there are few instruments readily available for social workers to choose from. Additionally, these measurement tools should be shown to be valid and reliable in the specific contexts in which they are implemented.

According to Lounsbury et al. (2003), the Big-Five constructs (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) have been studied in many different settings and results from empirical studies have maintained the overall factor structure and the individual integrity of the constructs. However, most of these empirical studies have focused on adults and college students. The researchers hypothesized a relationship between GPA and personality in adolescents, so they adapted a scale to extend the personality traits to that population in a school setting.

This paper will begin by providing an exhaustive review of the literature in the area of adolescent personality and aggression studies as they relate to the prediction of academic achievement, school attendance and behavior problems. One commonly accepted measure of academic success is grade point average, so that will be the criteria for academic success. Additionally, this paper will look at the development of the Big Five personality traits and how it has been used with adolescents to date. This study will

identify instruments that have been used to measure the big five personality traits as well as instruments that have been used to measure aggression in adolescents. Then, this paper will identify any gaps in the literature in the area of personality traits as a measure of predicting adolescent academic success. The goal of this study is to determine whether or not aggression adds incremental validity to the Big Five Personality Factors when looking at academic success in a sample of middle school students.

CHAPTER II

Review of the Literature

This chapter will provide a brief overview of how literature review was conducted, as well as an overview of the literature review. This overview of the literature review will address the background of the big five personality factors; validity of personality measures; aggression and academic success; the big five with children and adolescents; the relationship between temperament and personality; adolescent aggression and personality; a methodological critique of aggression and the big five personality studies with adolescents; and the Personal Style Inventory - Adolescent (PSI-A).

The literature review was conducted mainly with PsychINFO and ERIC databases. The key search words were as follows: big five; aggression; incremental validity; adolescence; temperament; psychometric properties of a scale. These searches were conducted in various combinations to identify literature relevant to the research topic. In addition to the database searches, when key citations were mentioned repeatedly in different articles, the original source article was retrieved as well. Based on the literature search it is important to provide a context for the development of the big five personality factors and its subsequent development. Therefore, the following section will provide a brief history of the big five personality factors.

Background of Big Five Personality Factors

Fiske (1949) was interested in the use of factor analyses of personality ratings. He used the work that had been done by Cattell as a basis for his personality study. Using Cattell's personality rating scale, Fiske conducted an experiment consisting of 128

college men. The article does not provide any demographic data on the males. However, there were 12 women who were excluded from the study. The men were divided into groups of four with three staff members assigned to each group. The men participated in a week long training program, where they were required to participate in a series of situational tests. The staff members were responsible for carefully rating each group of men at different intervals during the week long exercise. The participants were later responsible for completing self-rating scales, as well as rating the other members of their respective groups. They were encouraged to be as honest as possible. The staff received extensive training to help them identify any personal biases they had, so that they could effectively control for those feelings during their ratings. Upon completion of the study, the results were correlated for the three rating groups (self, peer, and staff) and analyses were conducted to identify factor loadings for the personality measures. The study generated the following five factors: Social Adaptability, Emotional Control, Conformity, Inquiring Intellect and Confident Self-Expression. Fiske warned at this time that there could be a problem with labeling these factors because it could be too constricting. He also stated that a lot of psychologists would not agree with the labels assigned to different factors. However, he was confident that the factor structures would be consistent (Fiske, 1949). One example of inconsistency of names for similar constructs is the “culture/openness” construct. This is evidenced by the construct that Norman (1963) labels “culture.” In other literature, the same construct is labeled as “openness” (Van Der Zee, Thijs, & Schakel, 2002).

Norman (1963) conducted a study to determine the taxonomy of terms used in personality theory research. Based on the original work of Cattell and a follow up study

by Tupes and Christal, Norman found consistency in the use of the five personality factors that had been identified as Extroversion or Surgency, Agreeableness, Conscientiousness, Emotional Stability and Culture.

Van Der Zee, Thijs and Schakel (2002) and Ehrler, Evans, and McGhee (1999) extend the descriptions of the Big-Five traits (see Table I).

Validity of Personality Measures

Schmit, Ryan, Stierwalt, and Powell (1995) state that there are some problems associated with the validity of personality measures when questions are designed to generalize across different settings. For example, people may respond to a stimulus differently depending on the context in which something happens. They refer to this as “frame of reference” effects. More specifically, the researchers stated that when items on questionnaires were written to apply in a certain context respondents performed better. This lends support to the need to develop a measure for adolescents that is context specific for events that a student is more likely to encounter in school versus situations that may be encountered in other settings. The reason that this is important is because students may have different ways of dealing with problems based on whether they are in school or in the community. For instance, where it may be necessary for someone to defend himself/herself when attacked in his/her community, this behavior would be unacceptable in a school setting.

Table I.
Descriptions of Personality Traits

Personality Trait	Code	Description
Neuroticism	N	<p>The general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust is the core of the N domain. However, N includes more than susceptibility to psychological distress. Perhaps because disruptive emotions interfere with adaptation, those who score high in N are also prone to have irrational ideas, to be less able to control their impulses, and to cope more poorly than others with stress (Ehrler, Evans, & McGhee 1999, P. 452).</p> <p>Neuroticism/Emotional Stability – emotionally unstable individuals are worried, easily provoked, depressive, and vulnerable (Van Der Zee, Thijs, & Schakel, 2002, P. 106).</p>
Extraversion	E	<p>The general tendency to be outgoing. In addition, high E's prefer large groups and gatherings and are assertive, active, and talkative. They like stimulation and tend to be cheerful in disposition. They are upbeat, energetic, and optimistic (Ehrler, Evans, & McGhee 1999, P. 452).</p> <p>Extraversion – Extraverts are open to others and tend to be unreserved and informal in their contacts with other people (Van Der Zee, Thijs, & Schakel, 2002, P. 106).</p>
Openness to Experience / Culture	O	<p>The general tendency to be curious about both inner and outer worlds. O includes the elements of an active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, intellectual curiosity, and independence of judgment. A high O also includes individuals who are unconventional, willing to question authority, and ready to entertain new ethical and social ideas (Ehrler, Evans, & McGhee 1999, P. 452).</p> <p>Openness – incorporates traits such as fantasy, aesthetics, openness to feelings and values, and intellectual curiosity (Van Der Zee, Thijs, & Schakel, 2002, P. 106).</p>
Agreeableness	A	<p>The general tendency to be altruistic. The high A is sympathetic to others and eager to help them, and believes that others will be equally helpful in return. By contrast, the low A is antagonistic and egocentric, skeptical of other's intentions, and competitive rather than cooperative (Ehrler, Evans, & McGhee 1999, P. 452).</p> <p>Agreeableness – people high in agreeableness tend to be friendly and warm, they tend to have respect for others and tend to be sensitive to other people's wishes (Van Der Zee, Thijs, & Schakel, 2002, P. 106).</p>

Table I Continued

Personality Trait	Code	Description
Conscientiousness	C	The general tendency to be able to resist impulses and temptations. The conscientious individual is purposeful, strong-willed, and determined. On the positive side, high C is associated with academic and occupational achievement; on the negative side, it may lead to annoying fastidiousness, compulsive neatness, or workaholic behavior. Low C's are not necessarily lacking in moral principles, but they are less exacting in applying them (Ehrler, Evans, & McGhee 1999, P. 452). Conscientiousness - This trait is identified as being high in carefulness, reliability, persistence, and goal-directedness (Van Der Zee, Thijs, & Schakel, 2002, P. 106).

Aggression and Academic Success

The literature also indicates that a personality factor such as aggression can also significantly predict academic success (Shechtman, 2000). This is important because aggressive behaviors are generally easier to identify than some of the other personality traits that are measured using the Big-Five. Given that adolescent personality traits differ somewhat from those in adults, there is a need to continue to develop instruments specifically designed to address concerns in adolescents.

How is aggression in middle school students defined? There are many definitions of aggression in the literature. Some of the definitions distinguish between verbal and physical aggression, while others combine the two or just talk about one or the other (Furlong & Smith, 1994). Lounsbury et al. (2003) define aggression as the inclination to fight, attack, and physically assault another person, especially if provoked, frustrated, or aggravated by that person.

The review of current literature indicates that there are not many measures available that are designed to obtain data on adolescent aggression (Orpinas & Frankowski, 2001). Therefore, there is a need to develop a measure that not only looks at adolescent aggression, but it should also be context specific for situations that adolescents encounter in school. Instruments that are adapted to children's cognitive and cultural characteristics will provide more accurate and reliable information (Barbaranelli et al., 2003; Shiner, 1998).

Pope and Bierman (1999) stated that childhood aggression is one of the most stable, and prevalent behavior problems in childhood. They assert that aggression is related to peer rejection, and is a predictor of delinquency, school failure and substance abuse. Other researchers have supported these findings (Kupersmidt & Coie, 1990; Loeber, 1990). Additionally, research suggests that children who exhibit aggressive behaviors are at greater risk of developing future problems when they are rejected by their peers (Bierman & Wargo, 1995; Pope & Bierman, 1999). Some of the characteristics that cause children to become rejected by their peers may include increased hyperactivity, inattentiveness and immature behaviors in addition to the aggressive behaviors. These behaviors may also contribute to the same children's inability to focus in school, thus the relationship with poor academic performance (Pope & Bierman, 1999). Students who are ostracized by their peers in school may form alliances with other children who share the same deviant interests (Pope & Bierman, 1999; Cairns et al., 1989; Dishion, Andrews, & Crosby, 1995).

In previous research, Moore and Gullone (1996) determined that a major factor influencing whether adolescents engaged in certain risk taking behaviors included their

perceptions of how dangerous the behaviors were. Building on this premise, Gullone and Moore (2000) found that several important factors determined whether adolescents engaged in certain behaviors. The first determinant was how dangerous they perceived certain behaviors. They also found that adolescents' risk judgments were significant predictors of future behaviors.

Different researchers have posited that there are two different types of aggression (Crick & Dodge, 1996; Dodge & Coie, 1987). These two types of aggression have been identified as proactive and reactive aggression. Proactive aggression is described as a deliberate behavior aimed at obtaining a desired goal and it is based on Bandura's social learning theory (Crick & Dodge, 1996). Reactive aggression is described as an angry response to a perceived negative interaction (Crick & Dodge, 1996). Reactive aggression can be traced to the frustration-aggression model (Berkowitz, 1993). Crick and Dodge (1996) have used the social information processing model to explain aggression.

"According to social information-processing models, children's social behavior is a function of sequential steps of processing, including encoding of social cues, clarification of goals, response access or construction, response decision, and behavior enactment" (Crick & Dodge, 1996, p. 993).

Prislin and Kovrlija (1992) studied the relationship between behavior intention and behavior. Their study was based on Ajzen's theory of planned behavior. The researchers compared the differences between subjects with high and low self-monitors. Low self-monitors were defined as those who see themselves as being able to control self-presentation and overt behavior through internal controls. Comparatively, high self-monitors are adaptive people whose actions change depending on the situation. Hence,

the type of personality that they have determines peoples' behaviors. Prislin and Kovrlija used attendance as an outcome measure for 53 students in an undergraduate psychology class. They administered a Likert-type scale to obtain information on attitude toward the behavior (attending every class), perceived behavioral control and behavioral intentions.

The researchers found a significant correlation between the subjective norm and perceived behavior control for high monitors. This indicates that high monitors tend to perceive more behavior control over behavior toward which their important others held positive attitudes. Low self-monitors generally had higher correlations between behavior intentions and predictive elements. This is primarily a function of intentions coming from within as opposed to those of the high monitors that are based on the perceived attitudes of others.

The results of the study indicate that for people with low self-monitoring, their process of behavioral decision-making starts with an examination of personal attitudes toward certain behavior.

Absenteeism is one marker that has been used to predict academic success (Pope & Bierman, 1999). Students who experience loneliness and social alienation may become truant because they are uncomfortable in the school setting (Pope & Bierman, 1999; Kupersmidt & Coie, 1990). Students who experience aggressive behaviors in conjunction with irritability, inattention, and negative affectivity are at greater risk of developing antisocial behaviors, such as truancy and other behavior problems (Pope & Bierman, 1999).

Big Five with Children and Adolescents

To date most of the research using the Big-Five personality traits have been conducted with adults. Ehrler, Evans, and McGhee (1999) conducted a study to determine if the Big-Five personality traits would produce consistent results with children. This study included 46 female and 40 male participants. Of the 86 children, 31 were 4th graders, 19 were 5th graders, and 36 were 6th graders. The participants ranged in age from 9 to 13 years old with a mean age of 11.27 years of age. The participants included 56 black children and 30 white children. The children were from a large town in North Georgia and they included rural, suburban and urban characteristics. Fifteen of the participants were also classified as special needs students. The researchers stated that at the time of the study, there were no standardized instruments to test the Big-Five Personality traits available for child-age populations. Thus, they developed an instrument to measure the Big-Five personality traits and behavior problems. The items were developed based on existing trait markers and adult survey questions. The researchers identified items in the literature which consistently produced factor loadings of .40 or greater. "Problem behavior scales, common across the behavior literature reviewed, were included: Anxiety, Depression, Social Problems, Attentional Problems, Hyperactivity, Somatization, Conduct Problems, and Atypical Behavior" (Ehrler, Evans, & McGhee, 1999, p. 453) (See Table II). The researchers developed an 81 item paper and pencil questionnaire based on their literature review. This questionnaire was based on a 4-point Likert type format. Low scores on behavior scales represent few problems. Conversely, higher scores indicated that there were some problem behaviors present.

Descriptions of Problem Behaviors

Construct Name	Markers
Anxiety	Worriiness; nervousness; self-doubt; fearfulness
Attentional Problems	Distractible; poor listening; forgetful; daydreams; lacks concentration; poor attention span
Atypical Behavior	Visual auditory hallucinations; persevere on strange thoughts; pretends to be someone else; bizarre ideas; paranoia; far-fetched self-ideations; out of touch with reality
Conduct Problems	Does not accept responsibility for behavior; intimidates others; picks fights; loses temper; steals; suspensions from school; argues; lacks trust for authority; defiant; lies; truant
Depression	Self-deprecation; sadness or depression; tired or fatigued; suicidal ideation; voluntary isolation
Hyperactivity	Impulsive; interrupts others; restless; overactive; trouble sitting still; overly-stimulated
Social Problems	Inappropriate talking; shyness; easily teased; does not make friends; avoided by others; disliked by others
Somatization	Refers to illnesses; complains of headaches when required to do schoolwork; expresses need to see a doctor; complains of being sick; indicates that part of their body hurt

Ehrler, Evans, and McGhee, 1999, p. 453.

The results of the study indicated that there were significant correlations between a number of the Big-five personality traits and the measured behavior problems. The results produced the following correlations worth noting: Anxiety and Neuroticism (.72, $p < .01$), Attentional problems and Conscientiousness (-.79, $p < .01$), Attentional problems and Openness to Experience (-.53, $p < .01$), Conduct problems and Agreeableness (-.78, $p < .01$), Conduct problems and Conscientiousness (-.67, $p < .01$), Hyperactivity and Agreeableness (-.59, $p < .01$), Hyperactivity and Conscientiousness (-.60, $p < .01$), Social problems and Agreeableness (-.55, $p < .01$), Social problems and Conscientiousness (-.64, $p < .01$) and Social problems and Openness (-.51, $p < .01$).

These results indicate that there are reasons to believe that there is a relationship between childhood behavior problems and the Big-Five Personality traits. Nevertheless, there is cause to conduct further studies to determine the stability of using personality traits to better understand the behavior problems that are experienced by children in different settings.

In a previous study, Lounsbury et al. (2003) looked at the relationship between GPA and scores from the Personal Style Inventory for Adolescents. The study looked at 290 seventh-graders and 220 tenth-graders. Students participating in the study were primarily Caucasian (98%) along with 2% African-American participants. Of the 7th graders, 47% were females and 53% were male with an average age of 12.6 years. Of the 10th graders, 54% were females and 46% were males with an average age of 15.4 years. All of the Big-Five traits correlated significantly with GPA among 7th and 10th graders. Aggression and Work Drive together accounted for 18% and 21% of the variance in GPA in 7th and 10th graders. The Big-Five added 1% of the variance in 7th graders, but it did not add any incremental validity to 10th graders. Hence, there is a significant relationship between personality and academic success among adolescents.

The NEO Personality Inventory is an instrument designed to measure the "Big-Five" personality factors, which are Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. According to McRae (1991) these factors measure emotional, interpersonal, and motivational styles that are relevant to diagnosing a wide range of other disabilities.

Other research has also shown support that the "Big-Five" are able to predict different performance outcomes in the job setting. It is then hypothesized that there may

be a relationship between work and academic performance. More specifically, the same factors that influence job performance may serve as motivators in academic performance as well. Several researchers have identified negative relationships between academic grades and aggression (Edwards, 1977; Orpinas & Frankowski, 2001; and Feshbach, 1984).

Ehrler, Evans and McGhee (1999) stated that there is a relationship between big five traits and school performance. More specifically, they stated that the trait Conscientious is related to school adaptation/adjustment and academic achievement (Ehrler, Evans, & McGhee, 1999; Graziano & Ward, 1992; Digman, 1989). Barbaranelli, Caprara, Rabasca and Pastorelli (2003) results support previous research findings that the big five traits Intellect/Openness and Conscientiousness are important predictors of academic success. Additionally, their findings also indicated that low conscientiousness and low emotional stability are related to externalizing problems. Finally, the results indicated that low emotional stability is related to internalizing problems (Barbaranelli et al., 2003).

Orpinas and Frankowski (2001) also suggest that self-report measures are more practical and less expensive than scales based on peer, parent and teacher ratings. The authors also suggest that the few rating scales available, fail to address the frequency of self-reported aggressive behaviors among middle school students. Therefore, the researchers developed a scale to address this deficit. The Orpinas and Frankowski aggression scale consists of 11 items designed to measure behaviors that might result in psychological or physical injury to other students. The questions do not specify the setting where the aggression takes place. However, most of the questions are referring to

aggression against other students. Furthermore, the questions also address verbal aggression, physical aggression and anger. However, the questions do not address aggression directed towards teachers in the school setting. The developers of this scale purport that aggression measurement is necessary in the research for school violence prevention.

Relationship between Temperament and Personality

One concept which may be related to personality is temperament. According to Gallagher (1994) “temperament, which is reflected in a creature’s *manner* of behavior, is personality’s biological, enduring, and heritable aspect. It greatly contributes to but does not entirely explain personality, much as innate intelligence contributes to but cannot entirely explain ability” (p. 39). In comparison, Cloninger (1994) states that temperament is “our congenital emotional predisposition” (p. 266). Additionally, Cloninger refers to temperament as one of two major domains of personality. The second major domain is character.

Cloninger, Svrakic, and Przybeck (1993) report that it is generally accepted that there are five personality factors that account for most of the variance in personalities in the general population. The researchers go on to state that the five factor model does not capture some domains of personality relevant to personality disorders. Cloninger et al. were interested in the ability of the five factor model’s ability to accurately diagnose personality disorders in patients. Based on several different types of studies, i.e., twin and family studies as well as neuropharmacologic and studies of longitudinal development, they were able to develop hypotheses regarding the causal structures of personality. Cloninger et al. used the psychobiological model to associate temperament and character

to different regions of the brain in order to make a connection between behaviors and brain functioning.

Rothbart, Ahadi, and Evans (2000) are also interested in the relationship between childhood temperament and the development of personality. They look at temperament as an alternative explanation to behavioral style. Rothbart et al. found that early childhood temperament has consistently predicted childhood personality. The researchers also suggested that it is important to assess behaviors in context with their function and setting. For example, “a disposition to fear will be shown in situations that are novel and unpredictable, but not when the situation is familiar and safe” (Rothbart et al., p. 123). Additionally, they have identified areas of temperament that are related to personality traits. For example, the approach/positive affect is compared to the personality trait extraversion. In this comparison, it is described as including positive anticipation and outgoing activity. The approach/ positive affect construct is also related to problems with control, such as impulsivity, anger/frustration and lower inhibition control. The irritability/anger construct is related to the narrow trait of aggression. Furthermore, “frustration reactivity seems to be a factor that is predisposing to later externalizing negative affect but not to fear” (Rothbart et al., p. 129).

Rothbart et al. were interested in relationships between measure of temperament and the big five personality factors, so correlations analyses were conducted. The results from these correlational analyses included the following notable correlations: orienting sensitivity and intellect/openness (.54), effortful/attention and conscientiousness (.43), and negative affect and neuroticism (.49). These results provide support for assertion that there is a relationship between childhood temperament and personality development.

Szarota, Zawadzki and Strelau (2002) explored the relation between rater agreement with the big five domain and gender. The researchers were interested in determining the rater agreement for self report versus peer report in ratings of personality and temperament measures. Their results indicated that reliability was higher for self report than for peer report. This study also indicated that reliability was higher in traits that were more temperamental (i.e., Extraversion) than those that were associated with character (Agreeableness and Conscientiousness). Szarota, Zawadzki and Strelau conducted factor analyses separately for males and female self ratings and peer ratings. The results of these factors analyses identified the same five factors for each group. This is consistent with previous personality research that has consistent produced five factors of personality (Digman, 1990). There was no clear difference in correlations for ratings of temperamental traits versus cognitive domains. When correlations were compared, the Conscientiousness was as high as the temperament traits Excitability and Dynamism. However, correlations for Agreeableness and Intellect were lower. The results of this study also suggest that females may be better raters than males based on the higher correlations obtained for females. This may be a function of females being more in tuned to emotions, and social norms according to the researchers.

While this study did not provide support for the validity of self-report measures, the results did provide support for the reliability of self-report measures. The authors cautioned that there may be some bias in responses based on the social desirability of the perceived responses. Nevertheless, there is high level of consistency in the pattern of responses with regard to this possible bias (Szarota, Zawadzki, & Strelau, 2002).

Presley and Martin were interested in the structure and assessment of temperament in preschool children (1994). The researchers based their measurement model on the previous work of Thomas and Chess. This model was based on the nine-dimension structure of temperament. Presley and Martin then used factor analyses to determine if there were similarities between teacher ratings and parental ratings. They found that five factors emerged for parent ratings versus three factors for teaching ratings. The researchers stated that parents may be able to articulate their child's temperament better than teachers due to the environments in which behaviors are observed. Hence, teachers observe children in a specific context and this limits the different dimensions that may be observable to teachers. Furthermore, teachers may be focused on specific behaviors, such as task oriented behaviors, so they do not pay attention to other domains of children's behaviors.

In the preschool sample that was studied, the five factors that emerged were identified as social inhibition, negative emotion, adaptability, activity level and task persistence. There was some question as to whether there were two or three factors for teacher ratings due to the high correlation between factors 1 and 3 in this factor analysis. However, the researchers decided to drop the items that were loading highly on both factors to clearly identify three factors. The researchers explained that this decision was based upon previous research and theoretical plausibility. The three factors were identified as task persistence, inhibition, and negative emotionality (Presley & Martin).

These results indicate that there is similarity in parent and teacher ratings for observable behaviors. This is evident in the commonality of the three traits that are the same for parents and teachers (task persistence, inhibition and negative emotionality).

The researchers suggested that the other two factors may be highly correlated with other factors so that they did not emerge as individual factors (Presley & Martin).

Presley and Martin stated that the emergence of these five factors indicates that there may be a relationship between these childhood measures and the established adult personality. They further assert that the adult personality measures may be built upon childhood temperament, based on the similarity of these constructs.

Adolescent Aggression and Personality

According to Gullone and Moore (2000), previous research looking at adolescent aggression and personality factors have generally been limited to studies that look at single behaviors (e.g., smoking) versus one or two personality traits (e.g., sensation-seeking). Therefore they were interested in looking at whether multiple adolescent behaviors could be predicted based on a multidimensional assessment scale.

Aggressive behaviors can be described as being on a continuum. Some aggressive behaviors are necessary to excel in different activities; therefore not all aggressive behaviors are negative. In this study aggressive behaviors are characterized by different types of risk taking behaviors (Gullone & Moore, 2000). The researchers identified four groupings of risk taking behaviors. These broad behavior groups were labeled as thrill seeking, rebellious, reckless, and antisocial risk behaviors. Thrill seeking behaviors were described as those behaviors that could be considered dangerous, but are accepted by society. Examples of thrill seeking behaviors include sexual behaviors and dangerous sports. Reckless behaviors are those behaviors that extend beyond thrill seeking and usually have more severe consequences, such as unprotected sex, driving while intoxicated and using illegal drugs. The authors described rebellious behaviors as

those behaviors that are usually not as destructive as reckless behaviors, but they are generally more acceptable for adults than for adolescents. Rebellious behaviors may also be viewed as somewhat of a rite of passage for adolescents moving into young adulthood. Examples of these behaviors include drinking, staying out late and using explicit language. The last category is the antisocial behaviors that are not acceptable for adults or for adolescents. Examples of these behaviors include pestering others, lying, and cheating.

Students who exhibit antisocial behaviors have been shown to have different types of adjustment issues in school (Pope & Bierman, 1999). These adjustment issues affect academic performance and social relationships in schools. Students who experience peer adjustment problems and academic failure also have a propensity to miss a lot of school due to the negative experiences related to attendance at school (Kupersmith & Coie, 1990; Pope & Bierman, 1999). Whether or not students do well in school or choose to leave school also has to do with how students internalize their problems in school. Attribution theory asserts that people are more likely to take responsibility for their actions when they feel like they are in control of their situation (Hewstone, 1990). Comparatively, people who believe that their situation is more related to external forces are less likely to take responsibility for their actions (Hewstone, 1990). Therefore, students who feel like they do not have any control over their grades or behaviors are less likely to take responsibility for their actions. It is important to understand the way that students attribute their behaviors, because this is related to motivation. Students who take responsibility for their actions are more likely to operate from intrinsic motivation (Hewstone, 1990). Conversely, students who externalize their

outcomes are more likely to respond to extrinsic motivation. Personality theory has been used to show relationships between different personality types and motivation in the workforce primarily with adults (Ones & Viswesvaran, 1996; Paunonen, Rothstein, & Jackson, 1999). Recent studies have shown that personality constructs remain constant from childhood to adulthood (Ehrler, Evans, & McGhee, 1999). Additionally, researchers have posited that personality traits can be used to predict educational outcomes for adolescents (Gilles & Bailleux, 2001). The big five personality constructs have been shown to consistently predict different types of behaviors in different settings (Barbaranelli et al., 2003).

Methodological Critique of Aggression and Big Five Personality Studies with Adolescents

The sample sizes used in studies looking at aggression and big five personality factors as predictors of adolescent academic success and attendance are relatively small. Studies in this area have consisted of relatively homogenous populations. Most of these studies used non-experimental survey designs. The definitions used in the studies vary. Some researchers used different definitions of aggression. Hence the different measurements may produce different results. Statistical techniques varied depending on the study. Some studies used more sophisticated data analyses than others. Methods ranged from descriptive studies using chi-square tests to different types of regression analyses.

The Personal Style Inventory - Adolescent (PSI-A)

The PSI-A scale is a self-report scale, which is similar to the development of many other scales used to obtain this type of information. The research points out many

of the pros and cons of using self-report scales. However, the consensus is that self-report scales are an adequate measure for obtaining personal data when results are interpreted with caution. Furthermore, Howard (1990) suggests that self-report scales are cost effective, provide ease of administration, and have more construct validity than other measures such as teacher and parent reports. Additionally, other methods of data collection should be employed depending on the intended use of the information that is gathered.

The Personal Style Inventory - Adolescent (PSI-A) is a 120-item scale that measures the Big-Five traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability) in addition to other variables such as work drive that are used to predict academic performance. These traits are broken up into scales consisting of 10 to 12 items each. The survey includes statements with Likert scale type responses (Strongly Disagree; Disagree; Neutral/Undecided; Agree; Strongly Agree). Nine items were developed to measure aggression in the school setting. These items included statements such as: “I will fight another person if that person makes me really mad” and “I sometimes feel like hitting other people.” (Lounsbury et al., 2003). The school guidance counselor will provide grades and attendance data to ensure accuracy.

The Adolescent Personal Style Inventory (APSI) has been demonstrated to have strong reliability and validity in a selected study of adolescents (Lounsbury et al., 2003). Since this is a relatively new instrument, there are limitations in its known predictive ability outside of the sample used in the original study. Nevertheless, aggression accounted for a statistically significant amount of variance in GPA above and beyond the

Big Five personality traits of Agreeableness, Conscientiousness, Emotional Stability, Extraversion, and Openness (Lounsbury et al., 2003).

CHAPTER III

Methods

This section will provide a definition of the key terms used in this study. This section will also discuss the methods; sampling; measurement; procedure; and data analyses used in this study. Finally the data analysis section will list out the research questions, hypotheses and analyses.

Definition of Terms

The following section presents the definitions for both aggression and absenteeism and identifies the definitions used for this study.

Definition of aggression. The definition by Forman is used in this paper because it encompasses the essence of most of the definitions in the literature:

An aggressive incident consists of the following behaviors: taking something from another child, hitting, kicking, or shoving an adult, making fun of another child, throwing an object at someone, refusing to share something, refusing to follow teacher's instructions, forcing another child to do something he or she did not want to do, hitting, kicking, or shoving a child, arguing in an angry way, cursing, or destroying someone else's property (pp. 595-596).

Methods

Data for this dissertation research were taken from archives developed as a part of an internal study of students conducted within a county school system, and used here with the permission of the Superintendent's office.

Sampling

The school system, located in the Southeastern United States, is comprised of 83% Caucasian students and 14% African-American students. Data were collected from students in the eighth grade (middle school) as a part of a longitudinal evaluation by the school system. A cross-sectional survey design was used in the present research.

Measure

Personality. The measure of personality, the *Personal Style Inventory-Adolescent* or *PSI-A* (Lounsbury et al., 2003) has 120 items and incorporates measures of the Big Five traits of Openness, Conscientiousness, Extraversion, Agreeableness and Emotional Stability, consisting of scales with 10 to 12 items each. All items in the APSI consist of statements to which respondents are asked to express agreement or disagreement by selecting one of five labeled choices (Strongly Disagree; Disagree; Neutral/Undecided; Agree; Strongly Agree). The personality assessment also incorporated measures of one additional construct:

Aggression—a nine-item scale developed specifically for this study. Sample items improve —“I will fight another person if that person makes me really mad” and “I would hit another person if they hit me first.”

Variables for the personality traits consisted of summed scores based on 1-to-5 scoring of items (5=Strongly Agree). Individual scores for traits were calculated only for individuals who responded to all items in the relevant scales.

Grade-point-average. Cumulative grade point average (GPA) was recorded for each student on a standard 4.0 scale.

Procedure

Permission was requested and received from the organization conducting the assessment for the school system to use their archival data. These consisted of anonymous records of students' personality scores. The school system released records of students' personality data after a school official matched individual data and replaced identifying information with special id numbers, to create an anonymous data set. For data-collection involving the PSI-A, guidelines were provided for group administration and direct supervision was provided. School counselors administered the PSI-A to students during classes, with all administration occurring on a single day in each school. In each session, the counselor explained the school's purposes in asking for data and distributed the PSI-A forms. Counselors collected the forms.

Data Analyses

Non-directional hypotheses were tested to determine if the results were consistent with the null-hypotheses. Assumptions were tested to determine if the proposed statistical tests are appropriate. In addition, because it was hypothesized that Aggression is a unique construct, analyses were conducted to determine how well Aggression can be predicted from the Big Five personality traits.

It was also necessary to determine the internal consistency reliability of each personality scale. Additionally, the intercorrelations among the personality scales were examined. These personality scales were examined for the best model fit using different model fit indices, such as the Akaike test of model fit.

In this section the data analysis procedures are listed under each research question and its related hypotheses.

Research Question 1: To what extent do the big five personality traits, as measured by the PSI-A statistically significantly predict school performance, as measured by grades among adolescents?

Hypothesis 1: Students who score higher on the big five personality traits Conscientiousness, Extraversion, Agreeableness, and Openness will have higher grades.

Analysis: The big five personality factors were added into a regression equation with grades as the dependent variable. The results were analyzed to determine if the model was statistically significant. If the model was statistically significant, then the regression coefficients for the individual variables were examined to determine the independent effects of the individual variables.

Research Question 2: To what extent does the narrow trait of Aggression significantly predict academic success in school as measured by grades among adolescents?

Hypothesis 2: Students who score higher on the aggression subscale will have lower grades.

Analysis: The independent variable aggression was added into a regression equation with grades as the dependent variable.

Research Question 3: Does aggression add incremental validity beyond the big five traits in predicting success in school as measured by grades among adolescents?

Hypothesis 3: Aggression will add incremental validity beyond the big five in predicting academic success as evidenced by lower grades.

Analysis: Using a hierarchical procedure, the variables were added into the regression equation for analysis. In the first step, the big five personality factors were added into the regression equation as the independent variables with grades as the dependent variable. In the next step, the independent variable aggression was added into the model. The results were then analyzed to determine if the original model was statistically significant. Then the results were analyzed to determine if the model was statistically significant once aggression was added into the model.

Research Question 4: Do the big five traits display incremental validity beyond aggression in predicting success in school as measured by grades among adolescents?

Hypothesis 4: The big five will add incremental validity above and beyond the big five in predicting academic success in school as evidenced by higher grades.

Analysis: Using a hierarchical procedure, the variables were added into the regression equation for analysis. In the first step, aggression was added into the regression equation as the independent variable with grades as the dependent variable. In the next step, the big five personality factors were added into the model. The results were analyzed to determine if the original model is statistically significant. Then the results will be analyzed to determine if the model was statistically significant once the big five personality factors were added into the model. If the model was statistically significant, then the regression coefficients for the individual variables were examined to determine the independent effects of the individual variables.

CHAPTER IV

Results

This section will provide the sample characteristics; reliability and descriptive statistics; results for each research question; model fit summary; and correlations for aggression and GPA, GPA and the big five, and gender.

Sample Characteristics

There were 491 students who completed APSI. Of these students, 242 students were female, 239 students were male and 10 students did not answer this question. Females in this study had an average age of ($M = 13.45, SD = .55$). Comparatively, the males in this study had an average age of ($M = 13.74, SD = 1.92$). See Table 3 for descriptive statistics on GPA.

Reliability and Descriptive Statistics

Cronbach's alpha (α) was used to quantify the internal consistency reliability of the subscales (Nunnally & Bernstein, 1994). Internal consistency reliability refers to the consistency with which individuals respond to items within a scale. Cronbach's alpha is a measure of the mean intercorrelation among items weighted by variances, stepped up for the number of items. All else being equal, the larger the number of items in a scale, the higher Cronbach's alpha. Also, the more consistent within-subject responses are, and the greater the variability among subjects, the higher Cronbach's alpha. In addition,

Table 3
Descriptive Statistics for GPA

	Male (N=222)	Female (N=227)	8 th (N=456)
Mean	2.73	3.09	2.92
SD	.94	.74	.86

Cronbach's alpha will be higher when there is homogeneity of variances among items than when there is not.

The widely-accepted social science convention is that alpha should be equal to .70 or higher to be considered adequate, but some use .75 or .80 while others use .60. The following guidelines are used to characterize different values of Cronbach's alpha:

Poor: < .60

Marginal: .60 - .69

Good: .70 - .79

Excellent: \geq .80

Tables 4 and 5 show descriptive statistics for the Big Five Personality Factors and the Aggression subscales. The Aggression Scale consists of nine items. Cronbach's alpha reliability coefficient for the Aggression Scale = .89. This scale is corrected to .90 when the eighth item is dropped from the Aggression Scale (See Table 6). The Cronbach's alpha reliability coefficient for the Agreeableness Scale = .77, Conscientiousness Scale = .78, Emotional Stability Scale = .79, Extraversion Scale = .80, and Openness Scale = .74.

Results

Research Question 1: To what extent do the big five personality traits, as measured by the

Table 4
Descriptive Statistics for Subscales.

Subscale	M	SD	Mdn	Range	Skew (SE)	Kurtosis (SE)	N	Missing
Agreeableness	3.21	.64	3.20	1.40-4.80	-.25(.11)	.00(.22)	491	0
Conscientiousness	3.34	.68	3.40	1.40-5.00	-.21(.11)	-.30(.22)	491	0
Emotional Stability	3.06	.77	3.10	1.00-5.00	-.33(.11)	-.18(.22)	487	4
Extraversion	3.83	.62	3.88	1.00-5.00	-.47(.11)	.47(.22)	491	0
Openness	3.16	.80	3.20	1.00-5.00	-.15(.11)	-.32(.22)	491	0
Aggression	2.79	.89	2.78	1.00-5.00	.17(.11)	-.64(.22)	491	0

Table 5
Interquartile Ranges

Subscale	25 th Percentile	75 th Percentile
Agreeableness	2.80	3.60
Conscientiousness	2.80	3.80
Emotional Stability	2.60	3.60
Extraversion	3.50	4.25
Openness	2.60	3.80
Aggression	2.11	3.44

Table 6
Reliability of Aggression Scale Items(N = 491)

Item	M	SD	N	Missing	Cronbach's Alpha if item deleted
1	2.04	1.04	457	34	.88
2	2.83	1.13	457	34	.89
3	2.62	1.23	457	34	.88
4	2.90	1.29	457	34	.87
5	2.89	1.27	457	34	.88
6	3.68	1.32	457	34	.88
7	2.36	1.12	457	34	.88
8	2.61	1.19	457	34	.90
9	3.02	1.24	457	34	.88

Note. Cronbach's alpha is .89 for the Aggression Scale.

APSI statistically significantly predict school performance, as measured by increased grades among a sample of middle school students?

Hypothesis 1: Students who score higher on the big five personality traits

Conscientiousness, Extraversion, Agreeableness, and Openness will have higher grades.

Results 1: Linear regression was used to test this hypothesis, and the Big Five personality variables were entered simultaneously. The overall model was statistically significant ($R^2 = .22$, $F(5, 450) = 21.44$, $p < .001$) and, as predicted, there is a positive relationship between Agreeableness ($\beta = .14$, $p < .01$), Conscientiousness ($\beta = .20$, $p < .001$),

Extraversion ($\beta = .10, p < .05$), Openness ($\beta = .16, p < .01$) and grades. However, there was not a statistically significant relationship between Emotional Stability ($\beta = .01, p = .88$) and grades (see Table 7).

Research Question 2: To what extent does the narrow trait of Aggression significantly predict academic success in school as measured by grades among a sample of middle school students?

Hypothesis 2: Students who score higher on aggression will have lower grades.

Results 2: The overall model for aggression as a predictor of academic success was statistically significant ($R^2 = .14, F(1, 454) = 72.41, p < .001$, two-tailed). As predicted, there is a negative relationship between aggression ($\beta = -.37, p < .001$) and grades (See Table 8).

Table 7
Hierarchical Multiple Regression for Aggression and GPA Controlling for Big Five Personality Factors (BFPF) (N= 445)

Variable	B	SE B	β
Step 1			
Agreeableness	.19**	.07	.14
Conscientiousness	.25***	.06	.20
Emotional Stability	.01	.05	.01
Extraversion	.13*	.07	.10
Openness	.17**	.05	.16
Step 2			
Agreeableness	-.00	.09	.01
Conscientiousness	.23***	.06	.19
Emotional Stability	.02	.05	.05
Extraversion	.12	.07	.06
Openness	.15**	.05	.13
Aggression Score	-.22***	.06	-.18

Note. $R^2 = .19$ for Step 1; $\Delta R^2 = .02$ for Step 2 ($p < .001$);
* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 8
 Hierarchical Multiple Regression for Big Five Personality Factors (BFPF) and GPA
 Controlling for Aggression (N= 445)

Variable	B	SE B	β
Step 1			
Aggression Score 1	-.36***	.04	-.37
Step 2			
Aggression Score 1	-.21***	.06	-.22
Agreeableness	-.00	.09	.00
Conscientiousness	.23***	.06	.18
Emotional Stability	.02	.05	.02
Extraversion	.12	.07	.08
Openness	.15**	.05	.14

Note. $R^2 = .14$ for Step 1; $\Delta R^2 = .08$ for Step 2 ($p < .001$);
 * $p < .05$ ** $p < .01$ *** $p < .001$.

Research Question 3: Does aggression add incremental validity beyond the big five traits in predicting success in school as measured by grades among adolescents?

Hypothesis 3: Aggression will add incremental validity beyond the big five in predicting academic success as evidenced by higher grades.

Results 3: Hierarchical linear regression was used to test this hypothesis. The Big Five personality variables were entered in the first step, and the aggression variable in the second step. In the first step the overall model was statistically significant ($R^2 = .19$, $F(6, 449) = 20.64$, $p < .001$, two-tailed) and, as predicted, there was a positive relationship between Conscientiousness ($\beta = .18$, $p < .001$), Openness ($\beta = .13$, $p < .01$) and grades. Aggression accounts for an additional 2.4% of the variances in grades ($R^2_{\text{change}} = .02$, $F_{\text{Change}} = 13.65$, $p < .001$, two-tailed) and, as predicted there was a negative relationship between Aggression and grades ($\beta = -.22$, $p < .001$, two-tailed). However, there was not a

statistically significant relationship between Emotional Stability ($\beta = .02, p = .70$), Agreeableness ($\beta = -.00, p = .97$), Extraversion ($\beta = .08, p = .08$) (See Table 7).

Research Question 4: Do the big five traits display incremental validity beyond aggression in predicting success in school as measured by grades among adolescents?

Hypothesis 4: The big five will add incremental validity above and beyond the big five in predicting academic success in school as evidenced by higher grades.

Results 4: Given the relative importance of Aggression in predicting cumulative GPA, an additional hierarchical multiple regression was conducted, this time with Aggression entered as the first variable, before the Big Five. With this configuration, Aggression accounted for 13.8% of variance in GPA ($p < .01$) in the overall model. The addition of the Big Five variables accounted for an additional 7.9% of the variance in GPA beyond Aggression ($p < .01$) (See Table 8).

GPA and the Big Five

Pearson product moment correlations were computed between GPA and each of the Big Five personality variables (see Table 9). Each of the Big Five variables was significantly correlated with GPA. The strongest correlation was observed between GPA and Conscientiousness ($r = .36, p < .01$), followed by Openness ($r = .33, p < .01$), Agreeableness ($r = .31, p < .001$), Extraversion ($r = .28, p < .01$), and Emotional Stability ($r = .15, p < .01$).

Aggression and GPA

The correlation between GPA and Aggression was calculated. Aggression ($r = -.37, p < .01$) was more highly correlated with GPA than were any of the Big Five

Table 9
 8th Grade Correlation Coefficients for the Adolescent Personal Style Inventory and
 Descriptive Statistics (N=456)

Variables	1	2	3	4	5	6	7
1. GPA	-						
2. Agreeableness	.31***	-					
3. Conscientiousness	.36***	.38***	-				
4. Emotional Stability	.15***	.36***	.25***	-			
5. Extraversion	.28***	.36***	.37***	.27***	-		
6. Openness	.33***	.38***	.43***	.13***	.37***	-	
7. Aggression	-.37***	-.70***	-.37***	-.23***	-.33***	-.36***	-

- * p < .05 (two-tailed) ** p < .01 (two-tailed) ***p < .001 (two-tailed)

variables.

CHAPTER V

Discussion and Conclusions

The goal of this study was to determine whether or not aggression adds incremental validity to the big five personality factors in academic in a sample of middle school students. Results from this study indicated that aggression does in fact add incremental validity above and beyond the big five personality factors in a sample of middle school students. The results of the study also indicated that the big five personality factors are significantly correlated with academic performance. More specifically, conscientiousness, openness, agreeableness, and emotional stability are significantly correlated with grades in the current sample. When aggression is added into the statistical model, conscientiousness, openness and aggression are significantly correlated with grades. In previous research, conscientiousness and openness have consistently predicted academic success in different populations. In studies looking at aggression and academic performance, the results have consistently demonstrated a negative correlation, which supports the findings in this study.

The Personal Style Inventory (PSI-A) demonstrated strong reliability in this study. All of the subscales yielded Cronbach's Alpha reliability coefficients in the excellent range. This indicates that the internal consistency of the items in the different subscales maintained a high degree of reliability when you with this specific population. This lends support for future use with this measurement tool in similar populations.

Although this study did not look at the effectiveness of any intervention, a measurement tool such as the PSI-A might be useful for evaluating the effectiveness of an aggression reduction intervention. The aggression subscale in the PSI-A is based on

how subjects think they would react in hypothetical situations. Therefore, the PSI-A would be more appropriate if paired with an intervention that is designed to address issues of behavioral intention. This scale does not measure the actual occurrence of behaviors, so additional questions would be necessary to determine if actual behavior changes did indeed take place as a result of any interventions that are administered.

To date the measures looking at aggression in this population have consisted of very general questions, which did not specifically pertain to the school setting. This is important because behaviors that maybe acceptable or necessary in one setting may not be acceptable in another setting. Therefore, it is somewhat arbitrary to ask some one how they would respond to a hypothetical situation in a general setting, when the response could differ with regard to the setting or context. Hence, the strong reliability demonstrated in this instrument may be a result of items that are developed to address responses in a specific context.

Additionally, there has been little if any research done looking at the relationship between aggression and the big five personality factors with this specific population. This study also demonstrated that there is a relationship between these constructs. It also lends support for future studies with this age group and the necessity to look at other demographic variables as well.

Due to limitations in the data collection process this study was unable to identify any potential patterns of violence as mentioned in the rationale of the study. The study was able to show relationships between the personality factors, aggression and academic success in this population. Furthermore, the results demonstrated that there is a stronger correlation between aggression and academic success than any of the big five personality

traits, which was a very significant finding given the long standing support for the big five personality factors in the research literature.

Implications for Future Research

Results have indicated that personality factors serve as important predictors of academic success. Future research should use this information to develop interventions based on these findings. When interventions can be appropriately linked to assessment items, it will create better opportunities to monitor the effectiveness of the interventions.

Educational policies should seek to find ways to implement personality factors into measures of student performance to improve programming, especially for those students who are deemed “at-risk.” As educators continue to identify problems earlier in students, that will increase the likelihood of successfully intervening in their unique situations. Furthermore, as student dynamics continue to change in the educational setting, we must also evolve with the times in terms of the ways in which we view problems that are encountered by young people in today’s educational settings.

The results showed that while the big five personality factors and aggression contributed significantly in predicting academic success as indicated by GPA in this sample. The results further indicated that while the big five personality factors and aggression remained statistically significant for both females and males when analyzed separately, it also revealed that females and males differed in regard to which variables were significant. While conscientiousness was significant in the overall model, as well as for both males and females, openness was a significant variable for males and not for females. Therefore, even though the personality factors were significant for males and females, each of them experienced it in a different way. Hence, future research needs to

continue to explore the possibility that different assessment instruments may need to be developed for males and females. Additionally, given that males and females appear to be different with regard to personality, this may also lend support to the need for interventions that are developed specifically for males and females at their appropriate developmental stages.

Study limitations also lend support for the use of experimental designs that address the causality in the relationship between aggression and academic success. Although a good survey design has stronger external validity, they are usually weaker in internal validity. This is important because it allows you to generalize results to a larger population, but it doesn't allow you to draw any conclusions about the causality of relationships that are found.

Limitations of Current Research

A secondary data analysis was used for the current study. When the data was originally collected, a nonprobability sampling procedure was used. This sampling procedure was limited to the students who were in school on the data that the survey was administered. Demographic data was not available for those students who were not present nor for those whose chose not to respond. Therefore, it is not possible to make any comparisons between the characteristics of those students who completed the survey versus those who did not complete the survey. Moreover, extreme caution should be used when making generalizations from data that was not randomly selected (Rubin & Babbie, 2001).

It is possible that survey results may vary based on the age, race, socioeconomic

status and types of settings. This is due to the fact that this was a self-report survey, which required children to read questions and select appropriate responses. Therefore, if a student had difficulty with reading, then it is possible that they would have difficulty completing the survey. This difficulty could either be a result of students not having enough stamina to sit down and complete the entire survey due to the amount of time that it would take them to complete the survey. Additionally, if students had trouble understanding the questions, then that might affect the quality and accuracy of the responses that were provided as well. It is also possible that students in some academic settings would be more prone to react to different situations aggressively depending on the social environment of the school and its community.

There is always the possibility that students, parents and teachers would view a student's behavior differently. Nevertheless, the questions in this behavior scale are written such that the student is reporting on the way that (s)he thinks that (s)he would respond in a given situation. It would be interesting to see if there is any correlation between the way that parents and teachers think that a student would respond in those same situations.

Rubin and Babbie (2001) state that a good survey instrument is an efficient and cost effective way to obtain information from large groups of people. Additionally, survey instruments may actually be more reliable than other forms of interviews, because it may reduce bias that can be introduced by different interviewers. Often times, this bias may be associated with verbal or nonverbal communication from the interviewers. Another strength of surveys is that respondents may actually be more open about issues that would be difficult to answer if they were talking to a person. Nevertheless, triangulation

provides support for measures to determine the accuracy of information reported in self-reports.

While the questions in the aggression scale were designed to comprehensively address situations that students may encounter in a school situation, there are many situations that were not addressed directly. For example, none of the aggression questions on this scale address the use of weapons as a way to address a problem. Furthermore, the questions address how students think that they would react in hypothetical situations, but it doesn't address how they have acted in the past or the number of aggressive incidents they have encountered at any point and time.

Another limitation of a survey design is that it forces people to make choices about the degree to which they think about certain topics. These choices are usually limited to strongly agree, agree, neutral, disagree and strongly disagree. Therefore, respondents are forced to select a choice which has a somewhat arbitrary meaning. It is then assumed that each person who subsequently responds the same way is interpreting the questions and responses in the same manner (Rubin & Babbie, 2001).

As a result of the study's use of a cross-sectional (point in time) research design, it is not possible to infer causality. Rubin and Babbie (2001) points out one of the weaknesses in a cross sectional survey design is the limitations in internal validity. In this case, because there are no controls to determine which event comes first in time, it is not possible to state the directionality of the relationship between aggression and academic success. For instance, the study indicates that there is a significant relationship between aggression and academic success, but it not possible to determine causality based on this study. Therefore, in future studies, it would be useful to try to determine the nature of the

relationship between aggression and academic success. This is important because there are some very different implications for intervention based on the cause of aggression. For example, it is necessary to determine whether aggression is causing poor academic achievement or if aggression is the response to poor academic achievement. This would guide social workers and other professionals in determining where to intervene. If poor academic cause aggression, then it might be helpful to develop a plan for remediating the areas of difficulty and providing more academic supports. If aggression is causing a decline in academics, then it might be helpful to provide social skills training to help those students to cope with problems better. Consequently they would be able to attend to academics longer, which would hypothetically lead to an increase in academic success.

This study lends support for the use of the PSI-A survey instrument. Yet, it is necessary to determine if the results of future studies will yield the same results when the sample characteristics are broadened. While preliminary results have been consistent, the students that have been studied so far have primarily come from similar backgrounds, which have mostly been Caucasian students in a rural setting.

Future studies could also address the severity and duration of the problem by conducting the necessary inquiries to determine the onset of the problem and how long it has been going on. Studies should also do a thorough analysis to determine if there are significant differences in the patterns of aggression indicated between males and females. Additionally, these comparisons should also take into consideration the control variables listed above.

Conclusions

Grade point average was significantly different for males and females. Aggression was highest in female students. Each of the Big Five personality variables, as measured by the Adolescent Personal Style Inventory (APSI), was significantly correlated with GPA. The correlation between the APSI Aggression scale and GPA was $-.37$, which was higher than any of the Big Five personality variables. Aggression was significantly correlated with both male and female GPA, although the relationship with female GPA was significantly higher than for males.

After controlling for Big Five variables, a hierarchical regression revealed Aggression added significant incremental validity to the predictive model. Aggression predicted GPA above and beyond the contribution of Big Five personality variables alone significantly for both genders. More specifically, this model accounts for the most variance in female students. Reversing the variable order in the regression revealed, conversely, that Big Five variables also added significant incremental validity to Aggression. Overall, Big Five variables and Aggression accounted for 21.6% of the variance in GPA.

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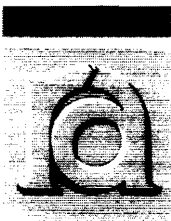
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intelligence with academic intelligence and the Big-Five. *European Journal of Personality*, 16, 103-125.

Appendices



May 21, 2002

Mike S. Winstead, Ph.D., Coordinator of Research and Evaluation
Knox County Schools
P.O. Box 2188
Knoxville, TN 37901-2188

Dear Dr. Winstead:

Last August you approved our research project (#108) "Personal Style Inventory for Adolescents" (PSI-A).

A brief update: We have been pleased with the cooperation given to us by Austin East High School and West High School. At Austin East, data were collected on about their 9th graders and seniors, and at West High School data were collected on the entire student body. Subsequently, we provided a report to each student participant that will help them understand their personality better in relation to their school work, personal development, and future career; plus, their report provided them with information on careers that might fit their personality. The guidance counselors also received a report on each student participant, and we gave each school a summary report on the entire participant group.

We have also been able to produce some impressive statistics on the ability of our PSI-A dimensions to predict GPA, absences, and behavioral problems. When we get the technical report completed, we will be happy to send you a copy.

Current need: To continue our analyses, we need approval from you to allow Dr. Soo-Hee Park (Phone: 579-3096 x 208 e:mail: shpark@mail.state.tn.us) at the state office of Evaluation and Assessment to access TCAP data for student participants in this project and to run his analyses. None of us at Resource Associates will have access to the actual individual student-level TCAP data. **We need for your office to write a letter to Dr. Ben Brown authorizing Dr. Park to utilize TCAP data for our analyses.** If I can answer any questions or be of any assistance in this matter, please do not hesitate to call me at 579-3052.

Sincerely,

Lucy W. Gibson, Ph.D.
Licensed Industrial-Organizational Psychologist
Vice President

*Ben Brown, Ph.D., Executive Director
Evaluation and Assessment Division
Andrew Johnson Tower, 7th Floor
710 James Robertson Parkway
Nashville, TN37243-0375*

Dear Dr. Brown:

This past year, Resource Associates, a group of Industrial-Organizational Psychologists, has engaged in a research projects with two high schools here in Knoxville. They have collected predictor data using their research instrument: Personal Style Inventory for Adolescents (our Research Project # 108).

Dr. Soo-Hee Park is working on this project. The next phase of the data analysis would be to access the TCAP scores. Since no one other than state employees would have access to the individual student scores, I see no problem with this approach. Please allow Dr. Park to utilize the TCAP data with the other research data that has been collected.

Sincerely,

Mike S. Winstead, Ph.D.
Coordinator of Research and Evaluation

Aggression Scale Items

1.	If another student does not respect me, I try to hurt him or her.
2.	My friends know that other people better not mess with me.
3.	If somebody pushes me too far, I get angry and attack that person.
4.	I will fight another person if that person makes me really mad.
5.	I sometimes feel like hitting other people.
6.	I would hit another student if they hit me first.
7.	I would rather fight than talk about a problem.
8.	I try to avoid fighting whenever I can..
9.	I would fight to keep from getting picked on by other students.

VITAE

Juan J. Barthelemy was born in New Orleans, Louisiana on November 11, 1968. He was raised in New Orleans, Louisiana and attended Littlewoods Elementary School, Edward Livingston Middle School, and Marion Abramson Senior High School. Juan graduated from Marion Abramson Senior High School in 1986. He served as an active reservist in the United States Army Reserves from January 1986 to August 1992. He received his Bachelors Degree in Psychology with a Minor in History from Southern University at New Orleans in 1993. He received a Masters of Arts in Education in Educational Psychology from the University of Northern Iowa in Cedar Falls, Iowa in 1995. Juan also received a Masters in Social Work from Washington University in St. Louis in 1999.