Emotional Reactivity, Emotional Restraint, and
Aggression Style Patterns in a Rural Adolescent Sample

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by

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Abstract

The study of aggression has been complex and multidisciplinary. Previous research has found that results from studies of youth in urban settings do not necessarily generalize to rural populations due to the distinct difference in social context and cultural norms. Thus, preventative programming based on research from urban populations may be relatively ineffective in rural school districts. The present paper examines the relationship between temperament characteristics (emotional reactivity and emotional restraint) and aggression styles (physical, non-physical, and relational) in a rural high school aged sample. Results suggest a tendency for non-physical aggression relative to other types of aggression within the sample. Controlling for age, significant relationships between physical and non-physical aggression styles and between non-physical and relational aggression styles were found in both sexes. Additionally, emotional restraint and reactivity provided strong relationships with physical aggression styles in males, while restraint and non-physical aggression styles strongly correlated in females. School programming to target these characteristics is then discussed.

Key Words: Rural, Aggression, Temperament, Adolescence
Emotional Reactivity, Emotional Restraint, and Aggression Style Patterns in a Rural Adolescent Sample

Adolescence is a time of exploration and self-definition. During this stage in lifespan development, adolescents sometimes and challenge the normative constructs in their everyday life—such as parental rules, societal standards, and cultural norms. These behaviors can be adverse and may range from being disruptive or delinquent, even escalating to criminal activity. The study of adolescent behavior and development is a very interdisciplinary field. Because of the complexity of aggression, several social science fields research the topic. Criminal Justice academics look to understand the underlying causes of delinquency and crime in the context of society and how to reduce these maladaptive behaviors in adolescents. Psychologists look to understand the underlying development, thought processes, and internal characteristics of an individual or group that participates in such actions. They also look to explain normative developmental stages and characteristics. The current study offers a closer look at adolescent aggression in relation to emotional development within a rural social context. Ultimately, such research may contribute to effective programming to facilitate healthy prosocial behavior.

Aggression

The study of aggression has been a popular topic for the behavioral sciences. Generally speaking, theory and research groups the types of aggression into three categories; physical, non-physical, and relational. Physical aggression is used to cause bodily harm to another individual. Examples include kicking, hitting, tripping (Craig, 1998), biting, “using weapons, and breaking toys or other possessions” (Kaye & Erdley, 2011). Non-Physical aggression, also known as verbal aggression, consists of yelling, threatening, and insulting the victims directly. Non-physical aggression includes “bullying” types of actions directly aimed at a student (e.g., putting
someone down to their face, teasing, and giving mean looks to another student) (Farrel et al., 2000). Relational aggression is indirect and often involves activities such as gossiping and exclusion from groups, or joining different groups as revenge (Craig, 1998). Relationally aggressive behaviors are non-physical and exclusionary with the purpose of undermining self-esteem and group status (Sawka-Miller, 2011).

Studies of aggression often adopt a longitudinal approach in which cohorts of adolescents are followed over time to examine predictors of later violence and criminality (Robins & Wish, 1977; McCord, 1979). Following the biopsychosocial model of development, these predictors fall into three general categories including biological and genetic make-up, social upbringing, and cognitive processes development. Most research focusing on crime, juvenile delinquency, and violence has addressed youth in an urban (Morris, Gerber, & Menard, 2011; Robins & Wish, 1977) or mostly urban settings (Gomes, Bertrand, Paetsch, & Hornick, 2003). Urban areas are defined as areas with 50,000 people or more (“Defining the Rural Population”, n.d.) and urban clusters containing at least 10,000 in population; rural is defined as any area that does not meet this criterion. Robins and Wish (1977) followed a cohort of 233 urban African American males from birth to 18 to study status deviance (e.g., under-age drinking, smoking, dropping out of school, and engagement in sexual activity at an inappropriately young age) and if deviant acts were predictors of later, more criminal acts. Indeed children who began participating in status deviant behaviors at a younger age were more likely to continue deviant behaviors after childhood. Researchers have found that results from urban samples cannot always be generalized to rural samples (Lentz, 1956), and often rural and urban samples differ significantly on tests of aggression and later more serious forms of aggression, such as deviance, risky behaviors, gang membership and crime (Farrell, Sullivan, Esposito, Meyer, & Valois, 2005; Wells & Weisheit,
2004; Dukes & Stein, 2003). Farrell et al. (2000) performed a comparative study of problem behaviors in rural and urban middle school children where analysis showed distinct differences in rural and urban aggression type and frequencies, such that urban boys and girls showed similar patterns in behaviors such as school suspension and physically and non-physically aggressive behaviors. Boys and girls from rural environments differed on these dimensions. Additionally, rural students showed less involvement with all of the reported behaviors compared to the urban sample.

One problem of generalizing urban aggression, deviance, and crime to a rural sample, occurs when theory for preventing or reducing urban crime is applied to a rural population, but does not reduce these characteristics in rural populations (Bartollas & Schmalleger, 2011). Though this research is beneficial in urban settings it is not necessarily generalizable to areas where the demographic make-up is different and societal standards differ, such as in rural settings, where race tends to be homogenous and more traditional gender roles are still held (Menifield, Rose, & Cunningham, 2001; Bouley & Wells, 2001, Lentz, 1956). For example, media portrayals of school shootings in urban and rural environments were not equal. Media is more likely to cover a rural school shooting, due to the cultural perception of rural communities, and the uncommonness of such events (Menifield et al., 2001).

Rural community members tend to view sentencing as a way to educate and counsel youth and as a punishment for adults (Bouley & Wells, 2001). Because of these differences in settings, ratios of students who exhibit externalizing (e.g., projecting emotions and feelings on to others), internalizing (e.g., turning negative emotions inward and attacking the self-esteem), comorbid (e.g., a combination of internalizing and externalizing behaviors), and typical behavior
patterns within a school may differ. Students with a tendency toward physical aggression styles typically fall under the externalizing category (Tackett, Daoud, De Bolle & Burt, 2013).

Current methodology for controlling disruptive or delinquent behavior has shifted from a reactive approach to a more proactive approach that involves all sections of a school including students, faculty, administration, and staff (Lane, Wehby, Robertson & Rogers, 2007; Blevins, 2008). For example, instead of giving a detention to the student after the act has occurred, proactive approaches try to give the child responsibility for his actions and build a student support group where students keep each other accountable. Also, based on the behavior of the adolescent, response to school-wide programming for positive behavior support differs as a function of behavior shown (externalizing, internalizing, or comorbid) (Lane et al., 2007). Tackett et al. (2013) concluded that students with comorbid behaviors may require more reinforcement than typical students. Based on these findings, a connection has been made linking temperament to the moderation of externalizing behaviors during stressful situations (Schermerhorn et al., 2013).

Due to the complexity of variables involved with the development of aggression styles, the study of aggression is multidimensional. While many social, emotional, and cognitive factors have been shown to contribute to adolescent aggression (McCord, 1979; Robins & Wish, 1977), dimensions of temperament, specifically including emotional restraint and emotional reactivity are important to consider. The goal of the current study is to assess these dimensions as they relate to various types of aggression.

This study will adopt the measures from Farrell et al. (2000). The Problem Behavior Frequency Scale originally consisted of 26 questions pertaining to four subjects: “drug use, physical aggression, non-physical aggression, and delinquent behaviors” (Farrell et al., 2000,
p.285). The survey was later altered by the Centers for Disease Control and Prevention (CDC) to include three subscales pertaining to the frequency of aggressive behaviors that fell into the categories of physical aggression, non-physical aggression, and relational aggression (Dahlberg, Toal, Swahn, & Behrens, 2005). The current version of the Problem Behavior Frequency Scale, found in the CDC compendium *Measuring Violence-Related Attitudes, Behaviors, and Influences among Youths: A Compendium of Assessment Tools, 2nd Edition* was the measure used for the present study to evaluate aggression style. Scores for each subscale item could range from 1-6. Higher subscale scores indicated higher prevalence in aggression.

**Emotional Restraint**

Though several factors influence the presence and style of aggression in an adolescent; including environmental conditions, early childhood experiences, and biological factors, personality is a key predictor of long term patterns and development of aggression (Rushton & Irwing, 2009). One facet of personality that develops early on and is fairly consistent throughout the lifespan is temperament. Temperament is a distinct set of emotional and behavioral characteristics that can be observed, in part, before birth (DiPietro, Hodgson, Costigan & Johnson, 1996) and continues to influence later personality. For example, fetuses who exhibited high levels of activity were more likely to be unadaptable and have a fussy or difficult disposition at three months and six months (DiPietro et al., 1996). Furthermore, Windle (1991) found that adolescents with several difficult temperament factors corresponded closely to the difficult temperament children, providing continuity in difficult temperament characteristics from childhood to adolescence. Temperament characteristics are typically stable throughout the lifespan, and have been linked to stress reactions, such as externalization for children with high resistance to control and unadaptibility (Schermerhorn, et al., 2013). Schermerhorn et al. (2013)
found a strong relationship between temperament and stressful environments—which may support the claim that rural and urban adolescents differ in temperament styles as a whole due to the different types of stressors each group encounters. Urban settings tend to be higher stressed—in the sense of social acceptability and perception of threat from others. Stress-externalization may also be related to relational aggression tendencies (Tacket et al., 2013). For example, emotional projection as a coping mechanism is the externalization of internal conflicts and anger, where those feelings are projected onto an outside agent. Relational aggression involves the exclusion from groups—projecting the problem onto outside students and then excluding them to avoid the emotions.

The temperament construct of emotional restraint is characterized by self-regulative strategies. Emotional restraint may foster the development of self-regulative behaviors such as counting to ten, breathing exercises, and leaving the stressful environment. These behaviors are characterized by the ability to self-sooth and reduce stress, and were found to negatively correlate to aggression (Ross & Fontao, 2008). Emotional restraint and regulating self-thoughts and behaviors can be seen as the opposite of impulsive behaviors, such as acting out without thinking about the consequences (hitting another, yelling mean things in the heat of an argument). Emotional restraint is a fundamental predictor of aggression style scores. Previous studies have explored how restraint (or lack thereof) influences aggression style (Ross & Fontao, 2008, Tackett et al., 2013, Morris et al., 2011). In particular, lack of emotional-restraint may be linked to physical aggression styles. For example, with regards to development, the phenomenon of future-oriented thinking is not fully developed in adolescents, so consequences are not a concern. When an adolescent becomes upset and is unable to exercise emotional restraint, he or
she may react in a physical manner without thinking of the consequences of the action, in order to release the emotional distress (Morris et al., 2011).

The Guilford-Zimmerman Temperament Survey (GZTS) (Guilford & Zimmerman & Guilford, 1976) addresses several underlying categories of temperament, one being restraint. Though several other instruments have been used to measure emotional restraint such as the Temperament and Character Inventory and the California Psychological Inventory, the GZTS was created in 1948 and has a large body of literature to back up the validity and reliability of scores (Parker, Bagby, & Webster, 1993). Additionally, the handbook provides data from previous studies with which current studies may find helpful in analyzing the significance of their findings (Guilford, Zimmerman & Guilford, 1976). The restraint subscale of the GZTS consists of 30 items with “yes” or “no” responses to indicate whether or not a particular behavior is descriptive of the self. Possible scores range from 1-30 with higher scores indicating higher levels of restraint. The current study used the GZTS subscale of restraint.

**Emotional Reactivity**

Personality can be organized into five major groups of traits including openness, extraversion, conscientiousness, agreeableness, and neuroticism (Costa & McCrae, 1987). These factors are viewed from the continuum or sliding scale format. This means that there is a high and low for each trait and the majority of individuals fall within the middle section of the scale. Individuals scoring on the extreme high and low ends, typically present behaviors that are maladaptive. Neuroticism, also referred to as emotional reactivity, ranges between sensitivity and nervousness and security and confidence. On the continuum for neuroticism, neurotic thoughts and behaviors (such as extreme emotional reactivity) anchor one end of the continuum and emotional stability anchors the other end. Individuals who score high in levels of reactivity tend
to be anxious, and have low impulse control. Levels of emotional reactivity may influence emotional restraint, or may directly influence aggression styles to tend toward relational aggression behaviors. (Tacket et al., 2013; Muris, 2006). Emotional reactivity may also be viewed as the opposite end of the continuum from emotional maturity. For example, as emotional maturation increases, coping mechanisms become more appropriate and emotional reactivity is reduced (Muris, 2006; Barbaranelli, Caprara, Rabasca & Pastorelli, 2003). Research on emotional restraint suggests that the mastery of positive and negative emotions generates different challenges at different stages of development, where emotional reactivity continues to decrease and develop well into late adulthood (Caprara, Vecchione, Barbaranelli & Alessandri, 2013). This finding suggests that as coping mechanisms and more complex challenges arise throughout the life span, emotional reactivity decreases to better handle the stressful situations.

Recent research has evaluated the efficacy of the Big-Five Questionnaire for Children (BFQ-C) (Gaio, 2012). The BFQ-C was created and tested in Italy (Barbaranelli et al., 2003), and was later translated to be used with English, German, Dutch, and Spanish samples and has been deemed a promising assessment of personality (Gaio, 2012). The BFQ-C contains items that assess personality categories of agreeableness, extraversion, neuroticism, openness, and conscientiousness. Measure for the neuroticism subscale have proven valid and reliable and have thus been used for the measurement of emotional reactivity for the present study (Gaio, 2012). Items were ranked on a 1-5 likert scale of how often the statement applied to the participant. All questions were reverse-coded so that higher scores are indicative of greater reactivity within the individual. Emotional reactivity scores could range from 13-65.

Temperament characteristics and aggression have been found to be related (Morris et al., 2011; Ross & Fontao, 2008). Using the developmental process view, the interaction between the
self-control and aggression has been studied. Morris (2011) found that youth who participated in the National Youth Family Survey who exhibited lower levels of self-control were more likely to engage in deviant actions and continue to criminality in adulthood. Additionally, Muris (2006) examined the link between emotional reactivity and effortful control, and found that high reactivity and low emotional restraint predisposed youth to present instability in threatening and stressful situations, particularly if they previously presented behavior problems such as aggression. This link between aggression and temperament needs to be further explored to better understand their relationship.

Purpose

The goal of this research is to better understand the relationships among aggression styles (physical, non-physical, and relational), restraint (self-control), and emotional reactivity in rural youth; a relatively understudied population. This is an important study because previous studies have found rural and urban populations differ on scores of aggression and juvenile delinquency patterns. Urban samples tend to be homogenous in types of behaviors reported for both sexes and behaviors are inclined to be physically aggressive (Bartollas, & Schmalleger, 2011; Dukes, & Stein, 2003; Farrell et al., 2000; Farrell et al., 2005; Lentz, 1956; Taylor, 1973, June). Rural samples, on the other hand, show sex differences in types of aggression and adolescents tend toward less physically aggressive behaviors (Lentz, 1956; Dukes & Stein, 2003; Farrell et al., 2000; Taylor, 1973, June; Wells & Weisheit, 2004). Predictions for this study include:

1. A strong directional relationship between temperament factors and aggression styles in rural youth; where emotional reactivity is positively correlated with aggression and emotional restraint is negatively correlated.

2. Emotional reactivity and restraint to have a negative relationship.
3. A sex differences for aggression type, where boys are more physically aggressive and
girls are more relationally aggressive

4. An overall tendency toward a relational aggression style within the sample.

**Method**

**Participants**

Students were recruited from two rural school districts in Southeast Ohio. Both school
district superintendents and principals gave permission for the study to be carried out. All
students in the first school (School A) were invited to participate during a school assembly, and
students from the second school (School B) were invited to participate during their study hall
period.

After excluding three student responses due to missing data, the sample consisted of 55
high school students (mean age =15.9, \(SD =1.3\)). As shown in Table 1, students from all class
levels were represented in the study. Sixty one percent of participants were female. The sample
consisted of primarily Caucasian students (96%), with the other 4% being African American.
Table 1

Proportion of Students by Sex, Grade, and School

<table>
<thead>
<tr>
<th>School (n)</th>
<th>Sex</th>
<th>High School Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>A (41)</td>
<td>29.1</td>
<td>45.5</td>
</tr>
<tr>
<td>B (14)</td>
<td>9.0</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Note. Percent of sample participants from each school and school year (Freshman = 1, Senior = 4). Three subjects were excluded from the final sample size represented above due to missing data.

Materials and Procedures

Data collection for School A was completed in December 2013. Students were introduced to the purpose of the study and then given a parental consent form with further information about the study to take home (see appendix A). Students who had returned signed permission slips were then invited to participate in the study. Students who returned signed parental consent were entered into a drawing for a $10.00 Wal-Mart gift card as incentive. School A students had instructions for both the student assent form (see appendix B) and survey read to them by their homeroom teacher. Due to inclement weather and numerous snow days during data collection, methodology was altered for School B. Data collection occurred in January and February 2014. School B students were administered the survey during study hall, and were asked to read the materials quietly to themselves. After assent forms were signed and submitted students were handed the survey packet.

The survey packet took about 15 minutes to complete, and was hand-coded by the researcher and an assistant and entered into SPSS (PASW 17). The survey packet included the measures which were completed in the following order: the Problem Behavior Frequency Scale
(Dahlberg et al., 2005); the GZTS subscale of restraint items (Guilford, Zimmerman & Guilford, 1976); the BFQ-C subscale of neuroticism (see Appendix C).

**Results**

**Temperament: Emotional Restraint and Reactivity**

Displayed in Table 2 are overall emotional restraint and emotional reactivity scores for males and females. Restraint scores could have ranged from 1-30. Scores for the sample fell within average score range for high school samples as reported by Guilford, Zimmerman and Guilford (1976), although the data they report includes a small sex difference. Emotional reactivity scores could range 13-65, with higher scores indicating higher emotional reactivity. An independent t-test indicated that males and females significantly differed on overall scores for reactivity measures, $t(1,53) = 2.21, p < .05$, with females scoring higher than males. These results are typical of adolescent sex differences, where females tend to more openly display emotions. Students’ overall scores are consistent with the original study (Gaio, 2012).

Table 2

<table>
<thead>
<tr>
<th>Participant Temperament Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

*Note.* Mean scores and standard deviations for measures of emotional restraint and emotional reactivity.

Following this result, attention was turned to single item analysis to further investigate sex differences. A one-way multivariate ANOVA was run to assess sex differences for each
item. Frequency distributions for measures of reactivity indicate the percentage of males and females who answered questions using “sometimes” or “almost always” as responses. These answers indicate high reactivity. As seen in Figure 1, females were more likely to rate items related to worry, sadness, and being in a bad mood as “sometimes” or “almost always,” while boys scored significantly higher in measures of nervousness, hurt feelings, crying, and competing, $p < .05$. Both boys and girls reported greater emotional reactivity for feelings of nervousness, worry, being active and competitiveness. Males indicated higher “sometimes” or “almost always” scores for eight of the items on the measure, while females were greater than males for only four of the items. This sex difference is surprising due to the significantly greater overall reactivity for females. This finding may be attributed to the transition from more traditional gender roles found in rural communities and the social upbringings associated with them. Traditional gender roles encourage competitive and active behavior in males (Hart, 2014).

![Figure 1. Frequency distribution for percent of males and females reporting “sometimes” or “almost always” for each item on the reactivity scale.](image)

Partial correlations between reactivity and restraint, controlling for age, were run in order to understand the relationships among these factors. Partial correlation removes the variation due to age in order to assess the relationship between temperament and aggression uncontaminated
by any developmental change in either domain. Additionally, due to sex differences in social structure and development, partial correlations were run separately for boys and girls. There is an inverse relationship between restraint and reactivity, but the relationship was not significant for males, \( r(18) = -0.33, p > .05 \), or females, \( r(31) = -0.04, p > .05 \). This is an interesting finding due to the constructs of both characteristics. Restraint and reactivity share characteristics on opposite ends of the temperament spectrum, with high restraint relating to a more mild temperament and high reactivity associating with a more difficult temperament (Caprara et al., 2013; Parker et al., 1993; Windle, 1991).

**Aggression**

Physical aggression, non-physical aggression, and relational aggression were scored with a possible range of 1-6. Scores were coded as number of occurrences: 0= 1, 1-2= 2; 3-5= 3; 6-9= 4; 10-19= 5; 20 or more = 6. The overall level of each type is shown in Table 3. Overall, scores are low, boys and girls showed similar levels of each type. Overall, scores on non-physical aggression were higher than physical and relational, \( F(2,106) = 5.11, p < .01 \).

<table>
<thead>
<tr>
<th>Participant Aggression Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aggression Type</strong></td>
</tr>
<tr>
<td><strong>Sex</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

*Note. Mean scores and standard deviations for aggression measures.*

To get a better sense of students’ responses, frequencies were calculated for each type of aggression. As shown below Figures 2-4, students indicated lower numbers of occurrences for all
aggressive behaviors, but students indicated more “3-5” occurrences for non-physical aggression. Students also reported “0” occurrences of relational aggressive behaviors more than any other option. Even though relational aggression is more typical of girls than boys, while physical aggression is more typical of boys than girls (Kail, 2012). Boys and girls in the current study gave similar reports. Whether or not this is due to the rural nature of this sample remains to be seen.

Figure 2. Frequency distribution of self-reported number of physical aggression acts in the last month for males and females.

Figure 3. Frequency distribution of self-reported number of non-physical aggression acts in the last month for males and females.
Partial correlations controlling for age were run to examine the relationships between aggression types (physical, non-physical, and relational) (see Table 4). For both males and females, significant correlations were found between physical and non-physical aggression and for non-physical and relational aggression. However, physical and relational aggression types were not correlated. Thus, not only were the rates of self-reported aggression similar for boys and girls, the underlying relational structure was the same as well. That is, non-physical aggression shared variance with both physical and relational aggression, but physical and relational aggression were not related to one another (see Figure 5). This may indicate a developmental pattern with which adolescents mature by implicating better coping skills, and may be a source for future research. This finding may also indicate the need for better definitions of behaviors associated with each type of aggression, due to the large overlap of variance between non-physical and relational aggression types.
Table 4

*Aggression Inter-Correlations By Sex*

<table>
<thead>
<tr>
<th>Sex</th>
<th>Aggression Type</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1. Physical</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>2. Non-physical</td>
<td>.59*</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>3. Relational</td>
<td>.23</td>
<td>.81*</td>
</tr>
<tr>
<td>Female</td>
<td>1. Physical</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>2. Non-physical</td>
<td>.50*</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>3. Relational</td>
<td>.25</td>
<td>.54*</td>
</tr>
</tbody>
</table>

*p < .01 level.

Figure 5. The shared variance between the types of aggression suggests that physical and relational aggressions do not share similar relationships with each other, however, the two share components with non-physical aggression.
Partial Correlations for Temperament and Aggression Type

The goal of this study was to better understand the relationships between presented aggression style and emotional restraint and reactivity characteristics within a rural sample. Given the past research, we expected to find a strong positive relationship between emotional reactivity and aggression styles, and an inverse relationship between emotional restraint and aggression. Partial correlations were run for boys and girls separately, controlling for age in order to determine whether emotional reactivity and restraint predict the three types of aggression (see Table 5). For girls, the dimension of temperament that predicted aggression was restraint. Specifically, there was significant inverse relationship between restraint and non-physical aggression. Girls who indicated high levels of restraint also indicated lower levels of non-physical aggression. For boys, restraint and reactivity both predicted the physical aggression type, with restraint having a negative relationship with physical aggression and reactivity having a positive relationship. Even though boys and girls were found to have similar levels of each type of aggression, and even though physical, non-physical, and relational aggression were found to be related in the same way, different dimensions of temperamental restraint and reactivity may underlie adolescent boys’ and girls’ behavior.
Table 5

*Aggression Inter-Correlations by Sex*

<table>
<thead>
<tr>
<th>Sex</th>
<th>Temperament Characteristic</th>
<th>Physical</th>
<th>Non-Physical</th>
<th>Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Restraint</td>
<td>-.25</td>
<td>-.51**</td>
<td>-.028</td>
</tr>
<tr>
<td></td>
<td>Reactivity</td>
<td>.12</td>
<td>.21</td>
<td>-.073</td>
</tr>
<tr>
<td>Male</td>
<td>Restraint</td>
<td>-.45*</td>
<td>-.09</td>
<td>.32</td>
</tr>
<tr>
<td></td>
<td>Reactivity</td>
<td>.45*</td>
<td>.01</td>
<td>-.24</td>
</tr>
</tbody>
</table>

*p < .05 level.

**p < .01 level.

**DISCUSSION**

This study was conducted to look at aggression and temperament characteristics within a rural sample of adolescents because it is an understudied population. Past research has shown that urban and rural samples differ in several aspect and that theories and programs developed to target negative behavior within urban populations does not always work with rural populations with the same presenting problems. Such research is important to the body of literature on aggression and school programming because of individual differences between students and between schools.

With regards to temperament, this study investigated the relationships between emotional restraint and emotional reactivity, as well as general patterns of presentation within the sample. Then aggression type was cross examined with restraint and reactivity to find major trending patterns and relationships. Overall, the sample displayed low aggression scores across all three types of aggression. However, as a whole, the sample strongly tended toward non-physical
behaviors over the other types—a surprising finding that was not predicted. Partial correlations, controlling for age, and run separately for girls and boys yielded several interesting results. Reactivity and restraint were negatively correlated, but not significantly so, which is interesting and more research needs to be done to better understand the relationship between the two. Physical and non-physical aggression types were related as well as non-physical and relational, but relational and physical aggression types were not significantly related. Variance scores showed a larger overlap in non-physical and relational aggression types (41%) than for physical and non-physical (28%). Restraint predicted non-physical aggression behaviors in girls (with an inverse relationship). For boys, emotional restraint held a strong negative connection with the physical aggression type and reactivity held a strong positive relationship.

These results further support the body of literature claiming differences between urban and rural samples with regards to aggressive behaviors and frequencies concluding that within the current sample, low frequencies were reported for aggressive behaviors. Additionally, although already containing a body of literature, the relationship between emotional reactivity and restraint needs to be further investigated to gain a deeper understanding of their constructs and relationship to one another. The literature supports the finding of sex differences within a rural sample. Examination into the underlying factors for this difference, including gender roles, socialization, and potential biological differences in hormones are areas that require future research. The intercorrelations between the three types of aggression pose an interesting finding. Further investigation about the intercorrelation between non-physical aggression and relational aggression should be carried out due to the large overlap. Finally, relational aggression as an independent construct needs further attention to study the predictors of this style and its interactions and implications in the development of aggression styles in adolescents and in later
adulthood life stages. The tendency toward non-physical aggression within the sample which was not predicted or supported by the current literature review may be grounds for further investigation and theory development focusing on the rural population.

Limitations

Due to the relatively small sample size and lack of diversity in this Appalachian region of Southeastern Ohio, generalizability of the results should be taken into consideration. The sample was fairly homogeneous with respect to age and race, and the results might not generalize to other areas of a similar size with a more diverse student body. Future research may focus on larger rural school districts with more diversity.

With regards to the measures used, the BFQ-C is a relatively newer measure, and has only been used in the English language since 2012. There may be analytic differences that occurred during translation that need to be further investigated and English speaking samples are still being developed, so comparison to a normative cross sample was not available at the time of study. Furthermore, scores for all types of aggression were relatively low for the present study detecting aggression in this sample. This scale was originally used to assess delinquency within middle school-aged adolescents.

Implications of Research

Such research results are important because of the implications they have for small rural school districts. By looking at the relationship between prevalent aggression styles and temperamental characteristics that may influence the type of aggression style present in an individual and collectively in a district, administration and school-wide programming committees can tailor programing to the specific population of the school.
Such research is important for developing policy and preventative programming for smaller rural student populations. For example, the collective outcome of such research is to inform administrators and policy makers, so it is important to research diverse populations. The outcomes of this research may contribute to the use of school-wide programs such as Positive Behavior Support (PBS) and how these already effective programs can be altered to better suit the needs of the general school population. By altering these programs, policy makers and program advisors can more accurately develop effective coping styles and better alternatives to aggressive outbreaks in proactive social programming.

The applied significance of these findings includes the implications for policy makers and school officials in charge of PBS programs. This research informs a school district and the appropriate leaders of the characteristics of their particular student body. With this information and the knowledge of coping mechanisms used within effective emotional restraint it is possible for PBS leaders to alter the program to better cater to the needs of the students and their aggression tendencies as well as teach effective and prosocial behaviors and coping skills. This alteration of an already successful program with alternative activities built to address physical, non-physical, and relational tendencies will allow PBS planning committees to continue using their program addressing main school issues, but also plan special events and activities aimed toward the student characteristics within a high school or district.
References


Blevins, L. (2008). The use of school-wide positive behavior support at a rural high school to decrease disruptive behavior for both typical students and students identified with special needs. *Dissertation Abstracts International Section A*, 68.


Rushton, J., & Irwing, P. (2009). A General Factor of Personality in 16 sets of the Big Five, the Guilford–Zimmerman Temperament Survey, the California Psychological Inventory, and the Temperament and Character Inventory. *Personality And Individual Differences, 47*(6), 558-564. doi:10.1016/j.paid.2009.05.009


December 12, 2013

Kenna M Reynolds
Ohio Dominican University
1216 Sunbury Road
Columbus, Ohio 43219
reynoldk@ohiodominican.edu

Dear Parents of Waterford High School Students,

My name is Kenna Reynolds, and I am a 2011 graduate of Waterford High School currently working on my undergraduate degree in Psychology at Ohio Dominican University in Columbus Ohio. I am writing to you to ask for your permission for your child to participate in my senior research project. I am studying the relationships between personality factors, temperament, and aggression styles in rural teens. To do this, I would like to give the students of Waterford High School a short survey about daily activities and thoughts. This study has already been approved by Mr. Caldwell, Mr. Shrider, and the Ohio Dominican University Institutional Review Board. Your child’s answers will remain completely anonymous. Surveys will not ask for your child’s name. In order for your child to participate, please fill out this parental consent form (on the back of this sheet) and send it to school with your child on or before December 17, 2013 (surveys will be conducted on Friday, December 20. Students should turn signed parental consent forms in to first period teachers. Students who have signed parental consent forms on the day of the survey will be entered into a drawing for a $10.00 Wal-Mart gift card. As a proud Alum of Waterford I am coming home to my roots to ask for help with this endeavor and would love to have your child participate in my study. More information about the study and the parental consent form are on the back of this sheet. If you have any additional questions please feel free to contact me and as always, GO WILDCATS!

Thank you,

Kenna M. Reynolds
# Parental Consent Form

**Title:** Using Self-Control and Emotional Stability to Predict Aggression Style Patterns in a Rural Adolescent Population

**Investigator:** Kenna Reynolds  
Ohio Dominican University  
1216 Sunbury Road  
Columbus, OH 43219  
740-336-9098

**Advisor:** Dr. John Marazita  
Professor of Psychology  
Ohio Dominican University  
208 Sansbury Hall  
Columbus, OH 43219  
614-251-4687

**Source of Support:** This study is being performed as partial fulfillment of the requirements for the Undergraduate degree in Psychology and the Honors Program at Ohio Dominican University. This study has been approved by the Ohio Dominican University Institutional Review Board; Mr. Caldwell, Superintendent of Wolf Creek Local Schools; and Mr. Shrider, Principal of Waterford High School.

**Purpose:** Your child is being asked to participate in a research project that seeks to investigate the relationships among aggression styles, self-control, and emotional stability in rural youth; a relatively understudied population. This is an important study because of the implications it could have for small rural school districts. By looking at the relationship between prevalent aggression styles, temperament, and personality characteristics that may influence the type of aggression style present in an individual and collectively in a district.

Your child will be asked to complete a brief survey about typical behaviors and thoughts. These are the only requests that will be made of your child.

**Risks and Benefits:** Your child may feel slightly uncomfortable answering some of the questions regarding personal thoughts about others—these answers will be kept confidential and anonymous. Your child will also have the option of ceasing participation at any time during the survey. Benefits to your child participating in this study include a chance to win a $10.00 gift card to Wal-Mart and improved school-wide programming (on PBS days).

**Compensation:** Your child will not be compensated; however, all students who have signed parental consent forms on the day of survey distribution will be entered into a drawing for a $10.00 Wal-Mart gift card.

**Confidentiality:** Your child’s name will never appear on any survey or research instruments. No identity will be made in the data analysis. All written materials and consent forms will be stored in a locked file at Ohio Dominican University. Your child’s responses will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.

**Right to Withdraw:** Your child is under no obligation to participate in this study. You (and your child) are free to withdraw consent to participate at any time.

**Summary of Benefits:** A summary of the results of this research will be supplied to you at no cost, upon request.

**Voluntary Consent:** I have read the above statements and understand what is being requested of me and my child. I also understand that my participation is voluntary and that I am free to withdraw consent at any time, for any reason. On these terms, I certify that I am willing to allow my child to participate in this research project.

I understand that should I have further questions about my child’s participation in this study, I may call Kenna Reynolds at 740-336-9098 or Dr. John Marazita at 614-251-4687.

---

**Students Name**

**Parent’s Name**  
(Please Print)  
**Parent’s Signature**  
**Date**

**Researcher’s Name Printed**  
kenna.m.reynolds  
**Researcher’s Signature**  
**Date**  
12/29/13
Appendix B

Using Self-Control and Emotional Stability to Predict Aggression Style Patterns in a Rural Adolescent Population

Student Assent Form

Hello, my name is Kenna Reynolds. I am a senior at Ohio Dominican University and am completing a research project as a requirement for my psychology degree. I am inviting you to participate in a study of aggression, temperament, and personality. Much of the research in this area focuses on teens in urban areas, but my goal is to extend this work by studying teens in rural areas. This type of research is important for building programs such as Positive Behavior Support (PBS) to help students effectively handle situations that make them feel frustrated or angry.

If you agree to participate, I will ask you to complete a three-part survey that asks about your typical actions and thoughts. If a question makes you feel uncomfortable, you may skip the question, but please answer as many of the questions as possible.

Your parents know about the study and have given their permission for you to participate. Even though they said you can participate, it is still up to you whether or not you wish to complete the surveys. If you don’t want to participate, you don’t have to. No one will be upset with you if you don’t want to participate. Even if you agree to participate, you are free to change your mind after the study has started.

You can ask me any questions you have about the study now, or next time we meet. If you have questions later please feel free to email me at reynoldk@ohiodominican.edu.

Signing below means that you WANT to participate in this study.

Your Name Printed __________________________

Your Name Written __________________________ Date ____________

Researcher’s Name Printed Kenna Reynolds

Researcher’s Name Written ________________ Date 12/13/13
Aggression, Temperament, and Personality Survey

INSTRUCTIONS: In this packet there are three sections of questions. Each section has its own set of directions. PLEASE READ THE DIRECTIONS CAREFULLY. If you have a question while taking the survey, please raise your hand and a researcher will come to you. Please mark all answers in this packet. Please try to answer every question. Completion of the survey should take approximately 10-15 minutes. If, at any time, you wish to cease taking this survey and stop participation in the study, please place survey packet face down on desk and exit the room. When you are finished taking the survey, please close the packet and leave it face-up (this page showing) on the desk. You are free to leave when you are finished. After you have read these instructions you may turn the page and begin the survey.
Section I:

Directions: Please circle the number of times you have done the following activities in the last month.

<table>
<thead>
<tr>
<th>Number of times</th>
<th>0</th>
<th>1-2</th>
<th>3-5</th>
<th>6-9</th>
<th>10-19</th>
<th>20 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Thrown something at someone to hurt them?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Been in a fight in which someone was hit?</td>
<td></td>
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</tr>
<tr>
<td>3. Threatened to hurt a teacher?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4. Shoved or pushed another kid?</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5. Threatened someone with a weapon (gun, knife, club, etc.)?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Hit or slapped another kid?</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Threatened to hit or physically harm another kid?</td>
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<tr>
<td>8. Insulted someone’s family?</td>
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<tr>
<td>9. Teased someone to make them angry?</td>
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</tr>
<tr>
<td>10. Put someone down to their face?</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Gave mean looks to another student?</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12. Picked on someone?</td>
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</tr>
<tr>
<td>13. Didn’t let another student be in your group anymore because you were mad at them?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>14. Told another kid you wouldn’t like them unless they did what you wanted them to do?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>15. Tried to keep others from liking another kid by saying mean things about him/her?</td>
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<tr>
<td>16. Spread a false rumor about someone?</td>
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<tr>
<td>17. Left another kid out on purpose when it was time to do an activity?</td>
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<td></td>
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<tr>
<td>18. Said things about another student to make other students laugh?</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
Section II:

Decide if you agree or disagree with each statement. If you agree with the statement, please circle "Yes", if you disagree, please circle "No". If you are unsure you may circle "?", but please avoid marking "?" if possible. There are no right or wrong answers.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You would rather plan an activity than take part in it.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. You believe in the idea that we should “eat, drink, and be merry, for tomorrow we die.”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Other people think of you as being very serious minded.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. You like the parties you attend to be lively.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5. You are inclined to stop to think things over before you act.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. You like school work that requires considerable attention to detail.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7. You are a carefree individual.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. You take life very seriously.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. You often crave excitement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. You sometimes make quick decisions that you later wish you hadn’t made.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. You have a habit of starting things and then losing interest in them.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. It is difficult for you to understand people who get very concerned about things.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Many of your friends think you take your school work too seriously.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. You make decisions on the spur of the moment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. You often act on the first thought that comes into your head.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. You like to play practical jokes on others.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. You are a happy-go-lucky individual.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. You are so concerned about the future that you do not get as much fun out of the present as you might.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
19. You often stop to analyze your thoughts and feelings.  Yes  No  ?
20. It is difficult for you to understand how some people can be so unconcerned about the future.  Yes  No  ?
21. You can listen to a class lecture without feeling restless.  Yes  No  ?
22. You sometimes find yourself becoming upset or worried even before the problem arises.  Yes  No  ?
23. You often eat more junk foods than you should.  Yes  No  ?
24. You like wild enthusiasm, sometimes to a point bordering on rowdyism, at a football or basketball game.  Yes  No  ?
25. You keep at a task until it is done, even after nearly everyone else has given up.  Yes  No  ?
26. You seldom let your responsibilities interfere with having a good time.  Yes  No  ?
27. You generally feel as though you haven’t a care in the world  Yes  No  ?
28. You usually say what you feel like saying at the moment.  Yes  No  ?
29. When you get angry, you feel better if you let yourself go.  Yes  No  ?
30. You are fond of doing dares, whether you think they are safe or not.  Yes  No  ?
Section III:

Please circle how often the following statements apply to you:

<table>
<thead>
<tr>
<th></th>
<th>Almost Never</th>
<th>Rarely</th>
<th>Every Once in a While</th>
<th>Sometimes</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I worry about silly things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I get nervous for silly things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. My feelings get hurt easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I like to be active.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I cry.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I like to compete with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I get angry easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. I lose my calm easily.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I argue with others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I am in a bad mood.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I get irritated when things are difficult for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I am sad.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. I am not patient.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
If you have decided to stop participating in the survey, please leave this page facing up. You are free to exit the survey area.

If have completed the survey. Thank you for you participation. Please turn packet over (so cover page is facing up) and exit the survey area.

If you have any questions regarding the survey or any part of the research please ask the researcher.