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Model of Maladaptive Control: Understanding the Link between Parents' Psychological Control
and Youth Aggression Problems

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Applied Developmental Psychology

by
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Abstract

Research shows that parental psychological control is associated with youth aggression in peer relationships. This includes various aggression roles (aggression and victimization), forms (overt and relational), and functions (proactive and reactive). The current study examined the role of two youth individual traits, Machiavellianism and dysregulation, in the association between psychological control and youth aggression. A sample of 142 participants (age $M = 15.4$, $SD = 1.13$, 93% male, 82% African-American) were recruited from several juvenile detention facilities in Louisiana. Participants completed a battery of questionnaires, including self-reports of Machiavellianism, dysregulation, aggression, victimization, and parental psychological control. Bootstrap analyses indicated youth Machiavellianism partially mediated the associations between psychological control and the aggression roles, forms, and functions. Youth dysregulation partially mediated the associations between psychological control and the aggression roles and forms. For the aggression functions, dysregulation partially mediated the association between psychological control and reactive aggression, and fully mediated the association between psychological control and proactive aggression. Regression analyses indicated psychological control and dysregulation were more strongly associated with reactive aggression than proactive aggression. Findings demonstrate the importance of the youth individual traits, Machiavellianism and dysregulation, in explaining the association between psychological control and youth aggression problems. These findings have implications for youth interventions, in that these individual traits may be useful targets to help decrease bullying and aggressive behaviors in peer relationships.

Key words: Psychological control, Machiavellianism, dysregulation, aggression, victimization, proactive aggression, reactive aggression

Introduction

Autonomy refers to the ability to independently regulate our own actions and decisions (Ryan & Deci, 2000). In Self-Determination Theory, Ryan and Deci discuss autonomy as an important psychological need that helps youth develop intrinsic motivation, or the inherent tendency to exercise abilities and pursue activities for positive feelings. Autonomy facilitates personal well-being, growth, functioning, and social development, and thus is considered adaptive.

Consequently, a lack of autonomy or a disruption to autonomy is maladaptive (Pettit & Laird, 2002). Some youth lack self-control and cannot independently regulate their own behaviors, or even their thoughts and emotions. Additionally, autonomy can be disrupted by interference from others. For example, peers may control a child through bullying tactics. Even parents can hinder their child's autonomy by surpassing adaptive discipline techniques and using more intrusive strategies (Barber & Harmon, 2002).

The purpose of this study is to explore different factors that disrupt youth autonomy. We will be examining behaviors in the parent-child relationship, behaviors in peer relationships, and individual youth characteristics. Specifically, this study seeks to explain the association between parental psychological control and peer aggression problems by testing the mediating role of two youth characteristics, Machiavellianism and psychological dysregulation.

Psychological Control and Youth Aggression

Psychological control is a maladaptive parenting strategy that targets a child's psychological self, namely the child's thoughts and emotions (Barber, Olsen, & Shagle, 1994). Parents exert this control through various behaviors such as guilt induction or love withdrawal.

For example, a parent may bring up a child's past mistakes or become less friendly when the child does not think or feel the same as the parent. Parents may also constrain their child's verbal expression by interrupting or finishing the child's sentences. Furthermore, parents may criticize the child for feeling a certain way. These psychologically controlling behaviors are manipulative (Soenens & Vansteenkiste, 2010) intrusive (Smetana, Crean & Campione-Barr, 2005) and disrespectful (Barber et al. 2012) to the child's well-being and autonomy.

Youth with psychologically controlling parents often struggle with aggression in peer relationships (e.g. Casas et al., 2006), whether they are perpetrators, victims, or both. Aggression is the control or attempt of control over a peer by causing harm (Berkowitz, 1993). Research demonstrates aggression has different forms and functions. Aggression can be expressed with physical means, whereby a child uses physical force (e.g. punching, kicking, biting) or the threat of physical force to cause harm. Alternatively, a child can use relationally aggressive strategies (e.g. gossiping, excluding a peer), to cause harm to a social relationship (Crick & Grotpeter, 1995). Additionally, aggression can be expressed for different functions or purposes. Proactive aggression is used for instrumental purposes, or to obtain a goal, while reactive aggression is used in response to a perceived threat (Vitaro, Brendgen, & Barker, 2006). Children of psychologically controlling parents often use these various forms and functions of aggression in their peer relationships. For example, Stevens and Hardy (2011) found both maternal and paternal psychological control predicted proactive aggression among adolescents. Similarly, Rathert, Fite, and Gaertner (2011) demonstrated significant correlations between psychological control and both proactive and reactive aggression in children ages nine to 12. Numerous other studies using diverse samples and age ranges have demonstrated associations between parents' psychological control and various forms and functions of youth aggression (e.g.

Casas et al., 2006; de Haan et al., 2013; Leadbeater, Banister, Ellis, & Yeung, 2008; Murray et al., 2013; Nelson et al., 2006; Yu & Gamble, 2008).

While many youth of psychologically controlling parents use aggression in peer relationships, others may become the victims of this aggression. Victimization, like aggression, can take various forms. For instance, a child experiences physical victimization when he is punched, kicked, or shoved. A child may endure relational victimization if he is excluded from friends or becomes the target of gossiping. In a recent study, Leadbeater et al. (2008) found parental psychological control was associated with both physical and relational peer victimization in a Canadian sample of 12 to 18 year olds. Similar findings have been demonstrated with samples from the United States and China (Batanova & Loukas, 2014; Li, Zhang, & Wang, 2013).

While the literature consistently demonstrates a link between psychological control and various types of peer aggression and victimization, less is understood about the mechanism behind this association. Some researchers explain this association as an example of social learning theory whereby parents are modeling behaviors to their children (e.g. Kuppens et al., 2009). However, a closer look at the specific behaviors contests a simple modeling explanation. For example, a psychologically controlling parent may blame a child for family problems, but an aggressive child may tease or gossip about a peer. Evidently, these behaviors are not identical. A second question concerns explaining how one parenting strategy is similarly associated with such distinct aggression problems. Why do some youth with psychologically controlling parents use callous, proactive aggression towards their peers, while other youth subjected to this same parenting strategy become the targets of this aggression?

Although these behaviors are not identical, psychological control and aggression both have the same goal of control. For instance, a psychologically controlling parent may become less friendly when the child does not share views similar to the parent. Ultimately, the parent is attempting to control the child's thoughts. Similarly, an aggressive child may physically harm another child in an attempt to dominate and control the peer to gain higher social status. While the literature has demonstrated a strong association between controlling behaviors in the parent-child relationship (psychological control) and controlling behaviors in peer relationships (aggression), individual characteristics within the child are often neglected. Youth Machiavellianism and youth psychological dysregulation are two individual traits related to maladaptive control that may expand our understanding of the relationship between psychological control and peer aggression.

Machiavellianism

Machiavellianism is a multi-dimensional construct that captures one's thoughts about control. It is the belief that people are manipulative and untrustworthy, particularly in interpersonal situations (Christie & Geis, 1970). Individuals high on Machiavellianism are often suspicious of others' motives (Harrell, 1980). They show little interest in social relationships and intrinsic goals, such as building community ties, maintaining family relationships, or expressing care and concern for others (McHoskey, 1999). These individuals have difficulty identifying their own emotions, and connecting emotionally to others; consequently, they view people as objects to be controlled (Wastell & Booth, 2003). Characterized by such maladaptive thoughts of control, Machiavellianism may serve as a mediator in the relationship between psychological control and peer aggression problems.

Machiavellianism and Psychological Control

First, there are several apparent similarities between Machiavellian beliefs and psychological control. Machiavellianism is a belief that people can be controlled, and psychological control is a strategy that involves attempting to control a child. Perhaps after being the target of psychological control, children internalize the belief that it is the norm to manipulate individuals. Psychological control is also described as a disrespectful behavior that targets a child's emotions (Barber et al., 2012). Machiavellians often struggle to connect emotionally to others, and instead, focus on attaining their own goals by manipulating people (Wastell & Booth, 2003). Thus, psychologically controlling parents may be teaching their children that people are not emotional beings, but objects to be controlled.

No study to date has tested the association between Machiavellianism and psychological control, but one area of the literature may provide evidence for this proposed association. Researchers consistently find Machiavellians are characterized by a strong external locus of control, or a belief that one's actions are controlled by outside forces (Andreou, 2000; Comer, 1985; Sakalaki, Kanellaki, & Richardson, 2009; Yong, 1994; also see Mudrack, 2001 for a review). For example, Galli and colleagues (1986) conducted a study with an undergraduate sample, finding Machiavellianism was positively associated with two subscales of the external locus of control measure. Specifically, Machiavellianism was correlated with the "Chance" subscale, measuring the perception that one's actions are ruled by random occurrences, as well as the "Powerful Others" subscale, measuring the belief that one's actions are dictated by people in authority. These findings suggest Machiavellians attribute their life events to uncontrollable factors, rather than to their personal control.

These findings seem somewhat paradoxical. Machiavellians believe manipulation can be used on others, yet they do not believe they control their own decisions. Perhaps if Machiavellians were first raised by psychologically controlling parents, and were subjected to their parents' intrusion and manipulation, they may learn to believe their decisions are out of their control, and instead, governed by someone in power. Overall, given psychological control's and Machiavellianism's similar characteristics of maladaptive control, the literature will benefit from testing the association between these two constructs.

Machiavellianism and Aggression

In addition to the potential association between Machiavellianism and psychological control, there is ample evidence for a relationship between Machiavellianism and peer aggression problems. For example, Sutton and Keogh (2000) found nine to twelve year old aggressors were significantly higher in Machiavellian beliefs compared to control youth (neither aggressors nor victims). Machiavellianism has demonstrated associations with various aggression forms, including physical, verbal, and relational (Andreou, 2004; Kerig & Stellwagen, 2010). Interestingly, both aggression and victimization are associated with high levels of Machiavellianism. For example, Kerig and Stellwagen (2009) found proactive aggression was associated with Machiavellianism, even after controlling for other personality traits. Other studies have demonstrated victims have significantly higher levels of manipulation, dishonesty, distrust, and overall Machiavellianism compared to control youth (Andreou, 2000; Andreou, 2004).

These findings raise the question of how such distinct youth (proactive aggressors and victims of bullying) are characterized by similar Machiavellian beliefs. A closer examination of

the Machiavellianism measure may help explain these findings. The Kiddie Mach scale (Christie & Geis, 1970) includes items such as “It is smartest to believe that all people will be mean if they have a chance”. Rather than measuring one’s efforts to control others (i.e. ‘I will be mean if I have a chance’), Machiavellianism is capturing one’s beliefs about the manipulative and untrustworthy nature of people in general. Thus, aggressors and victims may hold similar beliefs for different reasons. While aggressors use manipulation and dishonesty (sometimes successfully), victims repeatedly fall prey to this maltreatment. Either scenario further maintains youths’ negative views of human nature by reinforcing manipulation and deceitfulness as the norm. Consistent with this theory, youth who are both perpetrators and victims of aggression (often called “bully-victims”) have significantly higher Machiavellian beliefs compared to aggressors and victims (Andreou, 2004; Andreou, 2000). Evidently, the dual experience of using manipulation and being the target of manipulation strongly reinforces the belief that people can be manipulated.

Mediating role of Machiavellianism

Given its proposed associations with psychological control and peer aggression problems, Machiavellianism may serve as a mediator in explaining the relationship between psychological control and aggression. Perhaps after being the target of psychological control, youth internalize the belief that manipulating people is the norm. Through this belief, youth can rationalize manipulating their peers with aggression. Machiavellian beliefs may also explain how youth of psychologically controlling parents become victims of aggression. After being the victims of psychological control, these youth believe this manipulation and maltreatment is the norm, and consequently, do not assert themselves when targeted by aggressive peers. This lack of assertion makes these youth easy targets for future victimization (Toblin et al., 2005). The

current study will be the first to test the mediating role of youths' Machiavellianism in the association between psychological control and peer aggression problems.

Dysregulation

Youth's dysregulation may be another mechanism by which psychological control is associated with peer aggression problems. Psychologically dysregulated youth lack interpersonal control as they struggle to modulate various interpersonal processes including emotions, cognitions, and behaviors (Karoly, 1993). Youth who are emotionally dysregulated may have difficulty modifying if and when their emotions are expressed, the intensity of the expression, and how the emotions are expressed behaviorally (Eisenberg et al., 2013). These youth are often easily emotionally aroused, anxious, and irritable (Mezzich, Tarter, Giancola, & Kirisci, 2001). Behavioral dysregulation is another commonly studied form of dysregulation. Youth with behavioral dysregulation struggle to control behaviors that impair their functioning, such as impulsivity and hyperactivity (Selby & Joiner, 2009). Youth may also be cognitively dysregulated when they are unable to modulate executive functioning, a cognitive process that plays a critical role in higher-order thinking and decision-making. Consequently, planning and focusing are challenging tasks for these impulsive, distracted youth (Mezzich et al., 2001).

Dysregulation and Psychological Control

Various types of youth dysregulation are frequently associated with psychological control in the literature. For example, Rathert, Fite, and Gaertner (2011) found psychological control was negatively related to youths' ability to modulate emotions, behaviors, and attention. Parents' psychological control is particularly linked to their children's emotion dysregulation at various ages, including childhood (Rathert et al., 2011), adolescence (Buckholdt, Parra, & Jobe-

Shields, 2014) and even later in young adulthood (Manzeske & Stright, 2009).

Youth with psychologically controlling parents may be dysregulated because this intrusive parenting strategy hinders youths' autonomy, and thus, their ability to execute personal control. Certain psychological control strategies may especially disrupt emotion regulation. For instance, if parents invalidate their child's emotions, they teach the child that emotions are unacceptable and not to be expressed, rather than teaching the child effective ways to deal with emotions (Buckholdt et al., 2014). Psychologically controlling parents are often emotionally dysregulated themselves, and through their maladaptive controlling behaviors, may model emotion dysregulation to their children (Luebbe, Bump, Fussner, & Ruolon, 2013). If psychologically controlling parents use the child's emotions to manipulate the parent-child relationship, the child will not become emotionally independent of the parents, and thus, may be more emotionally dysregulated (Manzeske & Stright, 2009).

Dysregulation and Aggression

Youth dysregulation is also frequently associated with peer aggression problems. For example, Scott, Stepp, and Pilkonis (2014) examined various behavioral and emotional correlates in a mixed community and clinical sample, finding emotionally dysregulated youth used both physical and verbal aggression. In another example, Marsee, Lau, and Lapré (2014) found parent reported behavioral dysregulation was associated with relational aggression. These findings demonstrate dysregulated youth use various aggression forms in their peer relationships.

Concerning the functions of aggression, youth dysregulation is particularly associated with reactive aggression. For instance, in a study of adolescent youth, Marsee et al. (2014) found reactive aggression was significantly associated with emotion dysregulation. In another example, Shields and Cicchetti (1998) demonstrated reactive aggression was associated with

child emotional negativity (mood swings, angry reactivity, emotional intensity, and dysregulated positive emotions).

Like reactive aggressors, victims also demonstrate high levels of dysregulation. For example, Scott et al. (2014) found youth victims of physical and verbal aggression are emotionally dysregulated. Studies have also shown victims of aggression struggle with behavioral dysregulation, such as impulsivity (O'Brennan et al. 2008) and cognitive dysregulation, such as ADHD (Zablotsky et al., 2013).

Evidently, dysregulated youth struggle to maintain control in peer relationships, as they are victimized by aggressive peers, and sometimes respond with aggression themselves. This process may be understood by considering how dysregulated youth function in social settings. Difficulties with emotion regulation, such as excessive crying, may make them easy targets for teasing. Additionally, youth who are impulsive or cognitively dysregulated (have trouble waiting turns or focusing on tasks) may be a nuisance and thus rejected by peers. Furthermore, youth who have excessive behavioral dysregulation, like impulsivity, combined with emotion dysregulation, like strong anger or sadness, may be especially prone to responding aggressively to teasing.

A different set of findings emerges in the literature on dysregulation and the proactive aggression function. In a recent study, White, Jarret, and Ollendick (2013) examined self-regulation difficulties in aggressive clinic-referred youth, finding proactive aggressors did not show behavioral and cognitive dysregulation (difficulty with processes such as inhibitory control, planning, and organizing). In another example, Marsee et al. (2014) found adolescent-reported proactive overt aggression was not associated with emotion dysregulation. Many other studies have similarly found proactive aggressors are significantly less dysregulated compared to

victims and reactive aggressors (Marsee & Frick, 2007; Munoz Centifanti, Kimonis, Frick, & Aucoin, 2013; Xu & Zhang, 2008).

Together, these studies suggest proactive aggressors do not struggle with dysregulation like reactive aggressors and victims. Instead, these youth may be characterized by *over* control of their behaviors and emotions, possibly indicative of underlying psychopathy. For example, some studies find proactive aggressors are characterized by callous-unemotional (CU) traits, namely shallow affect, a lack of remorse, and callous use of others (Marsee & Frick, 2007). Rather than an under-regulation of emotions, these aggressors over-regulate their emotions, as they often do not express or feel emotions. Thus, if these youth are not dysregulated, they may not be easy targets for bullying, like reactive aggressors and victims. Rather, they master control of their own behaviors and emotions, and similarly, they use aggression to control peers around them. Overall, these findings suggest the relationship between dysregulation and peer aggression problems is contingent upon the function of aggression.

Mediating Role of Dysregulation

Given its associations with psychological control, aggression, and victimization, dysregulation is an important individual trait to consider when studying how parental psychological control is associated with peer aggression problems. Furthermore, dysregulation has demonstrated a mediating role in similar models examining psychological control and various youth adjustment problems. For example, Luebke et al. (2013) found adolescents' emotion dysregulation partially mediated the association between mothers' psychological control and adolescents' anxiety. Similarly, Buckholdt (2014) found the association between parents' invalidation of emotions, a psychologically controlling strategy, and youths' internalizing and externalizing behaviors was mediated by emotion dysregulation. Youths' dysregulation has also

demonstrated a mediating role in the school context. Soenens (2012) measured psychologically controlling teaching in 11th and 12th graders, finding the association between this intrusive instructional method and low academic achievement was mediated by students' cognitive regulation, including strategies such as planning, organizing, and self-monitoring.

Together, these studies emphasize the important role of youths' dysregulation in the link between psychological control and youth adjustment problems. Psychological control may disrupt a child's motivation, needed to help self-regulate (Soenens et al., 2012). Additionally, psychologically controlling parents may never model to their children more adaptive ways of coping with stressors (Buckholdt, 2014). Consequently, this depleted motivation and lack of self-regulation skills may be the mechanism by which parents' psychological control is associated with various psychosocial adjustment problems in their children. The current study will examine youths' dysregulation as a mediator in the association between psychological control and youths' adjustment problems, specifically peer aggression and victimization.

Statement of the Problem

Psychological control is intrusive parenting that uses controlling strategies, such as constraining verbal expression and withdrawing love, to manipulate the child's thoughts and emotions (Barber et al., 1994). Children of psychologically controlling parents may struggle with various aggression problems in peer relationships. These youth may exert aggression (de Haan et al., 2013), they may be victimized (Batanova & Loukas, 2014), or quite often, they are both victims and aggressors (Leadbeater et al., 2008). The association between psychological control and youth aggression raises two issues. First, what are the mechanisms behind this association? While not identical, psychologically controlling strategies and aggressive behaviors have similar goals of exerting control over others. For example, a psychologically controlling

parent can interrupt or finish a child's sentences in order to control the child's verbal expression. Similarly, an aggressive child can use intimidation tactics, such as threatening physical force or exclusion from a social group, in order to control a peer's behavior. This maladaptive control may be the key to understanding how psychological control and aggression are associated.

A second issue concerns recent findings that demonstrate psychological control is similarly associated with opposite roles in youth aggression provocations (Leadbeater et al., 2008). That is, why are some youth with psychologically controlling parents callous proactive aggressors towards peers, while other youth of psychologically controlling parents are victims of peer aggression? These questions necessitate an examination of individual differences within the child. To answer these questions, this study will examine the role of two individual traits related to maladaptive control: Machiavellianism and psychological dysregulation.

Machiavellianism is a personality trait that measures one's beliefs that people are manipulative and untrustworthy (Christie & Geis, 1970). Machiavellians struggle to connect with their emotions and the emotions of others; they believe people are objects to be controlled (Wastell & Booth, 2003). This personality trait in youth may be one mechanism by which parents' psychological control is associated with youths' aggression difficulties. Studies demonstrate high levels of Machiavellianism in youth who struggle with various aggression forms and functions, as well as high levels of Machiavellianism in youth in either aggression role (aggressors vs. victims) compared to socially adjusted children (Kerig & Stellwagen, 2010; Andreou, 2004). Although no study to date has tested the association between Machiavellianism and psychological control, both constructs are similarly characterized by maladaptive control and difficulties with emotions. Together, these theories and findings support Machiavellianism as a key construct that may connect psychological control to peer aggression. After being the target

of this intrusive, controlling parenting, youth may internalize the belief that manipulating people is the norm. With this perception, these youth may choose to bully their peers or tolerate bullying themselves, as these behaviors are perceived as normal interpersonal interactions.

A second individual trait that may further our understanding of the association between psychological control and aggression is youths' psychological dysregulation. Psychological dysregulation measures a deficiency in the ability to modulate cognitions, behaviors, or emotions (Karoly, 1993). Dysregulated youth experience various difficulties such as attention problems, impulsivity, and emotional outbursts. Like Machiavellianism, dysregulation is an individual trait that may mediate the association between psychological control and aggression problems. First, parents' psychological control is associated with various types of youth dysregulation (Rathert et al., 2011). Additionally, dysregulated youth demonstrate various aggression problems with peers, including using physical and relational aggression (Marsee et al., 2014; Scott et al., 2014) and becoming the target of this aggression (O'Brennan et al., 2008). With such intrusive and controlling parents, youth may not learn to independently regulate their own actions (Manzeske & Stright, 2009) and through this lack of control, struggle with peer relationships. For example, children who have difficulty controlling their emotions may be easy targets for aggressive peers. Thus this dysregulation may be a mechanism through which youth of psychologically controlling parents are unable to maintain control in peer interactions.

However, the literature on youth dysregulation shows differential associations between dysregulation and the different aggression functions. While reactive aggressors are often dysregulated (Shields & Cicchetti 1998), proactive aggressors do not show these same interpersonal struggles (White et al., 2013). Instead, these youth demonstrate an ability to regulate their own behaviors, thoughts, and feelings. Consequently, these proactive aggressors

may be less likely to be victimized by their peers and instead, may exert control in peer relationships (Salmivalli & Nieminen, 2002). These differential findings between the two aggression functions suggest dysregulation is an important youth trait that may help explain how youth similarly subjected to psychological control ultimately play distinct roles in aggression provocations.

Hypotheses

Mediation Models

In a latent path model, full mediation is indicated by a significant indirect effect of the independent variable on the dependent variable through the mediator variable, and a non-significant direct effect of the independent variable on the dependent variable while controlling for the mediator.

1. Machiavellianism will mediate the association between psychological control and peer aggression problems.

A. Machiavellianism will mediate the association between psychological control and both aggression roles (total aggression and total victimization; Figure 2, Model A).

B. Machiavellianism will mediate the association between psychological control and both aggression forms (overt aggression and relational aggression; Figure 2, Model B).

C. Machiavellianism will mediate the association between psychological control and both aggression functions (proactive aggression and reactive aggression; Figure 2, Model C).

2. Dysregulation will mediate the association between psychological control and peer aggression problems.

A. Dysregulation will mediate the association between psychological control and both aggression roles (total aggression and total victimization; Figure 3, Model D).

B. Dysregulation will mediate the association between psychological control and both aggression forms (overt aggression and relational aggression; Figure 3, Model E).

C. Dysregulation will mediate the association between psychological control and reactive aggression. Dysregulation will not mediate the association between psychological control and proactive aggression (Figure 3, Model F).

Differential Associations to the Aggression Roles, Forms, and Functions.

Differential associations will be tested in latent path models by first using a Chi-square difference test. This test will compare the overall model fit with and without equality constraints on the parameters from each of the main study variables (psychological control, Machiavellianism, and dysregulation) to the aggression variables. Differential associations between any of the main study variables and the aggression variables will be indicated by a lack of constraints on these parameters in the best fitting model. If the Chi-square difference test indicates any differential associations, regression weights and significance of the parameters will be compared to determine which association is stronger.

3. Machiavellianism mediation models

A. Psychological control will be similarly associated to both aggression roles (aggression and victimization) and Machiavellianism will be similarly associated to both aggression roles.

B. Psychological control will be similarly associated to both aggression forms (overt and relational) and Machiavellianism will be similarly associated to both aggression forms.

C. Psychological control will be similarly associated to both aggression functions (proactive and reactive) and Machiavellianism will be similarly associated to both aggression functions.

4. Dysregulation mediation models

A. Psychological control will be similarly associated to both aggression roles (aggression and victimization) and dysregulation will be similarly associated to both aggression roles.

B. Psychological control will be similarly associated to both aggression forms (overt and relational) and dysregulation will be similarly associated to both aggression forms.

C. Psychological control will be similarly associated to both aggression functions (proactive and reactive). Dysregulation will be differentially associated to the aggression functions: positively significantly associated with reactive aggression, and unrelated to proactive aggression.

Method

Participants

Participants were recruited from three detention centers across Louisiana. Adolescent detainees, ages 11 to 18, were recruited as part of a larger study examining emotional and behavioral correlates in detained youth. The majority of the participants were African-American (82%). The remainder of the sample included Caucasian (14%), Hispanic (1.4%), biracial (less than 1%) and three participants' ethnicities were not reported (2%).

The average youth age at the time of their first disposition was 13.6. Among the current dispositions, a little over half the youth were detained on misdemeanor charges (54%) including crimes such as possession of marijuana and vandalism, about one-third of youth were detained for felony charges (35%) including crimes such as battery and first-degree murder, and the remainder of the youth were detained for status offenses (11%), such as truancy. About half of the participants' current charges included only non-violent offenses (56%), about a quarter of participants' current charges included only violent offenses (23%), and the remainder of participants had current charges of both violent and non-violent offenses (21%). Data collected on participants' prior dispositions revealed a little over a quarter of the youth had a history of only non-violent crimes (29%), only a small percentage of youth had a history of only violent crimes (11%), and the majority of youth had a history of both violent and non-violent crimes (60%). Final analyses included 142 participants (age $M = 15.4$, $SD = 1.13$, 93% male).

Measures

Psychological Control Scale-Youth Self-Report (PCONS; Barber, 1996). The PCONS is a 16 item self-report scale measuring six elements of psychological control: personal attack, love withdrawal, invalidating feelings, constraining verbal expression, guilt induction, and erratic emotional behavior. Items are rated on a scale from 0 to 3 (0=not like him/her, 1=somewhat like him/her, 2=a lot like him/her). An example item includes, "My mother/father is a person who changes the subject whenever I have something to say". The PCONS was designed to improve upon the Child Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965) by adding greater behavioral specificity of items. Because the child's psychological self is the target of parental psychological control, the youth self-report is considered an accurate means of measuring this parenting strategy (Barber 1996; Barber, 2002). The PCONS has demonstrated positive

associations with expected child adjustment problems such as depression and self-esteem (Rudy, Awong, & Lambert, 2008). The PCONS yielded good reliability in the current study (Cronbach's alpha: .86).

Peer Conflict Scale-Youth Self-Report (PCS; Marsee et al., 2011). The PCS is a 40-item questionnaire that assesses youth aggression. The PCS includes items scored on a 0 to 3 scale (0 = not at all true, 1 = somewhat true, 2 = very true, 3 = definitely true), with 20 items measuring physical aggression ("I start fights to get what I want") and 20 items measuring relational aggression ("If others make me mad, I tell their secrets) (Marsee et al., 2011). The physical, relational, proactive, and reactive subscales have been associated with behavioral, cognitive, and emotional correlates such as delinquency, callous-unemotional traits, and narcissism (Barry, Grafeman, Adler & Pickard, 2007; Marsee et al., 2011; Marsee & Frick, 2007) and have demonstrated good internal consistency in recent studies (Cronbach's alpha ranging from .84-.88; Crapanzano et al., 2011). For this study, the total aggression score (Cronbach's alpha: .91), as well as the physical (Cronbach's alpha: .90), relational (Cronbach's alpha: .85), proactive (Cronbach's alpha: .85) and reactive (Cronbach's alpha: .87) aggression subscales were used.

Revised Social Experience Questionnaire (RASEQ; Rosen, Beron, & Underwood, 2013). The RASEQ is a self-report questionnaire that includes 22 items from 0 to 4 (0=Never, 1=Almost Never, 2=Sometimes, 3=Almost all the time, 4=All the time). The RASEQ is a revised version of the Social Experience Questionnaire (SEQ; Paquette & Underwood, 1999) that rephrased items to be more developmentally appropriate for adolescents. For example, the SEQ item "How often do other kids leave you out on purpose when it is time to play or do an activity" was rewritten as "How often do other kids exclude you or leave you out on purpose".

Like the SEQ, the RASEQ measures the frequency of physical and verbal victimization, but the RASEQ includes the addition of relational victimization items such as “How often do other kids send you mean or hurtful text or online messages?” Factor analyses reveal the physical and verbal victimization factors were not statistically distinguishable; therefore a two-factor model, relational victimization and overt victimization (a composite of physical and verbal victimization) was the best fit (Rosen et al., 2013). In the current study, the RASEQ yielded very good reliability (Cronbach’s alpha: .95).

Kiddie Mach (Christie & Geis, 1970). The Kiddie Mach scale is a self-report questionnaire that includes 20 items from 0 to 4 (0=Strongly Disagree, 1=Disagree, 2=Neutral, 3= Agree, 4=Strongly Agree). The Kiddie Mach measures youths’ Machiavellian beliefs including items such as “It is smart to be nice to important people even if you don’t really like them.” Factor analysis revealed the items loaded onto 4 subscales: lack of faith in human nature, manipulation, dishonesty, and distrust (Andreou, 2004). For the purposes of this study, only the total Machiavellianism score was used (Cronbach’s alpha: .45). The Kiddie Mach scale has demonstrated associations with relevant youth adjustment problems, including emotional and behavioral dysregulation as well as bullying and physical and relational aggression (Lau & Marsee 2013; Peeters, Cillessen, & Scholte, 2010).

Abbreviated Dysregulation Inventory (ADI; Mezzich, Tarter, Giancola, & Kirisci, 2001). The ADI is a shorter version of the Dysregulation Inventory (DI). The ADI is a self-report questionnaire measuring dysregulation in cognitive, behavioral, and emotional domains. The ADI includes 30 items on a scale from 0 to 3 (0=never true, 1=occasionally true, 2=mostly true, 3=always true). Items include “Often I am afraid I will lose control of my feelings” (emotional), “I have difficulty keeping attention on tasks” (cognitive), and “I have difficulty

remaining seated at school or at home during dinner” (behavioral). The DI was first created to measure dysregulation among youth at risk for substance use disorders (Mezzich et al., 2001). The ADI has predicted adjustment problems in youth, such as antisocial behavior (Pardini et al., 2006). For the current study, the ADI demonstrated good internal consistency (Cronbach’s alpha: .87).

Procedure

Prior to data collection, approval was obtained from the University of New Orleans Institutional Review Board. After approval, the researchers in the study obtained contact information of detained youths’ parents through the approved detention centers. Researchers contacted parents via phone to request consent for their child’s participation in the study. Seventy-five percent of parents with whom researchers made contact consented their child to participate. Consents were documented using audio recordings and consent forms were mailed to parents to keep for their records. At the detention center, researchers met with youth whose parents provided consent and requested youths’ written assent. For the youth who provided assent, researchers read all items on the questionnaires aloud as youth completed them. All youth who participated received a snack. Additionally, researchers collected information from youths’ charts, including number of arrests, type of present and prior offenses, demographic information, and daily behavior performance.

Results

Prior to analyses, data were screened for outliers, skew and distribution of the main study variables, and missing data. All variables were moderately positively skewed, except dysregulation and Machiavellianism, which were normally distributed. As these variables were distributed as expected, no transformations were performed. Total victimization yielded one

outlier. However, running analyses with and without the outlier indicated no change in significance, and therefore, the outlier was not deleted. Mean substitution was used for any missing data, and no participants had more than 20% of data missing.

Correlations of the main study variables are reported in Table 1. All the main study variables were positively and significantly intercorrelated. Concerning demographics, age was negatively significantly correlated with total aggression, reactive aggression, and relational aggression, indicating younger participants reported higher levels of these aggressive behaviors compared to older participants. Gender was negatively significantly correlated with dysregulation, proactive, reactive, relational, and total aggression, suggesting girls reported higher levels of these behaviors. These gender differences are consistent with recent studies that have found detained girls have higher levels of various forms of aggression compared to detained boys, as well as high levels of dysregulation (Marsee, Frick, Barry, Kimonis, Cenifanti, & Aucoin, 2014).

Creating the Latent Path Model

A latent path model was created in AMOS 21 to test the mediating roles of Machiavellianism and dysregulation in the associations between psychological control and youth aggression problems (see Figure 1). In each model, psychological control was the exogenous variable. Separate models were created for each mediator: Machiavellianism and dysregulation. Each of the two mediator models tested three pairs of aggression criterion variables: aggression roles (total aggression and total victimization), aggression forms (overt aggression and relational aggression), and aggression functions (proactive aggression and reactive aggression). Psychological control, Machiavellianism, and dysregulation were measured as observed

variables. Each aggression variable was measured as a latent variable with four indicators. The indicators were parcels created by dividing the subscales of the Peer Conflict Scale aggression measure.

Analyses of the latent path models were conducted using maximum likelihood estimation. The overall fit of the model was measured by examining various fit indices including the Chi-square, comparative fit index (CFI), the root mean square error of approximation (RMSEA), and 90% confidence intervals. A good model fit is indicated by a small, non-significant chi-square, a CFI of .90 or greater, an RMSEA of .05 or less, and upper-bound confidence intervals of .10 or less (Byrne, 2001). To test the mediation models in Hypotheses 1 and 2, a bootstrapping procedure with 90% bias-corrected confidence intervals was used. To test Hypotheses 3 and 4, the overall model fit was compared using various equality constraints on the parameters. Each model was tested four ways: no constraints, constraining paths 1 and 2 from psychological control to the aggression variables to be equal, constraining paths 3 and 4 from the mediator to the aggression variables to be equal, and both sets of constraints (see Figure 1). The overall model fits were compared using a Chi-square difference test to determine the best fitting model. If the best fitting model included constraints, this would indicate a variable is similarly associated to the two aggressions. If the model fit best with constraints removed, this would indicate a variable is differentially associated to the two aggressions.

Machiavellianism Mediation Model

Table 2 shows the overall fit indices of the models using Machiavellianism as the mediator. The best fitting models, as indicated by the Chi-square difference test, are in bold. Figure 2 shows the bootstrapping analyses of the best fitting models. Except for Model C

measuring the aggression functions, all models had the best overall fit when including both sets of equality constraints. Specifically, within Model A, Machiavellianism was similarly associated to aggression and victimization, and psychological control was similarly associated to aggression and victimization. Within Model B, Machiavellianism was similarly associated to overt and relational aggression, and psychological control was similarly associated to overt and relational aggression.

Model A tested the Machiavellianism mediation model with total aggression and total victimization as the criterion variables [$\chi^2(33) = 86.34, p < .001; CFI = .93; RMSEA = .11$]. Bootstrap analyses suggest Machiavellianism partially mediated the association between psychological control and both of these aggression roles. Model B tested overt aggression and relational aggression [$\chi^2(33) = 97.26, p < .001; CFI = .90, RMSEA = .12$]. The mediation analyses indicated Machiavellianism partially mediated the associations between psychological control and both of these aggression forms.

Model C, testing the aggression functions [$\chi^2(32) = 154.03, p < .001; CFI = .81; RMSEA = .16$], showed a different set of findings. The Chi-square difference test indicated there was no significant difference between the model with no constraints and the model with paths 3 and 4 constrained ($\chi^2(1) = .95$), indicating that the more parsimonious model (with the constrained paths) was the better fitting model. Moreover, Chi-square difference analyses showed a significant difference ($\chi^2(1) = 6.54$) between the model with paths 3 and 4 constrained, and the model with both sets of constraints (paths 1 and 2 constrained and paths 3 and 4 constrained). This suggests that the more complex model (with only paths 3 and 4 constrained) was the better fitting model. In other words, the best fitting model indicated the associations between Machiavellianism and the aggression functions were similar, but the associations

between psychological control and the aggression functions were different. Standardized regression coefficients indicated psychological control is more strongly associated with reactive than proactive aggression ($\beta = .32, p = .015$ reactive aggression; $\beta = .23, p = .042$ proactive aggression). Bootstrap analyses indicated Machiavellianism partially mediated the association between psychological control and both aggression functions.

Dysregulation Mediation Model

Table 3 shows the fit indices for the dysregulation model. The best fitting models are in bold. Figure 3 shows the bootstrapping analyses for the best fitting models. Overall, the dysregulation models showed a similar pattern of findings to the Machiavellianism models. Except for Model F measuring the aggression functions, the Chi-square difference tests indicated all models had the best fit when including both sets of constraints. More specifically, dysregulation was similarly associated to aggression and victimization, and psychological control was similarly associated to aggression and victimization (Model D). Also, dysregulation was similarly associated to overt and relational aggression, and psychological control was similarly associated to overt and relational aggression (Model E).

Model D [$X^2(33) = 94.10, p < .001$; CFI = .93, RMSEA = .12] tested the mediating role of dysregulation in the associations between psychological control and total aggression and total victimization. Bootstrap analyses showed dysregulation partially mediated the association between psychological control and both aggression roles. Model E [$X^2(33) = 104.5, p < .001$; CFI = .89, RMSEA = .12] tested dysregulation as a mediator in the associations between psychological control and overt aggression and relational aggression. Analyses indicate

dysregulation partially mediated the associations between psychological control and both aggression forms.

In contrast to the other models, Model F [$X^2(31) = 157.13, p < .001$; CFI = .81, RMSEA = .17], testing the aggression functions, demonstrated the best overall fit was without any paths constrained. The Chi-square difference tests revealed the model with no constraints significantly differed from all the other models, including the model with paths 3 and 4 constrained ($X^2(1) = 10.25$), the model with paths 1 and 2 constrained ($X^2(1) = 3.85$) and the model with both sets of constraints ($X^2(1) = 12.4$). These significant differences indicate the more complex model (with no constraints) was the best fitting model. This suggests the model fit best when proactive and reactive aggression are differentially associated to psychological control, and additionally proactive and reactive aggression are differentially associated to dysregulation. Parameter estimates indicated psychological control was more strongly associated with reactive aggression ($\beta = .23, p = .033$) than proactive aggression ($\beta = .18, p = .142$). Similarly, dysregulation was more strongly associated with reactive aggression ($\beta = .52, p = .005$) compared to proactive aggression ($\beta = .43, p = .018$). Bootstrap analyses indicated dysregulation partially mediated the association between psychological control and reactive aggression. Dysregulation fully mediated the association between psychological control and proactive aggression, as the direct effect of psychological control on proactive aggression was not significant when controlling for dysregulation ($p > .10$).

Supplemental Analyses

First, because most of the models yielded partial mediation, additional analyses were conducted to gauge how much of the psychological control-aggression association was explained

by the mediators. The percentage of mediation was calculated by taking the indirect effect of psychological control on the aggression variable and dividing it by the sum of the indirect effect and the direct effect of psychological control on the aggression variable. For the Machiavellianism models, the percentage of mediation ranged from 9 to 14%. For the dysregulation models, the percentage of mediation ranged from 29 to 36%.

In a second supplemental analysis, an equivalent latent path model was created to examine the potential effects of youth aggression on parenting. The same construction as the original model was used, except the direction of the arrows was reversed. No equality constraints were added to any of the paths. The overall fit of the reverse models were identical to the original models, but the change in the individual parameters were examined and compared to the original models (see Figure 4).

Only the models examining total aggression and total victimization demonstrated significant effects. In the Machiavellianism model, total aggression and total victimization had significant direct effects on psychological control ($\beta = .21$ $p=.027$, $\beta = .20$, $p=.035$, respectively). In the dysregulation model, total victimization had significant direct effects on psychological control ($\beta = .21$ $p=.018$) and the effects of total aggression on psychological control was approaching significance ($\beta = .21$ $p=.052$). Machiavellianism and dysregulation had no significant effects on psychological control ($p>.10$), and thus, neither model demonstrated indirect effects. The models testing overt and relational aggression had no significant parameters ($p>.10$), and the models testing proactive and reactive aggression did not yield a solution.

In a final supplemental analysis, because The Kiddie Mach scale did not yield adequate reliability ($\alpha = .45$), correlations of the Kiddie Mach subscales were conducted to see which

factors may be accounting for the significant associations between Machiavellianism and the main study variables. Correlations revealed only the manipulation subscale was significantly correlated with all the main study variables (psychological control, dysregulation, and all the aggression variables). The distrust subscale was only correlated with relational aggression ($p < .01$), and the dishonest subscale and lack of faith in human nature subscale were correlated with each other ($p < .001$), but were unrelated to any of the main study variables

Discussion

The current study tested the hypotheses that Machiavellianism and dysregulation would significantly mediate the associations between psychological control and peer aggression problems. Findings from the analyses supported these hypotheses and demonstrated both Machiavellianism and dysregulation are important individual youth characteristics in understanding how psychological control in the parent-child relationship is associated with aggression problems in peer relationships. Additionally, unlike the aggression roles (aggression and victimization) and aggression forms (overt and relational), only the aggression functions (proactive and reactive) showed divergent associations to the main study variables.

First, in the Machiavellianism models (Figure 2), the Chi-square difference tests indicated all the best fitting models included equality constraints on the paths between Machiavellianism and each pair of aggression variables. This suggests that, within the mediation model, Machiavellianism is similarly associated to aggression and victimization, it is similarly associated to overt and relational aggression, and finally, it is similarly associated to proactive and reactive aggression. These findings are consistent with recent studies showing

Machiavellianism's associations to aggression in both forms and functions, as well as its association to victimization (Andreou, 2004; Kerig & Stellwagen, 2010).

With the equality constraints applied to the models, bootstrapping analyses demonstrated Machiavellianism partially mediated the associations between psychological control and each aggression variable (aggression and victimization, overt and relational aggression, proactive and reactive aggression). Importantly, correlation analyses of the Kiddie Mach subscale suggest manipulation was the primary factor that explained these associations.

Overall, findings show that manipulation is an important trait that links psychological control to aggression problems in peer relationships, irrespective of the type of aggression. Through their intrusive strategies, psychologically controlling parents may inadvertently teach their children that relationships are comprised of power differentials, with one person exerting control over another (Soenens & Vansteenkiste, 2010). With these acquired beliefs, youth may not defend themselves in response to aggression from peers, making them easy targets for repeated victimization (Andreou, 2000). Alternatively, with these beliefs about manipulation, youth may be the perpetrators of this aggression, in any form or function, in an attempt to control peers. These findings have important implications for the aggression literature. While much of the recent literature concentrates on highlighting differences across the aggression forms and functions (e.g. Culotta & Goldstein, 2008; Marsee et al., 2014), our analyses demonstrate the manipulation factor of Machiavellianism is an important trait shared among the different aggressions. Although aggression can be expressed in different ways and for different purposes, our findings suggest these various aggression types are driven by similar beliefs about using control in relationships. Overall, these results contribute important information to the current literature by finding the manipulation factor of Machiavellianism is associated with

psychological control, and additionally, functions as a partial mediator in the association between psychological control and youth aggression problems.

Dysregulation was also a mediator in the associations between psychological control and youth aggression (Figure 3). Chi-square difference tests revealed that the models fit best when including equality constraints on the paths between dysregulation and the aggression roles (aggression and victimization) and on the paths between dysregulation and the aggression forms (overt and relational aggression). This suggests, within the mediation model, dysregulation is similarly associated to aggression and victimization, and it is similarly associated to overt and relational aggression. Importantly, a large body of literature concentrates on identifying the distinguishing traits of the different types of aggression. For example, unlike overt aggressors, relational aggressors are characterized by popularity in school settings (Cillessen & Mayeaux, 2004) and jealousy in peer relationships (Culotta & Goldstein, 2008). However, our findings reveal dysregulation is a trait pertinent to both forms of aggression, consistent with recent studies (Marsee et al., 2014). Although overt and relational aggressors have demonstrated some unique correlates in the literature, our results suggest both types of aggressors are similarly driven by poor self-regulation skills. This poor self-regulation may lead to various poor interaction skills in peer relationships, whether physical fighting (overt aggression) or gossiping (relational aggression). The aggression literature should continue to identify unique correlates of overt and relational aggressors, while also considering other traits, such as dysregulation, that may be shared between the two aggression forms.

With the equality constraints applied, bootstrapping analyses indicated dysregulation partially mediated the associations between psychological control and both aggression roles (aggression and victimization) and forms (overt and relational). These results demonstrate youth

dysregulation is an important trait to help explain how psychologically controlling parenting can lead to peer aggression problems. This mediation is similar to previous studies that have demonstrated youth dysregulation helps explain the association between psychological control and various youth adjustment problems, such as anxiety, and internalizing and externalizing behaviors (e.g. Buckholdt, 2014; Luebbe et al., 2013). Intrusive, controlling parenting inhibits a child's ability to more independently regulate emotions, thoughts, and behaviors. Through this dysregulation, these youth may be ill-equipped to function in social situations. For example, easily upset, emotionally dysregulated youth make perfect targets for bullies, and ultimately become victimized (Scott et al., 2014).

Contrary to our hypotheses, dysregulation was associated with proactive aggression and mediated the association between psychological control and proactive aggression. Although numerous studies demonstrate proactive bullies are not dysregulated like their reactive aggressive peers (e.g., White et al., 2013), other research presents evidence to the contrary. Several recent studies have revealed even proactive aggressors, who are typically not victimized by their peers, are still emotionally dysregulated (e.g. Bettencourt, Farrell, Liu, & Sullivan, 2013; Schwartz, 2000; Zablotsky, Bradshaw, Anderson, & Law, 2013). One explanation is that proactive aggressors possess certain social skills or power that, in spite of their poor self-regulation skills, protects them from being bullied (Bettencourt et al., 2013). In some youth, certain types of dysregulation, such as excessive anger, may even promote a domineering reputation, and thus, discourage other peers from provoking them. Another consideration is the heterogeneity of the proactive aggressor group. In a recent study Marsee et al. (2014) found the association between proactive aggression and CU traits was not significant across all reporters (parent and adolescent) and aggression forms (overt and relational). These mixed findings may

suggest only a minority of proactive aggressors are characterized by more serious psychopathy (such as CU traits) and greater self-regulation skills, while the majority of proactive aggressors are characterized by some type of dysregulation.

Although dysregulation was significantly associated with proactive aggression in the model, analyses revealed it was more strongly associated to reactive aggression. Together, these findings suggest both types of aggressors struggle with self-regulation skills, but this trait is more substantial in reactive compared to proactive aggressors. This is consistent with numerous studies demonstrating reactive aggressors are highly dysregulated (e.g. Shields & Cicchetti, 1998). Evidently, these poor self-regulation skills lead to poor coping skills in social settings (Scott et al., 2014). If these youth have difficulty controlling their frustrations and impulses, they are much more susceptible to reacting to peer provocations with aggression (O'Brennan et al. 2008).

The findings on the aggression functions may seem paradoxical. The Chi-square difference tests and the regression analyses suggest proactive and reactive aggressors are different in regards to their levels of dysregulation. However, proactive and reactive aggression were highly correlated ($r=.77$). Finding both a strong correlation and distinguishing traits between the two aggression functions is quite consistent with numerous other studies in recent literature (Bobadilla, Wamper, & Taylor, 2012; Fite et al., 2010; Merk et al., 2005). Research suggests the majority of aggressive youth use a combination of reactive and proactive aggression, while "pure" aggressors (e.g. those aggressors who only use one aggression function and not the other) are rare (Waschbusch et al., 1998). The studies that reveal distinguishing traits of the different aggression functions often do so by controlling for their substantial overlap, thus, capturing the profiles of these "pure" aggressors (e.g. Fite et al., 2010). Thus, examining

potential distinguishing traits of the two aggression functions may have utility in future research, that is, if the purpose of the research is to examine the profiles of these rare “pure” aggressors. Additional research is needed to further clarify the shared characteristics as well as the unique traits of the two aggression functions.

Unexpectedly, psychological control also showed differential associations to the aggression functions. In both the Machiavellianism model (Figure 2) and the dysregulation model (Figure 3), psychological control was more strongly associated to reactive aggression than proactive aggression. As Machiavellianism and dysregulation were only partial mediators, this suggests there are additional mechanisms that explain this strong association between psychological control and reactive aggression. Perhaps after enduring parents’ intrusive and controlling strategies, youth develop a more hostile attitude in interpersonal relationships, leading to more defensive responding to peer provocations. This association could be further explored by testing other maladaptive cognitions similar to Machiavellianism, such as youths’ hostile attribution biases, a perception that assumes harmful intent of others (Dodge, 2006). Unfortunately, there is an apparent shortage of studies examining psychological control’s associations to the aggression functions. Among the few studies available, some have demonstrated parents’ psychological control is not associated with reactive aggression after controlling for proactive aggression (Rathert et al., 2011; Stevens & Hardy, 2011). These mixed findings warrant additional research to help determine if there are any meaningful differential associations between psychological control and the aggression functions.

Unlike the aggression functions, the aggression forms (overt and relational) showed similar associations to psychological control in the mediation models. A growing body of research has focused on these associations between psychological control and the two aggression

forms, although the findings are inconsistent. Some studies demonstrate psychological control is associated with both overt and relational aggression (e.g. Yu & Gamble, 2008), whereas others find psychological control is uniquely associated to relational aggression (e.g. Gaertner, et al., 2010). These associations are often dependent upon various mediating and moderating factors, such as gender of the child and parent, methodology, and operational definition of aggression (see Kawabata et al., 2011, for a review). In the current study, our model demonstrated psychological control is similarly associated to overt and relational aggression, after controlling for the youth individual traits Machiavellianism and dysregulation. Perhaps psychologically controlling parenting ultimately teaches youth the value of power and control, and these youth learn either overt or relational aggression is a way to achieve this power over peers. Future studies must continue to identify the mechanisms behind psychological control's association with aggression, in order clarify whether there are differences in its associations with overt and relational aggression.

The final set of models in this study (Figure 4) tested any potential effects of the youth's aggression on the parent's psychological control. While the literature often discusses aggressive behaviors as a result of poor parenting, some studies also theorize "child effects", where the child's aggression leads to more punitive or controlling parenting (e.g. Ge, Donnellan, & Harper, 2003; O'Connor et al., 1998). In the reverse models, Machiavellianism and dysregulation did not have any significant effects on psychological control, while some of the aggression variables did. Total aggression and victimization demonstrated significant effects on psychological control, although these associations were generally weaker than the associations in the original (parent-effects) model. Thus, the reverse models showed some evidence for child effects on parenting behaviors. Evidently, poor parenting strategies influence youth aggression, but youth

aggression can also encourage more punitive and controlling parenting. This is consistent with recent studies demonstrating reciprocal effects of parenting and adolescent behavior problems (e.g. Gault-Sherman, 2012). Future studies should continue to examine these bidirectional effects in order to capture a more comprehensive view of the parent-child relationship.

While the original (parent-effect) models demonstrated mediations and significant individual parameters, some of the fit indices, including the Chi-square and the RMSEA, indicated a poor overall fit of the matrices. Some fit indices, such as the Chi-square, are sensitive to sample size, however, there may be additional reasons for the inadequate overall fit of the models. Modification indices were calculated to determine ways to improve the overall fit. Across all models, modification indices generally showed adding parameters between each pair of aggression indicators, as well as adding covariances between each pair of error terms of the aggression indicators, would reduce the size of the Chi-square and improve the overall model fit. Collectively, these modification indices suggest that the overall model fit would improve by testing the two aggression variables as a single construct. This is reasonable, given the strong correlations between each aggression pair tested (aggression and victimization, overt and relational aggression, proactive and reactive aggression). Thus, in order to test hypotheses about unique associations to the different aggression variables, the overall model fit was consequently reduced.

There are a few other limitations worth noting in the study. First, the Kiddie Mach scale did not yield adequate internal consistency (Cronbach's $\alpha=.45$). The poor reliability of the Kiddie Mach scale suggests Machiavellianism is a multi-dimensional construct that may be measuring various, distinct traits. Future studies should further test alternate ways to define and measure the Machiavellianism construct. Other limitations of the study included the lack of

diversity among the sample, as the majority of the participants were African-American males in a detained setting. Additional research is needed to determine if the findings will generalize to females and other ethnicities, as well as community samples.

Despite these limitations, the findings of this study contribute to the aggression literature by introducing the pertinent roles of youth Machiavellianism and dysregulation. Results demonstrated these individual youth traits help explain how psychologically controlling parenting can lead to aggression problems with peers. These findings have significant implications for treatment targeting youth aggression problems. While bullying interventions often consist of youth behavioral modification plans through parent coaching (e.g. *The Incredible Years*; Webster-Stratton, Reid, & Hammond, 2004), youth individual traits may also be useful targets. Our results suggest interventions should focus on challenging youths' maladaptive beliefs about human nature and interpersonal relationships, and additionally, helping youth to develop individual coping and self-regulation skills. Overall, the findings of this study and the treatment implications warrant additional research on the role of youth individual perceptions and self-regulation skills in the context of psychological control and youth aggression.

References

- Andreou, E. (2000). Bully/victim problems and their association with psychological constructs in 8- to 12-year-old Greek Schoolchildren. *Aggressive Behavior, 26*, 49-56.
- Andreou, E. (2004). Bully/victim problems and their association with Machiavellianism and self-efficacy in Greek primary school children. *British Journal of Educational Psychology, 74*, 297-309.
- Barber, B. K., & Harmon, E. L. (2002). Violating the self: parental psychological control of children and adolescents. In B. K. Barber (Eds.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 15-52). Washington DC: American Psychological Association.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*, 3296-3319.
- Barber, B. K. (2002). Reintroducing Parental Psychological Control. In B. K. Barber (Eds.), *Intrusive parenting: How psychological control affects children and adolescents* (pp 3-13). Washington, DC: American Psychological Association.
- Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*, 1120-1136.
- Barber, B. K., Xia, M., Olsen, J. A., McNeely, C. A., & Bose, K. (2012). Feeling disrespected by parents: Refining the measurement and understanding of psychological control. *Journal of Adolescence, 35*, 273-287.
- Barry, C. T., Grafeman, S. J., Adler, K. K., & Pickard, J. D. (2007). The relations among narcissism, self-esteem, and delinquency in a sample of at-risk adolescents. *Journal of Adolescence, 30*, 933-942.
- Batanova, M. D., & Loukas, A. (2014). Maternal psychological control and peer victimization in early adolescence: An application of the family relational schema model. *The Journal of Early Adolescence, 34*(2), 206-228.
- Berkowitz, L. (1993). *Aggression: Its causes, consequences, and control*. Philadelphia: Temple University Press.
- Bettencourt, A., Farrell, A., Liu, W., & Sullivan, T. (2013). Stability and change in patterns of peer victimization and aggression during adolescence. *Journal of Clinical Child & Adolescent Psychology, 42*(4), 429-441.
- Bobadilla, L., Wampler, M., & Taylor, J. (2012). Proactive and reactive aggression are associated with different physiological and personality profiles. *Journal of Social and Clinical Psychology, 31*(5), 458-487.

- Buckholdt, K. E., Parra, G. R., & Jobe-Shields, L. (2014). Intergenerational transmission of emotion dysregulation through parental invalidation of emotions: Implications for adolescent internalizing and externalizing behaviors. *Journal of Child & Family Studies*, 23, 324-332.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Casas, J. F., Weigel, S. M., Crick, N. R., Ostrov, J. M., Woods, K. E., Jansen Yeh, E. A., & Huddleston-Casas, C. A. (2006). Early parenting and children's relational and physical aggression in the preschool and home contexts. *Applied Developmental Psychology*, 27, 209-227.
- Christie, R., & Geis, F.L. (1970). *Studies in Machiavellianism*. New York: Academic Press.
- Cillessen, A. H. N. & Mayeux, L. (2004). From censure to reinforcement: Developmental changes in the association between aggression and social status. *Child Development*, 75(1), 147-163.
- Comer, J. M. (1985). Machiavellianism and inner vs. outer directedness: A study of sales managers. *Psychological Reports*, 56(1), 81-82.
- Crapanzano, A.M., Frick, P.J., Childs, K., & Terranova, A.M. (2011). Gender differences in the assessment, stability, and correlates to bullying roles in middle school children. *Behavioral Sciences and the Law*, 29, 677-694.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710-722.
- Culotta, C. M. & Goldstein, S. E. (2008). Adolescents' aggressive and prosocial behavior: Associations with jealousy and social anxiety. *The Journal of Genetic Psychology*, 169(1), 21-33.
- de Haan, A. D., Soenens, B., Deković, M., & Prinzie, P. (2013). Effects of childhood aggression on parenting during adolescence: The role of parental psychological need satisfaction. *Journal of Clinical Child & Adolescent Psychology*, 42(3), 393-404.
- Dodge, K. A. (2006). Translational science in action: Hostile attributional style and the development of aggressive behavior problems. *Development and Psychopathology*, 18(3), 791-814.
- Eisenberg, N., Edwards, A., Spinrad, T. L., Sallquist, J., Eggum, N. D., & Reiser, M. (2013). Are effortful and reactive control unique constructs in young children? *Developmental Psychology*, 49(11), 2082-2094.
- Fite, P. J., Raine, A., Stouthamer-Loeber, M., Loeber, R., & Pardini, D. A. (2010). Reactive and proactive aggression in adolescent males: Examining differential outcomes 10 years later in early adulthood. *Criminal Justice and Behavior*, 37(2), 141-157.

- Galli, I., Nigro, G., & Krampsen, G. (1986). Multidimensional locus of control and Machiavellianism in Italian and West German students: Similarities and differences. *International Review of Applied Psychology, 35*, 453-461.
- Gaertner, A. E., Rathert, J. L., Fite, P. J., Vitulano, M., Wynn, P. T., & Harber, J. (2010). Sources of parental knowledge as moderators of the relation between parental psychological control and relational and physical/verbal aggression. *Journal of Child and Family Studies, 19*, 607-616.
- Gault-Sherman, M. (2012). It's a two-way street: The bidirectional relationship between parenting and delinquency. *Journal of Youth and Adolescence, 41*(2), 121-145.
- Ge, X., Donnellan, M. B., & Harper, L. (2003). Are we finally ready to move beyond 'nature vs. nurture'? In A. C. & A. Booth (Eds.) *Children's influence on family dynamics: The neglected side of family relationships* (pp. 37-48). Mahwah: Lawrence Erlbaum Associates Publishers.
- Harrell, W. A. (1980). Retaliatory aggression by high and low Machiavellians against remorseful and non-remorseful wrongdoers. *Social Behavior and Personality, 8*(2), 217-220.
- Karoly, P. (1993). Mechanisms of self-regulation: A systems view. *Annual Review of Psychology, 44*, 23-52.
- Kawabata, Y., Lenneke, R. A. A., Wan-Ling, T., van IJzendoorn, M. H., & Crick, N. R., (2011). Maternal and paternal parenting styles associated with relational aggression in children and adolescents: A conceptual analysis and meta-analytic review. *Developmental Review, 31*, 240-278.
- Kerig, P. K., & Stellwagen, K. K. (2010). Roles of callous-unemotional traits, narcissism, and Machiavellianism in childhood aggression. *Journal of Psychopathology & Behavioral Assessment, 32*, 343-352.
- Kuppens, S., Grietens, H., Onghena, P., & Michiels, D. (2009). Associations between parental control and children's overt and relational aggression. *British Journal of Developmental Psychology, 27*, 607-623.
- Lau, K. S., L., & Marsee, M. A. (2013). Exploring narcissism, psychopathy, and Machiavellianism in youth: Examination of associations with antisocial behavior and aggression. *Journal of Child & Family Studies, 22*, 355-367.
- Leadbeater, B. J., Banister, E. M., Ellis, W. E., & Yeung, R. (2008). Victimization and relational aggression in adolescent romantic relationships: The influence of parental and peer behaviors and individual adjustment. *Journal of Youth and Adolescence, 37*, 359-372.

- Li, D., Zhang, W., & Wang, Y. (2013). Parental behavioral control, psychological control and Chinese adolescents' peer victimization: The mediating role of self-control. *Journal of Child and Family Studies*. <http://dx.doi.org/10.1007/s10826-013-9873-4>.
- Luebke, A. M., Bump, K. A., Fussner, L. M., & Rulon, K. J., (2013). Perceived maternal and paternal psychological control: Relations to adolescent anxiety through deficits in emotion regulation. *Child Psychiatry & Human Development*, DOI 10.1007/s10578-013-0425-3.
- Manzeske, D. P., & Stright, A. D., (2009). Parenting styles and emotion regulation: The role of behavioral and psychological control during young adulthood. *Journal of Adult Development*, 16, 223-229.
- Marsee, M. A., Barry, C. T., Childs, K. K., Frick, P. J., Kimonis, E. R., Muñoz, L. C., Aucoin, K. J., Fassnacht, G. M., Kunimatsu, M. M., & Lau, K. S. L. (2011). Assessing the forms and functions of aggression using self-report: Factor structure and invariance of the Peer Conflict Scale in youths. *Psychological Assessment*, 23, 792-804.
- Marsee, M. A., & Frick, P. J. (2007). Exploring the cognitive and emotional correlates to proactive and reactive aggression in a sample of detained girls. *Journal of Abnormal Child Psychology*, 35, 969-981.
- Marsee, M.A., Frick, P.J., Barry, C. T., Kimonis, E. R., Cenifanti, L.C.M., & Aucoin, K.J (2014). Profiles of the forms and functions of self-reported aggression in three adolescent samples. *Development and Psychopathology*, 26(3), 705-720.
- Marsee, M. A., Lau, K. S. L., & Lapré, G. E., (2014). Parent and adolescent report of the forms and functions of aggression: Associations with delinquency, CU traits, and dysregulation. *Child Youth Care Forum*, 43, 27-39.
- Merk, W., de Castro, B. M., Koops, W., & Matthys, W., 2005. The distinction between reactive and proactive aggression: Utility for theory, diagnosis and treatment? *European Journal of Developmental Psychology*, 2(2), 197-220.
- Mezzich, A. C., Tarter, R. E., Giancola, P. R., & Kirisci, L. (2001). The dysregulation inventory: A new scale to assess the risk for substance use disorder. *Journal of Child & Adolescent Substance Abuse*, 10(4), 35-43.
- McHoskey, J. W. (1999). Machiavellianism, Intrinsic versus extrinsic goals, and social interest: A self-determination theory analysis. *Motivation and Emotion*, 23(4), 267-283.
- Mudrack, P. E. (2001). Machiavellianism and locus of control: A meta-analytic review. *The Journal of Social Psychology*, 130(1), 125-126.
- Munoz Centifanti, L. C., Kimonis, E. R., Frick, P. J., & Aucoin, K. J. (2013). Emotional reactivity and the association between psychopathy-linked narcissism and aggression in detained adolescent boys. *Development and Psychopathology*, 25, 473-485.

- Murray, K. W., Haynie, D. L., Howard, D. E., Cheng, T. L., & Simons-Morton, B. (2013). Adolescent reports of aggression as predictors of perceived parenting behaviors and expectations. *Family Relations*, 62, 637-648.
- Nelson, D. A., Hart, C. H., Yang, C., Olsen, J. A., & Jin, S. (2006). Aversive parenting in China: Associations with child physical and relational aggression. *Child Development*, 77(3), 554-572.
- O'Brennan, L. M., Bradshaw, C. P., & Sawyer, A. L. (2008). Examining developmental differences in the social-emotional problems among frequent bullies, victims, and bully/victims. *Psychology in the Schools*, 46(2), 100-115.
- O'Connor, T. G., Deater-Deckard, K., Fulker, D., Rutter, M., & Plomin, R. (1998). Genotype-environment correlations in late childhood and early adolescence: Antisocial behavioral problems and coercive parenting. *Developmental Psychology*, 34(5), 970-981.
- Paquette, J. A., & Underwood, M. K. (1999). Young adolescents' experiences of peer victimization: Gender differences in accounts of social and physical aggression. *Merrill-Palmer Quarterly*, 45, 233-258.
- Pardini, D. A., Barry, T. D., Barth, J. M., Lochman, J. E., & Wells, K. C. (2006). Self-perceived social acceptance and peer social standing in children with aggressive-disruptive behaviors. *Social Development*, 15, 46-54.
- Peeters, M., Cillessen, A. H. N., & Scholte, R. H. J. (2010). Clueless or powerful? Identifying subtypes of bullies in adolescence. *Journal of Youth & Adolescence*, 39, 1041-1052.
- Pettit, G. S., & Laird, R. D. (2002). Psychological control and monitoring in early adolescence: The role of parental involvement and earlier child adjustment. In B. K. Barber (Eds.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 97-123). Washington DC: American Psychological Association.
- Rathert, J., Fite, P. J., & Gaertner, A. E. (2011). Associations between effortful control, psychological control and proactive and reactive aggression. *Child Psychiatry & Human Development*, 42, 609-621.
- Rosen, L. H., Beron, K. J., & Underwood, M. K. (2013). Assessing peer victimization across adolescence: Measurement invariance and developmental change. *Psychological Assessment*, 25(1), 1-11.
- Rudy, D., Awong, T., & Lambert, M. (2008). Parental psychological control and authoritarianism in Chinese-Canadian and European-Canadian cultural groups: Their meanings and implications for university students' adjustment. *Journal of Comparative Family Studies*, 39(4), 471-490.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.

- Sakalaki, M., Kanellaki, S., & Richardson, C. (2009). Is a manipulator's externality paradoxical? The relationship between Machiavellianism, economic opportunism, and economic locus of control. *Journal of Applied Social Psychology, 39*(11), 2591-2603.
- Salmivalli, C. & Nieminen, E. (2002). Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggressive behavior, 28*, 30-44.
- Schaefer, E. (1965). Children's reports of parental behavior: An inventory. *Child Development, 36*, 413-424.
- Schwartz, D. (2000). Subtypes of victims and aggressors in children's peer groups. *Journal of Abnormal Child Psychology, 28*(2), 181-192.
- Scott, L. N., Stepp, S. D., & Pilkonis, P. A. (2014). Prospective associations between features of borderline personality disorder, emotion dysregulation, and aggression. *Personality Disorders: Theory, Research, and Treatment*. Advance online publication. <http://dx.doi.org/10.1037/per0000070>
- Selby, E. A., & Joiner Jr., T. E. (2009). Cascades of emotion: The emergence of borderline personality disorder from emotional and behavioral dysregulation. *Review of General Psychology, 13*(3), 219-229.
- Shields, A. & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotion dysregulation. *Journal of Clinical Child Psychology, 24*(4), 381-395.
- Smetana, J., Crean, H. F., & Compione-Barr, N. (2005). Adolescents' and parents' changing conceptions of parental authority. In W. Damon, & J. Smetana (Eds.), Vol. 108. *New directions for child and adolescent development* (pp. 31-46). New York: Wiley.
- Soenens, B., Sierens, E., Vansteenkiste, M., Dochy, F., & Goossens, L. (2012). Psychologically controlling teaching: Examining outcomes, antecedents, and mediators. *Journal of Educational Psychology, 104*(1), 108-120.
- Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: proposing new insights on the basis of self-determination theory. *Developmental Review, 30*, 74-99.
- Stevens, D.A. & Hardy, S.A. (2013). Individual, family, and peer predictors of violence among Samoan adolescents. *Youth & Society, 45*(3), 428-449.
- Sutton, J., & Keogh, E. (2000). Social competition in school: Relationships with bullying, Machiavellianism and personality. *British Journal of Educational Psychology, 70*, 443-456.
- Toblin, R. L., Schwartz, D., Gorman, A. H., & Abou-ezzeddine, T., (2005). Social-cognitive and behavioral attributes of aggressive victims of bullying. *Applied Developmental Psychology, 26*, 329-346.

- Vitaro, F., Brendgen, M., & Barker, E. D. (2006). Subtypes of aggressive behaviors: a developmental perspective. *International Journal of Behavioral Development, 30*, 12–19.
- Waschbusch, D. A., Willoughby, M. T., & Pelham, W. E. (1998). Criterion validity and the utility of reactive and proactive aggression: Comparisons to attention deficit hyperactivity disorder, oppositional defiant disorder, conduct disorder and other measures of functioning. *Journal of Clinical Child Psychology, 27*, 396-405.
- Wastell, C. & Booth, A. (2003). Machiavellianism: An alexithymic perspective. *Journal of Social and Clinical Psychology, 22*(6), 730-744.
- Webster-Stratton, C., Reid, M.J., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child and Adolescent Psychology, 33*(1), 105-124.
- White, B. A., Jarrett, M. A., & Ollendick, T. H., (2013). Self-regulation deficits explain the link between reactive aggression and internalizing and externalizing behavior problems in children. *Journal of Psychopathology & Behavioral Assessment, 35*, 1-9.
- Xu, Y., & Zhang, Z. (2008). Distinguishing proactive and reactive aggression in Chinese children. *Journal of Abnormal Child Psychology, 36*(4), 539-552.
- Yong, F. L. (1994). Self-concepts, locus of control, and Machiavellianism of ethnically diverse middle school students who are gifted. *A Journal of Gifted Education, 16*(3), 192-194.
- Yu, J. J. & Gamble, W. C. (2008). Familial correlates of overt and relational aggression between young adolescent siblings. *Journal of Youth Adolescence, 37*, 655-673.
- Zablotsky, B., Bradshaw, C. P., Anderson, C., & Law, P. A. (2013). The association between bullying and the psychological functioning of children with autism spectrum disorders. *Journal of Developmental & Behavioral Pediatrics, 34*(1), 1-8.

Appendix

Table 1

Means, Standard Deviations, and Correlations of the Main Study Variables

	1	2	3	4	5	6	7	8	9	10	M	SD
1. Psychological Control											10.13	7.03
2. Machiavellianism	.22**										35.82	7.60
3. Dysregulation	.22**	.40***									39.71	13.72
4. Total Aggression	.30***	.25**	.50***								19.68	15.35
5. Total Victimization	.27**	.22*	.28**	.25**							16.45	16.69
6. Proactive Aggression	.24**	.24**	.42***	.92***	.19*						5.78	7.00
7. Reactive Aggression	.32***	.23**	.50***	.96***	.27**	.77***					13.90	9.33
8. Overt Aggression	.29**	.22**	.46***	.93***	.20*	.79***	.94***				13.90	10.03
9. Relational Aggression	.24**	.23**	.43***	.85***	.26**	.88***	.75***	.61***			5.77	7.03
10. Age	-.06	.07	-.14	-.18*	-.01	-.16	-.18*	-.14	-.19*		15.38	1.13
11. Gender	-.16	.04	-.20*	-.23**	-.06	-.22**	-.22*	-.13	-.32***	.14	--	--

Note: Gender coded as 0=Female, 1=Male

* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 1: Youth Traits Mediate the Associations between Psychological Control and Aggression

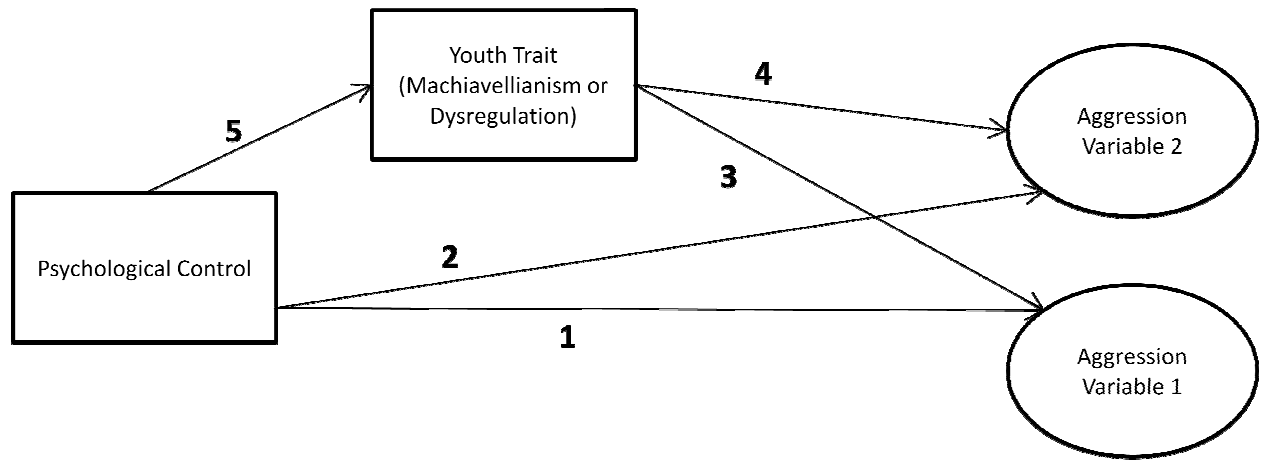
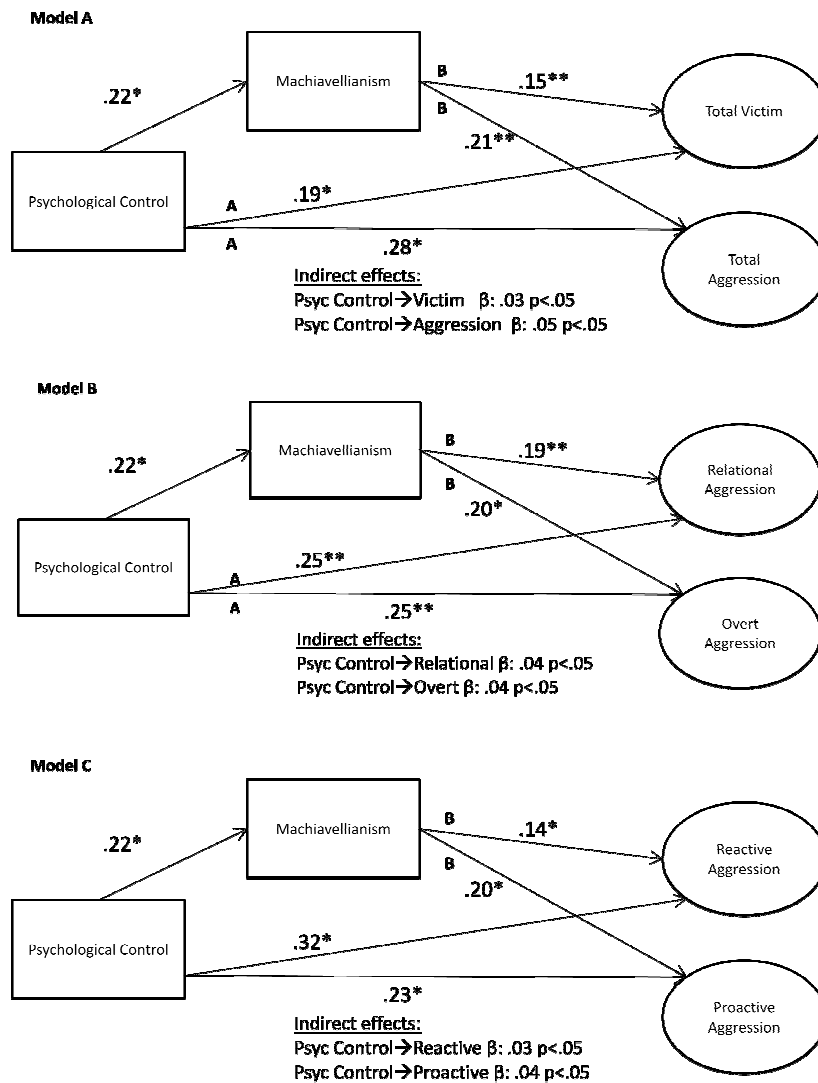


Figure 2: Mediation Analyses of Best Fitting Machiavellianism Models



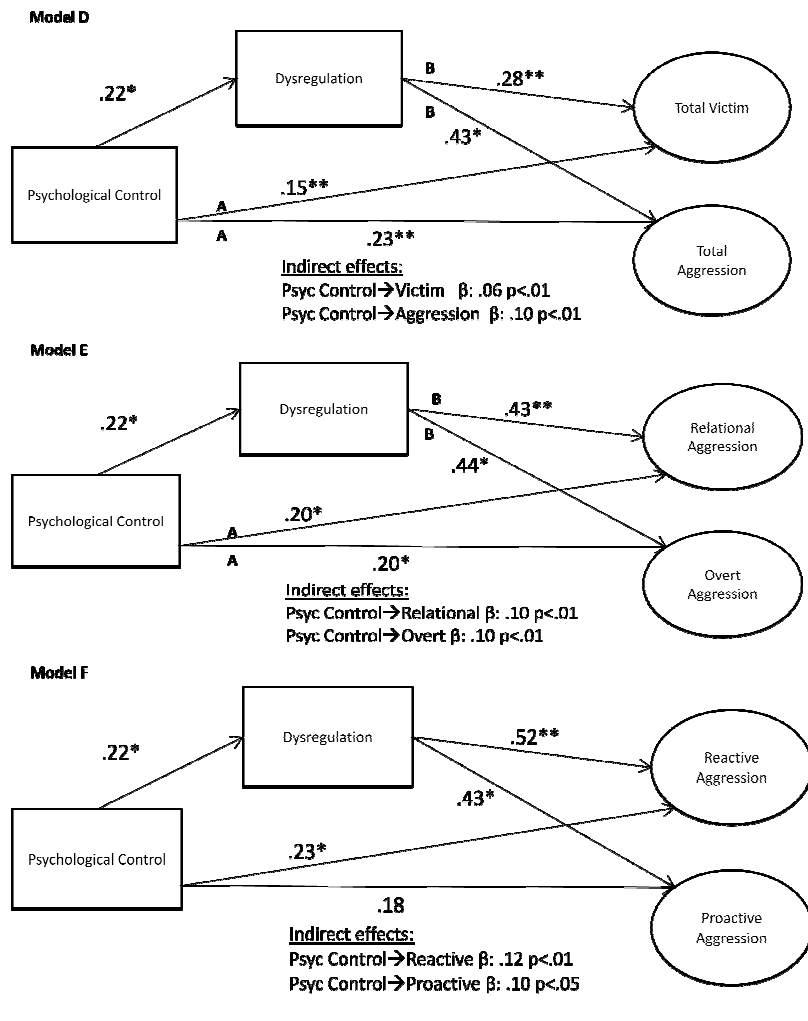
*Note: β =Standardized Beta; * $p < .05$; ** $p < .01$, *** $p < .001$

Table 2: Model Fit of Machiavellianism Mediation Models

Overall Model Fit						
	Constraints	χ^2	df	CFI	RMSEA	90% C.I.
Model A	None	85.26***	31	.93	.11	[.08 .14]
	Path 1=2	85.93***	32	.93	.11	[.08 .14]
	Path 3=4	85.47***	32	.93	.11	[.08 .14]
	Path 1=2; 3=4	86.34***	33	.93	.11	[.08 .14]
Model B	None	96.92***	31	.90	.12	[.10 .15]
	Path 1=2	97.23***	32	.90	.12	[.09 .15]
	Path 3=4	96.97***	32	.90	.12	[.09 .15]
	Path 1=2; 3=4	97.26***	33	.90	.12	[.09 .15]
Model C	None	153.08***	31	.81	.17	[.14 .19]
	Path 1=2	159.18***	32	.80	.17	[.14 .19]
	Path 3=4	154.03***	32	.81	.16	[.14 .19]
	Path 1=2; 3=4	160.57***	33	.80	.17	[.14 .19]

*Note: Best fitting model in **bold**; df=degrees of freedom; CFI=comparative fit index, RMSEA=root mean square error of approximation; * $p < .05$; ** $p < .01$, *** $p < .001$

Figure 3: Mediation Analyses of Best-Fitting Dysregulation Models



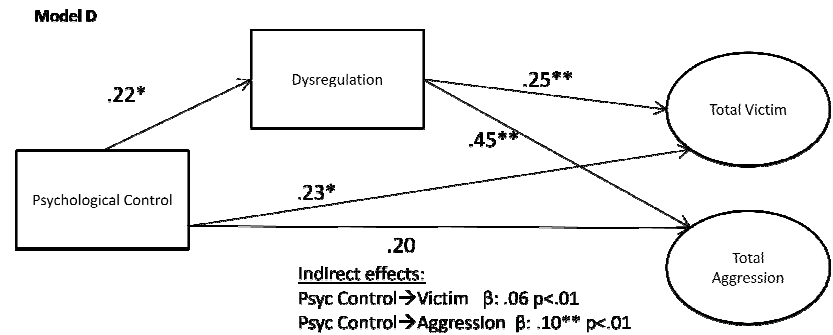
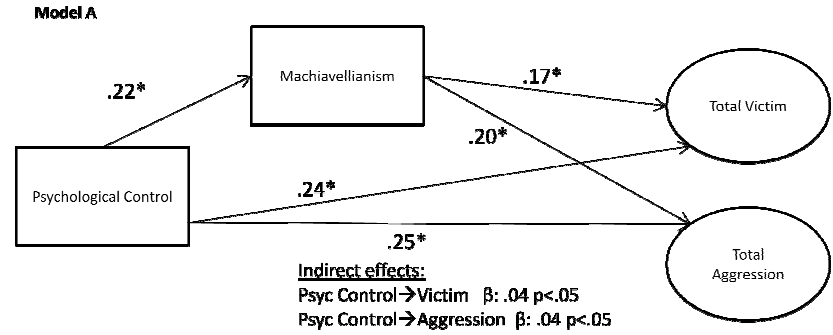
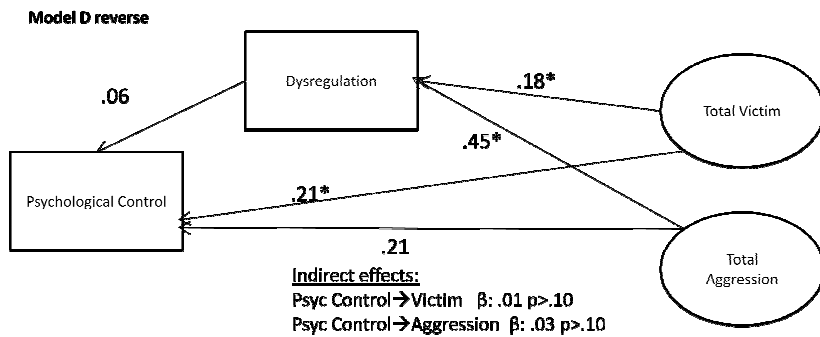
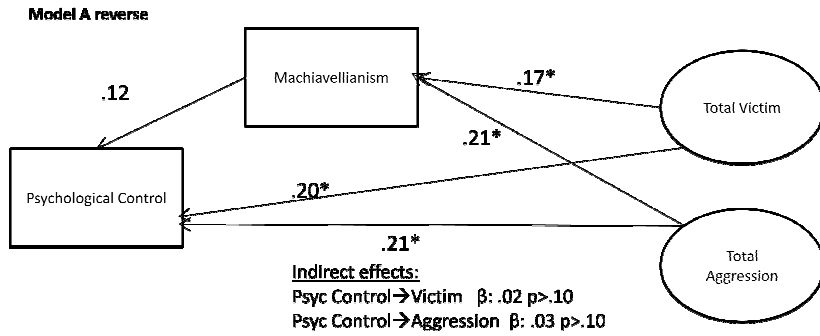
*Note: β =Standardized Beta; * $p < .05$; ** $p < .01$, *** $p < .001$

Table 3: Model Fit of Dysregulation Mediation Models

Overall Model Fit						
	Constraints	χ^2	df	CFI	RMSEA	90% C.I.
Model D						
	None	92.92***	31	.93	.12	[.09 .15]
	Path 1=2	94.03***	32	.93	.12	[.09 .15]
	Path 3=4	93.16***	32	.93	.12	[.09 .14]
	Path 1=2; 3=4	94.10***	33	.93	.12	[.09 .14]
Model E						
	None	104.22***	31	.89	.13	[.10 .16]
	Path 1=2	104.45***	32	.89	.13	[.10 .15]
	Path 3=4	104.22***	32	.89	.13	[.10 .15]
	Path 1=2; 3=4	104.45***	33	.89	.12	[.10 .15]
Model F						
	None	157.13***	31	.81	.17	[.14 .20]
	Path 1=2	160.98***	32	.81	.17	[.14 .20]
	Path 3=4	167.38***	32	.80	.17	[.15 .20]
	Path 1=2; 3=4	169.53***	33	.80	.17	[.15 .20]

*Note: Best fitting model in **bold**; df=degrees of freedom; CFI=comparative fit index, RMSEA=root mean square error of approximation; * $p < .05$; ** $p < .01$, *** $p < .001$

Figure 4: Child-Effects of Aggression and Victimization on Psychological Control



*Note: β =Standardized Beta; * $p < .05$; ** $p < .01$, *** $p < .001$

Vita

Genevieve Lapré is from New Orleans, Louisiana. She earned her Bachelor's degree, Magna Cum Laude from Louisiana State University in 2010 and her Master's degree from the University of New Orleans in 2012. She worked with Dr. Monica Marsee at the University of New Orleans in the Applied Developmental Psychology doctoral program, studying parenting strategies, including psychological control and corporal punishment, and their associations with youth aggression.