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Adolescent Motivation and Parental Support of Autonomy: Their Relations with Effortful
Control and Social Norms in Early Onset Substance Use

by

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Adolescent Motivation and Parental Support of Autonomy: Their Relations with Effortful
Control and Social Norms in Early Onset Substance Use

Thesis Abstract – Idaho State University (2018)

It is estimated that about 5% of adolescents meet criteria for a substance use disorder (“Behavioral health trends”, 2015). Given the high prevalence of substance use in adolescents, it is important to understand associated risks and protective factors. The primary purpose of the current study was to evaluate the relationships between parental support of autonomy, self-regulatory styles, social norms and substance use in a group of junior high and high school students. A sample of 96 junior high school students were recruited. Students who returned completed consent and assent forms completed surveys assessing basic demographic variables, motivation orientation, effortful control, social norms, and substance use. Results suggested that identified self-regulation was significantly associated with higher rates of effortful control. Overall, external self-regulation was significantly associated with lower rates of effortful control as moderated by social norms. More specifically, those who perceived their friends to be approving of substance use reported significantly lower effortful control compared to those who did not perceive their friends to be approving of substance use. The hypothesized models of parental support of autonomy predicting to youth effortful control as mediated by youth prosocial self-regulatory styles were not significant. Substance use variables were unable to be examined due to low variability. Implications were reviewed in relation to deepening the understanding of risk factors for substance use among adolescents.

Key Words: Substance use, Social Norms, Parental Support of Autonomy, Self-Regulatory Styles, Prosocial Behaviors, Effortful Control, Adolescents.

Adolescent motivation and parental support of autonomy: Their relations with effortful control
and social norms in early onset substance use

Alcohol is the leading factor in many teen deaths caused by car accidents, suicide, and homicide (“Underaged drinking,” n.d.). As of 2014, 679,000 adolescents had a diagnosed alcohol use disorder (AUD) and 4.2 million people 12 years of age and older met criteria for a cannabis-related substance use disorder. Altogether, it is estimated that about 5% of adolescents met criteria for a substance use disorder in 2014 (“Behavioral health trends”, 2015).

In 2015, 40% of 8-12th graders reported using alcohol within the prior year and 22% reported use within 30 days of the survey (“Use of ecstasy,” 2015). Additionally, 5% of 8th graders reported binge drinking and this percentage increased with age (11% in 10th grade, and 17% in 12th grade). Furthermore, illicit drug use in 2015 was reported amongst 15% of 8th graders, 28% of 10th graders, and 39% of 12th graders. Due to the high prevalence of substance use and disorders in adolescence, it is important to understand the associated risk and protective factors. In understanding risk and protective factors, parents, teachers and clinicians can better identify behaviors that might be of concern among youth with whom they have close interactions.

The current study examined motivational factors that may serve as protective and risk factors for substance use in adolescence. The study investigated how effortful control mediated and how perceived social norms moderated the relationship between motivational orientations and substance use. Lastly, the relationship between parental support of autonomy and motivational orientations were examined. As such, the literature review considers, more broadly, self-determination theory, with a specific focus on motivational orientations in adults

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and self-regulatory styles in children and adolescents. Following this, literature on how effortful control, social norms, and family support of autonomy influenced substance use were discussed.

Self-determination theory, motivational orientations and self-regulatory styles

Self-determination theory (SDT) is an approach to motivation and personality which stresses the importance of volition, autonomy and choice in the development of self-regulation and personality (Deci & Ryan, 2002). Research in this area has focused on an individual's psychological needs (i.e., the need to feel autonomous, competent, and connected to others) and their relation with motivation and the external conditions that can cultivate this positive development (Deci & Ryan, 2002). Competence (i.e., feeling effective in one's social environment and experiencing opportunities that are personally challenging), relatedness (i.e., feeling connected to others and feeling a sense of belonging), and autonomy (i.e., being the perceived source of one's own actions) are of primary interest since SDT postulates that, when these needs are met, individuals grow to be more autonomous and intrinsically motivated (Ryan & Deci, 2000b).

Motivation has two components: level/strength of motivation (how motivated someone is to do something) and the orientation (what is motivating the behavior; Deci & Ryan, 2002). Self-determination theory proposes that an individual may be either intrinsically or extrinsically motivated (Deci & Ryan, 2000b; Ryan and Deci, 2002). Traditionally, intrinsic motivation (when a behavior is motivated because the action/activity itself is rewarding) is considered to be a more active, enriched form of motivation. Extrinsic motivation, on the other hand, where an action is motivated in order to achieve a separate outcome, is generally considered a more impoverished type of motivation (i.e. completing schoolwork to avoid punishment; Deci & Ryan, 2002). However, self-determination theory suggests that a continuum exists within

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externalized motivation which differs in level of active motivation and autonomy. This continuum is particularly relevant for children and adolescents, as their motivational orientations may undergo rapid and drastic changes in development. SDT proposes that, at its extreme end, extrinsic motivation is completely externally regulated. However, fostering of internalization can lead to more autonomous and internally regulated forms of extrinsic motivation (see Figure 1; Ryan and Deci, 2000a; Ryan and Deci, 2002). On this continuum, an individual may be identified as more autonomous (the degree to which a person is oriented toward environmental factors that elicit intrinsic motivation) or more controlled (the amount to which a person is controlled by rewards, deadlines, and the orders of others) in motivational style. These self-regulatory styles develop throughout the lifetime, although, individuals may not progress through all the stages (Ryan & Deci, 2000a). When looking at children and adolescents, some behaviors are intrinsically motivated (i.e., they are self-rewarding). However, other behaviors are motivated, to some degree, by external factors that are separate from the behavior itself (e.g., punishment).

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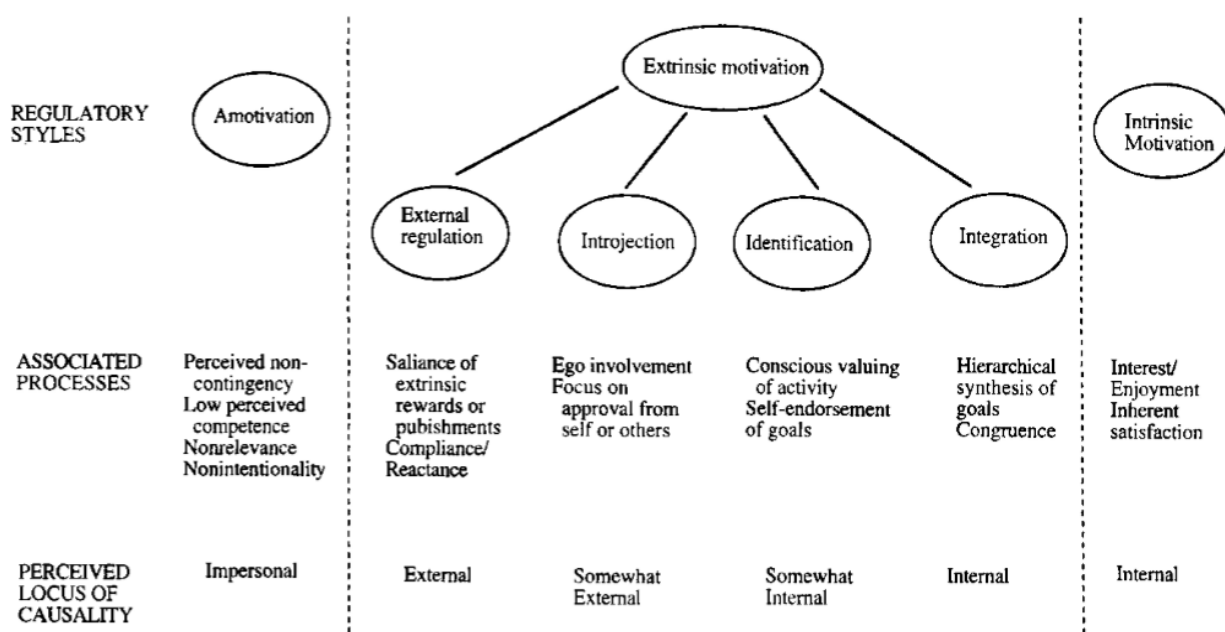


Figure 1. A taxonomy of human motivation (Ryan & Deci, 2000a).

In previous literature pertaining to SDT, external regulation (interpersonally controlled) and introjected regulation (regulation that is partially internalized, however, the individual has not fully accepted it as their own) often represents more externally driven behaviors, whereas identified (viewing a behavior as personally important) and integrated (behaviors that are congruent with personal values and needs) are indicative of more internally driven actions. It is theorized that children and adolescents do not maintain a general motivational orientation, but rather, regulatory styles will vary depending on the context or behavior (e.g., academic situations or prosocial situations). However, individuals who show higher levels of internalized motivation across settings and behaviors are more likely to display more autonomous orientation styles in adulthood, whereas individuals who maintain more externally derived regulation will likely identify as more controlled once motivation has been generalized (Ryan & Deci, 2000a).

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Motivation Orientations and Substance Use

This review assesses how regulatory styles in children and adolescents relate to substance use. However, due to the limited research in youth, motivation orientations in adults were summarized to attain a more comprehensive understanding of the motivation and substance use relation.

Previous research has identified motivation factors that may underlie decisions to consume alcohol. Neighbors, Larimer, Markman, Geisner, and Knee (2004) examined the relationship between controlled orientation and motives for drinking in college-aged participants. This research supported that controlled orientations were associated with coping, social, and enhancement motivations as well as increased frequency and alcohol related problems.

In addition to more situational based motives, researchers have examined relations between generalized orientations relation and substance use. Wong & Rowland (2013) found that among college students who did not drink, higher autonomy orientation predicted less drinking. Among students who drank, autonomy orientation was associated with lower drinking frequency but increased quantity of drinking when they consumed alcohol. On the other hand, individuals with a higher controlled orientation reported more frequent drinking and used more illicit drugs compared to those with lower controlled orientations. Furthermore, individuals with higher controlled orientations were more likely to experience problems related to alcohol use compared to their counterparts (Wong & Rowland, 2013). Similar studies have shown consistent results when looking at the relation between motivation orientation and substance use (Chawla, Neighbors, Logan, Lewis, & Fossos, 2009). Those with a higher controlled orientation consumed more alcohol in a week compared to those with a more autonomous orientation. Additional research, conducted by Nguyen and Neighbors (2013), demonstrated this effect may

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vary across ethnicities and cultures. Higher controlled orientation was related to heavier drinking in Caucasians; however, this finding was not consistent in Asian Americans with a higher controlled orientation, who reported less consumption of alcohol.

While much of the research in motivation orientations has primarily focused on adult populations, some research has examined the impact of motivation on youth substance use. In order to investigate these orientations in adolescents, self-regulatory styles across different contexts were explored. Previous research has examined academic motivation and its relationship with current and lifetime alcohol consumption in high school students (Wormington et al., 2011). Results supported that those with higher levels of intrinsic regulation identified less drinking overall, whereas those who endorsed higher levels of external regulation reported higher levels of drinking. Similarly, Wong (2008) explored the effects of more autonomous self-regulatory styles in a study examining perceived parental autonomy support and self-regulation's effect on academic performance and substance use. Results suggested that those who gravitated towards a more identified academic regulation style showed better outcomes than those who were more externally regulated: performing better in school, showing less disruptive behavior, and lower substance use.

Self-Regulation/Effortful Control and Substance Use

Self-regulation is an individual's ability to control or manage their behaviors, cognitive processes (e.g., attention) and emotions (Baumeister & Vohs, 2004; Vohs & Baumeister, 2011). Behaviorally, self-regulation is the capacity to engage in behaviors consistent with one's goals and personal values. Emotionally, self-regulation is the ability to effectively manage emotional experiences. One cognitive component of self-regulation is effortful control, the ability to voluntarily sustain attention and inhibit a dominant behavior/response or activate a secondary

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response/behavior. Given the breadth of content that self-regulation encompasses, the primary focus of this review will look at the relation between effortful control and substance use.

The effects of cognitive performance, emotional and behavioral self-regulation have been explored in the adult literature. Additionally, research has examined cognitive performance amongst adult abstinent drug abusers and individuals who did not use drugs (Fishbein et al., 2005). This study suggested that drug users had lowered sensitivity to consequences on risky decision tasks as well as increased behavioral inattention, aggression, decreased ability to learn and greater cognitive inflexibility.

The effects of executive function, behavioral approach sensitivity (i.e., the amount someone is drawn to stimulating activities), and emotional decision making on risky behaviors have been examined in female college students (Patrick, Blair & Maggs, 2008). Results showed that higher levels of alcohol use were associated with a combination of greater approach sensitivity and better working memory. This pattern was consistent for drug use and delinquency, though only approaching significance. Furthermore, for individuals with low inhibitory control, poorer emotional decision making was associated with higher levels of alcohol use.

Some research has shown support for effortful control as a mediator when predicting early onset of substance use and other deviant behaviors through motivation orientation. In this study, autonomous and controlled orientations were associated with drinking frequency and quantity in college students (Wong & Rowland, 2013). Moreover, effortful control significantly mediated the relationship between motivational orientations and substance use. Those with more autonomous orientations reported less frequent drinking compared to those with controlled orientations, though they reported greater quantity. However, among individuals with

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autonomous orientations, those with higher effortful control consumed less alcohol than those with lower effortful control.

Self-regulation and substance use has also been examined in adolescents, albeit limited. Wills, Walker, Mendoza, and Ainette (2006) found that increased effortful control and behavioral control predicted decreased substance use. Further, research has investigated how different predictor variables (e.g., academic involvement, negative life events, peer substance use) of substance use and associated problems were moderated by self-regulation in adolescence (Wills, Pokhrel, Morehouse, & Fenster, 2011). Results suggested that behavioral self-regulation was a significant moderator when looking at negative life events and the effect of peer substance use on adolescent substance use. The influence of negative life events and peer substance use on the individual's substance use was greater for those with low behavioral self-regulation than those with increased behavioral self-regulation.

Wong (2008) further investigated the effects of effortful control as a mediator for parental support of autonomy and academic performance on substance use. Results suggested that the relationship between parental autonomy support and academic performance was mediated by effortful control, such that greater effortful control predicted better academic performance.

In addition to cross sectional and correlational studies, Piehler, Veronneu, and Dishion (2012) investigated the progression of substance use from adolescence to adulthood in the context of effortful control and the influence of friendships. They found that decreased effortful control in adolescence predicted increased drug use problems in adulthood. Although the same pattern was present for alcohol-related problems, this effect did not reach significance. However, when predicting alcohol problems in adulthood, there was an interaction between

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adolescent substance use lifestyle (whether adolescents and their friends used drugs and alcohol) and effortful control. Individuals with decreased exposure to substance use in adolescence were more at risk for developing problematic drinking in adulthood when self-regulation was poor compared to those with higher self-regulatory skills, suggesting that stronger self-regulatory skills may serve as a protective factor for later development of substance use problems.

However, when adolescent substance use was high, self-regulation showed a diminished influence on the development of later alcohol related problems.

Family Support and Substance Use

External factors, such as family influence, have been shown to play a role in the onset of substance use. Parental supervision and monitoring during middle childhood have been investigated with respect to their influence on substance use later in adolescence (Chilcoat & Anthony, 1996). Results showed that lower levels of parental supervision and monitoring were associated with early onset drug use. Consistent with this research, Anderson and Henry (1994) have shown that while parental substance use was linked to increased risk of child substance use involvement, increased parental involvement and support (both emotional and resource) were negatively associated with substance use in youth.

Additionally, youth perceptions of parental support of autonomy has been shown to influence different childhood behaviors. Parents who are supportive of autonomy minimize the use of control and pressure and allow children to solve their own problems (Deci & Ryan, 2002). Specifically, this effect has been explored in the context of academic performance. Higher levels of youth perceptions of autonomy support and parental involvement predicted increased perceived competence, control understanding (i.e., the degree to which one understands who or

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what controls the outcomes in their life), and autonomy self-regulation in students (Grolnick, Ryan, and Deci, 1991; Grolnick & Ryan, 1989).

Previous research has begun to investigate the effect of parental support of autonomy on substance use behaviors. In one such study, the impact of parental monitoring, support of autonomy and control in relation to adolescent motivation, and planning/decision making skills was explored (Chilenski, Ridenour, Bequette, & Caldwell, 2015). In this study, greater perception of parental support of autonomy predicted increased school adjustment and grades. Furthermore, these individuals endorsed higher levels of planning and decision-making skills, which predicted to lower substance use. These results are consistent with an earlier study (Wong, 2008), where higher rates of perceived parental autonomy support predicted better outcomes for all students (decreased substance use and better academic performance).

Social Norms and Substance Use

In addition to family factors, social norms have also been investigated in relation to substance use. Social norms include both injunctive and descriptive norms. Injunctive norms are behaviors believed to be acceptable to others, while perceived descriptive norms are perceptions of other people's behavior (e.g., beliefs of how much others use substances). Both injunctive norms and descriptive norms have been shown to influence substance use. These factors are important to investigate because individuals view peer perceptions of alcohol use as more normative as they grow older (Pedersen et al., 2013). Furthermore, peer approval and disapproval of alcohol use are more strongly associated with substance use than parental disapproval, particularly for Caucasian and female adolescents (Mrug & McCay, 2013). Not only does perceived peer alcohol use become more normative throughout development, but research suggests that schoolmate and school-level disapproval becomes less protective for

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substance use as adolescents grow older (Kumar, O'Malley, Johnston, Schulenberg, & Bachman, 2002). Taking these factors into consideration, research suggests that exploring the impact of social norms is important for understanding substance use onset.

Research completed by Jackson and colleagues (2014) explored the effect of subjective peer norms on adolescents' agreeableness to drinking. This research supported that both injunctive and descriptive peer norms influenced an individual's willingness to drink alcohol, with descriptive norms showing a stronger effect. Additionally, when looking at factors mediating this effect, females with less experience with alcohol showed greater influence of peer norms. This pattern of injunctive and descriptive norms predicting to later substance use has been replicated across multiple studies, with the strongest effect being linked to descriptive norms (Eisenberg, Toumbourou, Catalano, & Hemphill, 2014; Page, Ihasz, Hantiu, Simonek, & Klarova, 2008).

Examining descriptive norms more specifically, Piehler and colleagues (2012) investigated the progression of substance use from adolescence to adulthood in the context of effortful control and influence of friendships. Researchers found that friends' substance use in adolescence was a significant predictor of adult substance use problems. Individuals who reported increased substance use for both self and friends showed greater alcohol-related problems in adulthood compared to groups who reported less substance use for friends and/or self.

Gender, male-typicality (i.e., more male oriented in behaviors and attitudes), and social norms have also been investigated as predictors of substance use in youth (Mahalik, Lombardi, Sims, Coley, & Lynch, 2015). Results supported a positive relation between social norms (friends and schoolmates) and the initiation and growth of alcohol use in adolescence; greater

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levels of perceived positive social norms for substance use predicted to earlier initiation and increased use across adolescence. Additionally, the effects of social goals have been investigated in relation to social normative influences on adolescent alcohol use (Meisel & Colder, 2015). Results indicated that perceived injunctive norms consistent with peer substance use interacted with low communal goals (valuing belongingness in relationships) at earlier grades to predict higher alcohol use, but not for high communal goals. However, in older adolescents, this interaction was not present, such that, regardless of level of communal goal, those with high injunctive norms were more likely to report increased substance use compared to individuals with lower injunctive norms. When examining communal goals and descriptive norms, in early adolescence, individuals with high communal goals and high descriptive norms were predictive of increased substance use the following year, but not for low communal goals. In later adolescence, however, this pattern reverses where individuals with high descriptive norms and low communal goals reported increased drinking one year later, but this pattern was not consistent for those with high communal goals.

Expanding on this, researchers have investigated the role of perceived injunctive norms on the relationship between motivational orientations and substance use (Chawla, Neighbors, Logan, Lewis, & Fossos, 2009). These investigators found that those with higher autonomous orientation viewed peers as less approving of drinking and endorsed fewer drinks per week than those with more controlled orientations. Correspondingly, those with a higher controlled orientation perceived peers as more approving of drinking and reported consuming more alcohol in a week compared to those with a higher autonomous orientation.

Additional research, conducted by Nguyen and Neighbors (2013), showed greater perceived peer approval for substance use in control oriented individuals and these peer

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injunctive norms were related to heavier drinking in Caucasians. Asian Americans, on the other hand, reported lower rates of parental and peer approval for alcohol consumption than Caucasians. These studies suggest that there is an effect of injunctive norms and ethnicity on substance use in addition to motivational orientation.

Summary of past research

Previous research has identified that motivation orientations and social norms affect both frequency and quantity of alcohol consumption, particularly with adult populations. Specifically, those with a higher autonomous orientation tend to consume less alcohol during a drinking episode compared to those with higher controlled orientation. Additionally, individuals with controlled orientations tended to report more problems associated with drinking. A limited amount of research has suggested effortful control was potential mediator for this effect. Additionally, when examining the effects of social norms within adolescents, research has shown that older adolescents view drinking behaviors as more normative. Furthermore, literature has demonstrated that peer norms are more influential than parental norms. A small amount of research has explored the effects of perceived parental support of autonomy on substance use and suggested that increased perceived support was linked to decreased substance use.

While extensive research has been completed, gaps are still noted in the literature. For one, little research has explored these factors in youth as the predominate population used to examine these relations are college aged populations. To date, studies have not examined prosocial self-regulation in relation to effortful control and substance use. Additionally, studies have examined perceived parental support of autonomy, however studies have not examined parent reported support in relation to self-regulation, effortful control, and substance use in youth. Lastly, there is a limited range of substance use examined (i.e., marijuana, alcohol).

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These gaps leave some questions to be answered: Does risk for early onset substance use differ based on a child's self-regulatory style for behaviors other than academic? Further, if an individual is more externally motivated, do social norms play an increased role in risk for onset of substance use? Can parental support of autonomy influence the child's developing motivational orientation? Lastly, does effortful control's mediating role in self-regulation and substance use generalize past academic self-regulation?

Overview of the current study

The current study aimed to replicate the relationship between motivational orientation and alcohol/substance engagement using an adolescent population by examining self-regulatory style. However, it intended to expand the prior research by examining self-regulation within a prosocial context. Previous research has illustrated a well-established connection between alcohol use and social norms, however this relationship has been primarily established in college-aged populations. A smaller amount of research has shown relations between effortful control and substance use, as well as perceived parental support of autonomy and substance use (Wong, 2008; Wong & Rowland, 2013). Nevertheless, little research has been done on how these factors may influence each other when predicting to alcohol use and a broad range of substance use. Therefore, the current research aimed to expand upon the existing literature by looking at how individuals' effortful control and perceived social norms may influence the effect of prosocial self-regulatory styles on substance use (e.g., alcohol, marijuana, prescription medications). Lastly, perceived parental support has been suggested to influence substance use in adolescents (Wong, 2008). However, no research has examined the relationship between parental report of autonomy and children's substance use. The current study aimed to determine

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the influence of parental support of autonomy on substance use in adolescents, as reported by the parent, through its effect on the child's motivation orientation.

Due to the cross-sectional, survey-based nature design, causal statements (i.e. "causes", "influences", "effects") about the relationships between predictor and dependent variables were be minimized. When these terms could not be avoided, they were used for the purpose of explaining our hypothesized model and statistical analyses. No causal relationships among variables were implied.

Consistent with previous literature, it was hypothesized that individuals who endorse more autonomous self-regulatory styles would report consuming less alcohol than those with controlled styles. Further, this influence was expected to be stronger for autonomous individuals with higher levels of effortful control. Additionally, it was predicted that social norms would moderate the effect of motivation orientation and effortful control on substance use, such that individuals with more autonomous orientations would be less influenced by social norms, particularly when effortful control is high, when compared to more controlled individuals. Lastly, it was believed that parental support of autonomy and self-regulation will interact when predicting to substance use. It was believed that higher parental support of autonomy will be related to a higher autonomous orientation and a lower controlled orientation.

Chapter 2: Methods

Participants & Design

Data were collected from a sample of 96 junior high school and high school students and their parent/guardian in a small town in the Northwestern U.S.; students' age range was 10-19 years ($M = 12.5$, $SD = 2.027$, $N_{\text{female}} = 53.2\%$). Ethnic variables were not obtained for the sample, however, based on population data, it is expected that approximately 30% of the sample was Hispanic.

Students completed surveys in paper or computer form assessing basic demographic variables, self-regulation style, effortful control, parental support of autonomy (completed by the parent), social norms, and history of substance use. Predictor variables included parental support of autonomy and self-regulation styles. Social norms was included as a moderator, whereas effortful control was treated as mediator. Each predicting factor was investigated in their relation to substance use (dependent variable). There was no manipulation of variables due to the nature of the design.

Sample size was determined using MacCallum and colleagues' method (MacCallum, Borwne, Sugawara, 1996). This technique focuses on the statistical power of the data to identify an overall good fit of a theoretical model using the root mean error of approximation (RMSEA) in structural equation modeling. A test of close fit is where RMSEA is less than .05, which indicates good fit (RMSEA of .06 or less is considered good fit (Hu & Bentler, 1995). A test of not close fit suggests that the model does not fit the population, and a test of exact fit indicates the only error present is due to sampling error (MacCallum et al., 1996). The target sample size was estimated based on a statistical power of .8. This means that, within the model, if the null hypothesis is false, there is 80% power to reject the null hypothesis. Previous substance use

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paradigms conducted in junior high settings yielded small to moderate effect sizes (Wong, 2008; Wills et al., 2011). The test of close fit, which is the ability to determine the difference between a null model with a RMSEA of .05 and an alternative model with a RMSEA of .08, was used. Research testing SEM models in the junior high school populations similar to the ones proposed in this thesis suggest that degrees of freedom (df) vary from 100 to 500 (Wills et al., 2011; Wong, 2008). According to MacCallum and colleagues (1996), a df of approximately 100, and a sample size of 132 would yield a power of .8 for a test of close fit. Thus, data collection from approximately 150 students was intended, however due to recruitment challenges, the obtained sample was considered underpowered.

Materials

A 7-item demographics questionnaire was used to attain gender, grade, age, grade point average, socioeconomic status, and household size/ characteristics for both child (see Appendix A) and parent/guardian (see Appendix B). If discrepancies arose from parent/guardian and child report, parent/guardian data were used.

Self-regulatory styles. Self-regulation style was examined using the Prosocial Self-Regulation Questionnaire (SR-P; Ryan, & Connell, 1989; see Appendix C). The 25-item self-report measure examined motivation behind why children engage in various prosocial behaviors (e.g. Why do you not make fun of another child for making a mistake?). Provided reasons for engaging in the behaviors are rated on a 4-pt scale from very true (4) to not at all true (1). Higher scores are indicative of greater endorsement for the type of regulatory style. Questions map onto three subscales for self-regulation (external, introjected, and identified). Intrinsic motivation is not measured in this questionnaire as, theoretically, it is not believed that prosocial behaviors hold intrinsic motivation. In the current study, Cronbach alphas were considered

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acceptable (above .7) to good (above .8). Specifically, external regulation had an alpha score of .845, introjected regulation's alpha was a .867, and identified regulation's Cronbach alpha was .709.

In order to assess childhood motivation orientation, scores for both external and identified styles were derived from the Prosocial Self-Regulation Questionnaire where externally motivated behaviors are weighted more negatively and more internally regulated behaviors more positively (external response = -2, introjected = -1, identified = +1). Questions pertaining to external and identified regulatory styles were then grouped and means will be determined, independently. Since it is unlikely that integrated regulation would have developed in childhood, this scale is not assessed in the questionnaire.

Effortful Control. Effortful control was evaluated using the Early Adolescent Temperament Questionnaire-revised (EATQ; Ellis & Rothbart, 2001; see Appendix D). The self-report questionnaire assesses temperament and self-regulation across different activities (e.g. I have a hard time finishing things on time). Three subscales were used: 6 items loading onto attention focusing/shifting, 5 items pertaining to inhibitory control, and 5 items comprising the activation control subscale. Individuals rate these questions on a scale of 1 (*almost always untrue*) to 5 (*almost always true*). In the current study, effortful control's Cronbach alpha was considered acceptable at .759

Variables attained through this measure included temperament scales (activation control, affiliation, attention, fear, frustration, high intensity pleasure/urgency, inhibitory control, pleasure sensitivity, perceptual sensitivity, and shyness) and behavioral scales (aggression and depressive mood). Subscale responses were summed and divided by the total number of items in a given scale. To attain an effortful control score, the mean of attention, inhibitory control, and

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activation control subscales were calculated. Higher scores were indicative of an individual that is high on that attribute.

Perceived social norms. Questions from the Washington State Healthy Youth Survey (HYS, 2014; see Appendix E) was used to assess perceived peer norms (both descriptive and injunctive). Four items were used to evaluate perceived descriptive norms where the participant was asked to think of their four closest friends and indicate how many of them use different types of substances (where 0 = *none of my friends* and 4 = *4 of my friends*). Four items were used to determine an individual's perception of injunctive norms (e.g., how wrong do your friends feel it would be for you to have one or two drinks of an alcoholic beverage nearly every day; where 0 = *very wrong* and 3 = *not at all wrong*).

Four ordinal variables were used to determine the perceived injunctive norms around peer approval of drug/alcohol use (0 = *very wrong*, 3 = *not at all wrong*). The Cronbach alpha for injunctive norms in the current study was good (alpha = .878). This variable was dichotomized due to low variability (0 = *perceiving no close friends to approve of substance use* and 1 = *perceiving at least one close friend to be approving substance use*).

Substance use. Questions from the Washington State Healthy Youth Survey (HYS, 2014; see Appendix F) were used to assess onset of alcohol and substance use, frequency of use, and average amount consumed during use periods. Seven items assessed frequency of substance use in the last 30 days (e.g., during the past 30 days, on how many days did you smoke cigarettes?). These questions were modified to inquire about lifetime use as well (e.g., in your lifetime, within an average month, how many days did you smoke cigarettes?). Two questions (one for lifetime and one for the past two weeks) were used to assess heavy alcohol/drug use (e.g., how many times in the past year (12 months) have you been drunk or high at school?).

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Four items inquired about age of onset for different substances (e.g., How old were you the first time you used marijuana?). Finally, 2 checklist questions were used to inquire about problems from substance use for the past year and lifetime (in the past year, which of the following happened because you drank alcohol/used drugs? Choose all that apply).

Parental support of autonomy. Parental support of autonomy (the extent to which parents are supportive of autonomy in their children) was measured using the Problems in School Questionnaire (Deci, Schwartz, Sheinman, & Ryan, 1981; see Appendix G). This 8-scenario questionnaire poses a situation that needs solving and provides the parent with different choices of how to manage the situation (e.g. your child has been getting average grades, and you'd like to see her improve. [The responder rates each choice from 1 (*very inappropriate*) to 7 (*very appropriate*)]. Each option maps onto a different level of support and scores categorize the reporter as highly controlling, moderately controlling, moderately autonomy supportive, or highly autonomy supportive. In the current study, Cronbach alphas were approaching acceptable (just below .7) to acceptable. Specifically, highly controlling had an alpha of .692, moderately controlling had an alpha of .692, moderately autonomous's alpha was .759, and highly autonomous had a Cronbach alpha of .734.

Parental support of autonomy, measured by the parent report on the Problems in School Questionnaire, assesses the degree to which a parent exhibits are more controlling or autonomous mentality towards their child. This factor evaluates highly controlling to highly autonomous responses to scenarios and an algebraic sum was calculated to determine the degree of autonomous support a parent demonstrated across categories (i.e., highly controlling, moderately controlling, moderate autonomy support, high autonomy support).

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Procedure

Consent and assent forms were sent home with students and returned to the school. Those volunteers who returned the completed consent and assent forms completed surveys assessing basic demographic variables, self-regulation, effortful control, social norms, and history of substance use online. The parent reported measures were collected both at the school's open house and at home via student "take home folders" in paper form. Students that participated were given a candy bar (junior high school students) or entered into a raffle to win one of ten \$5 Amazon gift cards (high school students) in compensation.

Plan for Analysis

In the hypothesized model, the "*a*" path was the effect of parental support of autonomy on effortful control, the "*b*" path was the effect of self-regulation on effortful control while controlling for parental support of autonomy, and the *c*' path was the effect of parental support of autonomy on effortful control while controlling for self-regulation. On each path, the potential moderated effect of social norms was evaluated. This was done by creating two interaction terms – autonomy support X social norms and self-regulation X social norms.

To test the proposed mediation model, the product-of-coefficient approach was used (MacKinnon et al., 2002; MacKinnon, 2008). Since research has found that the product of two normally distributed variables (i.e., *a* and *b*) is often not normally distributed (MacKinnon et al., 2002), the Sobel test is often highly conservative and has low statistical power. Due to these limitations, the mediation effect was evaluated by asymmetric confidence intervals (MacKinnon, 2008; MacKinnon, Fritz, Williams, & Lockwood, 2007). This method uses the distribution of the mediated effect to calculate confidence limits, therefore producing more accurate Type I error (MacKinnon et al., 2002; MacKinnon, 2008). To do this, the ProdClin Program

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(MacKinnon, Fritz, Williams, & Lockwood, 2007) was used. If the 95% confidence interval did not include zero, the mediated effect was statistically significant.

Effortful control scores were derived from the sum of 3 scales scores on the Early Adolescent Temperament Questionnaire – Revised (EATQ-R; Ellis & Rothbart, 2001): activation, inhibitory control, and attention. Three scores of youth prosocial self-regulatory styles were computed: external, introjected, and identified regulation. Lastly, 4 categories of parental support of autonomy were examined: highly controlling, moderately controlling, moderate autonomy support, and high autonomy support.

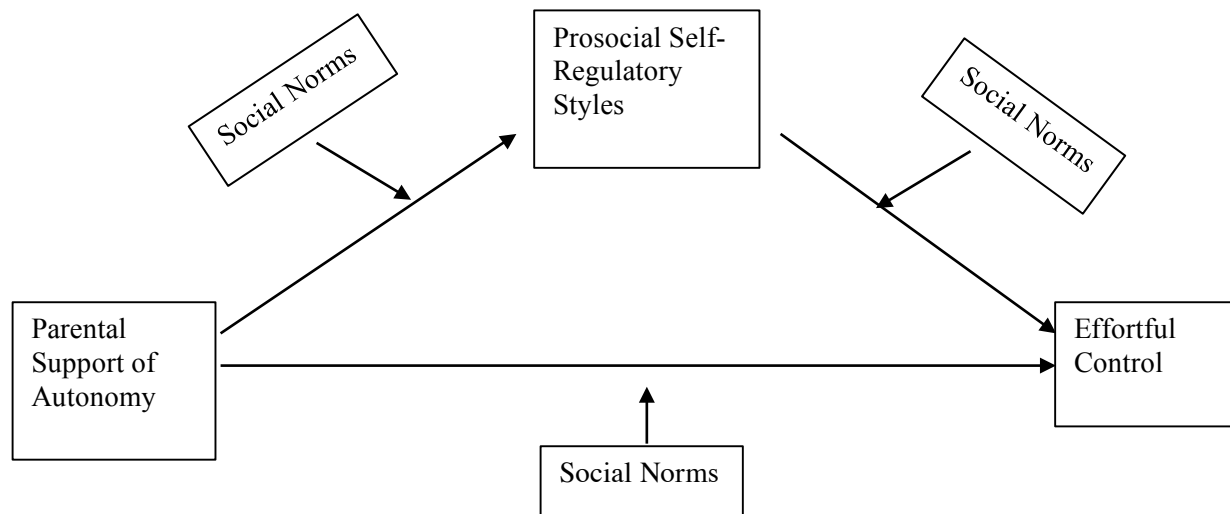


Figure 2. Modified Hypothesized Model Examining the Association between Parental Support of Autonomy and Effortful Control as mediated by Prosocial Self-Regulatory Styles.

It was hypothesized that youth with parents who were moderately and highly controlling would display more extrinsic regulation (i.e., introjected and external regulation) whereas those with more autonomy supportive parents would display more intrinsic regulation (i.e., identified regulation). Further, it was hypothesized that parental support of autonomy would be associated with youth effortful control through youth's self-regulatory styles: those with autonomy supportive parents would display more intrinsic self-regulation and therefore higher rates of

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effortful control compared to those with controlling parents. Lastly, it was hypothesized that the association between parental support, self-regulation, and effortful control would differ when youth perceived their peers to be approving of more deviant behavior compared to peers that would not engage in this behavior (as represented by injunctive norms for substance use). Specifically, for individuals who were more extrinsically regulated, the effects of social norms on effortful control would be greater compared to those who were more intrinsically motivated.

Chapter 3: Results

Due to lack of variability in the dependent variable of substance use, the proposed model was modified to examine whether parental support of autonomy's association, self-regulatory styles, social norm engagement in substance use were associated with effortful control. In the regression analyses, the dependent variable was effortful control, the independent variable was parental support of autonomy, the mediator was prosocial self-regulatory styles, and the moderator was social norms (see Figure 2).

Descriptive statistics were computed to examine demographic data, normality statistics, and correlations among major variables. No discrepancies were noted between child and parent demographic data, therefore, child data were used due to high rates of parental missing data. Participants ranged in age from 10 to 19 years of age with a mean age of 12.5 and standard deviation of 2.027. There were slightly more females than males in the sample (53.2% female). The grade distribution was as follows: 47.9% 6th grade, 30.9% 7th grade, 4.3% 8th grade, 17% greater than eighth grade. Ethnicity data were not available as it was not included in the demographic questionnaire.

Prior to analyses, normality of the variables was examined using skewness and kurtosis statistics, histograms with normal distribution overlay, and P-P plots and detrended plots. Skewness is a measure of lack of symmetry in a variable's distribution. A positive skew indicates that data falls towards the right tail and a negative skew indicates the data falls more toward the left tail. Kurtosis examines the "peakedness" of the data. Positive kurtosis indicates lower frequencies in the tails compared to normal distribution and negative kurtosis indicates greater frequencies in the tails compared to normal distribution (Kim, 2013). In a normal distribution, skewness and kurtosis are zero, so variables close to being normally distributed have skewness

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and kurtosis scores close to zero. Skewness and kurtosis is considered significantly different from a normal distribution when the values divided by their respective standard error is greater than 1.96 (or less -1.96 if the skewness or kurtosis is negative; Kim, 2013).

High autonomy support, introjected regulation, and identified regulation showed significant (z-scores above 1.96; Table 1) skewness statistics and high autonomy support and identified regulation showed significant (z-scores above 1.96; Table 1) kurtosis statistics. The histogram graph with normal distribution overlay for high autonomy support showed negative skewness, where data clustered more toward the left side of the histogram compared to the right, and positive kurtosis, where the graph showed peaks in the data. The P-P Plots and the detrended plots were consistent with the histogram showing variations from the means. Introjected regulation and identified regulation histograms both showed positive skewness, where data clustered on the right side of the histogram compared to the left. Visual inspection of identified regulation also showed significant positive kurtosis, where the graph showed peaks in the data. The P-P Plots and detrended plots were consistent with the histogram showing variations from the means.

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Table 1

Skewness and Kurtosis Statistics for Variables of Interest prior to Transformation.

	Skewness	SError	SStatistic	Kurtosis	KError	KStatistic
High Parental Control	-0.15	0.32	-0.46	-0.36	0.63	-0.57
Moderate Parental Control	-0.29	0.32	-0.92	0.73	0.62	1.17
Moderate Autonomy Support	-0.19	0.33	-0.60	-0.51	0.64	-0.80
High Autonomy Support	-1.04	0.32	-3.30	1.35	0.62	2.17
External Regulation	0.39	0.26	1.52	-0.64	0.51	-1.26
Introject Regulation	0.80	0.26	3.11	0.36	0.51	0.71
Identified Regulation	2.06	0.26	7.99	5.75	0.51	11.26
Activation Control	-0.19	0.26	-0.74	-0.79	0.51	-1.55
Attention	-0.19	0.26	-0.73	-0.55	0.51	-1.08
Inhibitory Control	-0.16	0.26	-0.61	-0.47	0.51	-0.92
Effortful Control	0.03	0.26	0.12	-0.73	0.51	-1.42

Non-normally distributed variables were log transformed. Two variables (identified regulation and high autonomy support) maintained statistical significance in skewness and kurtosis post transformation (identified regulation Sstatistic = 4.59, Kstatistic = 3.01; high autonomy support Sstatistic = -5.60, Kstatistic = 6.57). However, visual inspection of the histograms and P-P plots and detrended plots showed that they were more normally distributed than the untransformed variables. After transformation, a correlation matrix was used to examine the correlations of all major variables (Table 2).

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Table 2
Correlations Matrix for Variables of Interest

	Social Norms	<i>Identified Regulation</i>	<i>Introjected Regulation</i>	External Regulation	High Control Parenting	Moderate Control Parenting	Moderate Autonomy Support	<i>High Autonomy Support</i>	Effortful Control
Social Norms	1								
<i>Identified Regulation</i>	-.222*	1							
<i>Introjected Regulation</i>	-0.057	.435**	1						
External Regulation	-0.005	0.18	.670**	1					
High Control Parenting	0.142	-0.053	-0.108	0.031	1				
Moderate Control Parenting	0.062	0.128	0.169	0.076	.576**	1			
Moderate Autonomy Support	0.18	-0.09	-0.211	0.014	.588**	.525**	1		
<i>High Autonomy Support</i>	-0.141	.354*	.406**	0.177	0.098	.398**	0.172	1	
Effortful Control	-.216*	.266*	0.129	-0.038	-0.239	-0.036	-0.259	0.097	1

Note. Italicized variables have been log transformed.

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Regression models were used to examine demographic variables' (i.e., gender, age, academic year) relation with self-regulatory, parental support of autonomy, effortful control, and social norm variables. Child gender significantly predicted external regulation ($b = -.474 (.186)$, $p = .013$), where boys reported significantly higher external regulation than girls. Gender was therefore controlled for in subsequent models. However, introjected regulation, identified regulation, different levels of parental support of autonomy, effortful control and perceptions of social norms were not significantly related to gender, age, or academic year.

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Analysis of missing data revealed a large amount of missing data in parent report (missing on 40 cases, 42.55%). Specifically, some data were missing completely (i.e., parents did not complete the questionnaire), and some data were partially missing (i.e., some parents who completed the questionnaire did not rate all the items). Overall, there were data missing on 42.55% of cases. Missing data may have been due to parent's misunderstanding consent instructions, not having time to complete the parental questionnaires, or youth not providing such questionnaires to parents. Additionally, some parents completed the consent form at parent/teacher conferences where the questionnaires were not provided. These reasons are consistent with the assumption that the data were missing at random (Enders, 2010; Graham, 2009; Rubin, 1976). Multiple imputation (MI) was an appropriate method to estimate data missing at random (Graham, 2009). MI was used to impute missing data in SPSS. According to simulation studies, most missing data require 5-10 imputations (Enders, 2010). In this dataset, five imputations were computed and the models converged at 10 iterations.

Five multiple linear regression models were used to test the proposed hypotheses. Demographics known to be associated with variables of interest were controlled for in the analyses (e.g., gender, age). Demographic variables that were not significantly associated in the model were dropped. Additionally, when the moderator was not significant, it was dropped from the model and only the mediation model was run.

Figure 3 displays the association between high autonomy support and effortful control as mediated by identified self-regulation. The "a" path was High Autonomy Support's association with Identified Self-Regulation. The "b" path was Identified Self-Regulation's association with Effortful Control. Identified self-regulation had a significant relation with effortful control. Youth with higher identified self-regulation reported higher effortful control ($B = 2.692(1.112)$, p

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= .016). The relation between parental autonomy support and identified self-regulation was not significant. Parental autonomy support was not significantly related to effortful control when identified self-regulation was controlled for. The mediated effect was not significant ($ab = .37$, 95% ACI [-.07, 1.06]).

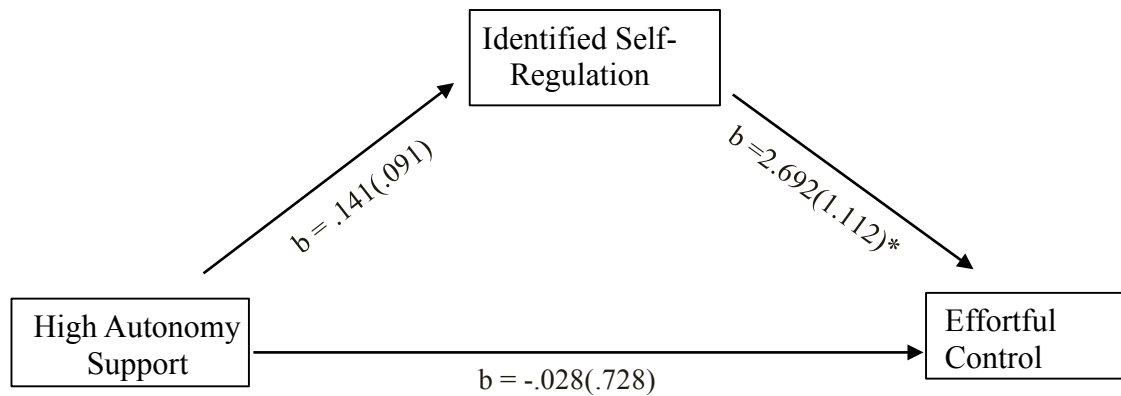


Figure 3. High Autonomy Support's association with Effortful Control as mediated by Identified Self-Regulation.

Similarly, when examining moderate autonomy support (Figure 4), higher identified self-regulation predicted higher effortful control ($B = 2.5401(1.082)$, $p = .019$). The "a" path was Moderate Autonomy Support's association with Identified Self-Regulation and the "b" path was Identified Self-Regulation's association with Effortful Control. The mediated effect was not significant ($ab = -.008$, 95% ACI [-.05, .03]).

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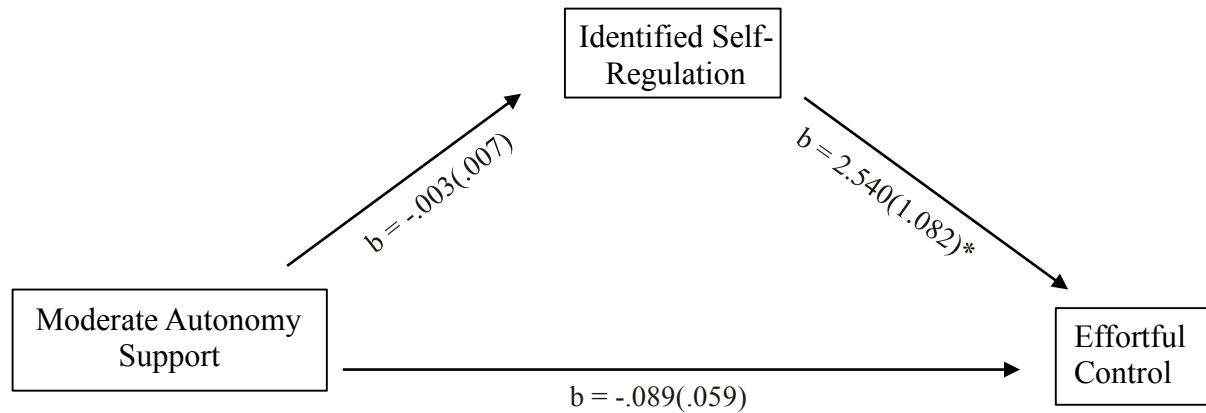


Figure 4. Moderate Autonomy Support’s association with Effortful Control as mediated by Identified Self-Regulation.

When examining the association between moderately controlling parenting and effortful control as mediated by introjected self-regulation (Figure 5), the association between moderately controlling parenting and effortful control was not significant and the effect of introjected self-regulation was not significant. The “a” path was Moderately Controlling’s association with Introjected Self-Regulation and the “b” path was Introjected Self-Regulation’s association with Effortful Control. The mediated effect was also not significant ($ab = .016$, 95% ACI $[-.01, .06]$).

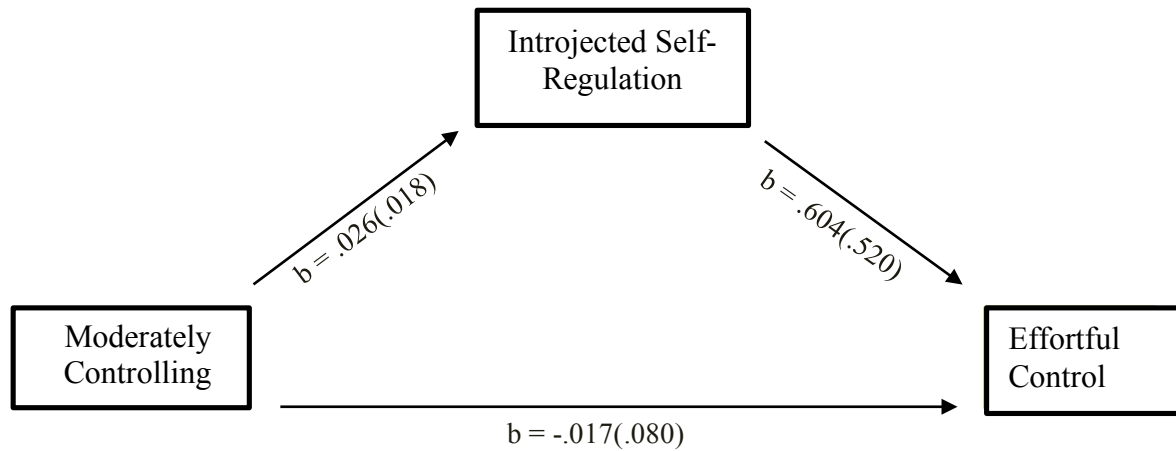


Figure 5. Moderately Controlling Parenting's association with Effortful Control as mediated by Introjected Self-Regulation.

When examining moderately controlling parenting's relationship with effortful control as mediated by external self-regulation, the mediated effect was not significant ($ab = .004$, 95% ACI $[-.02, .03]$). The "a" path was moderately controlling's association with external self-regulation and the "b" path was external self-regulation's association with effortful control. There was a significant relationship between external self-regulation and effortful control. Additionally, this association was significantly moderated by perceived social norms ($B = -.382(.157)$, $p = .014$; Figure 6).

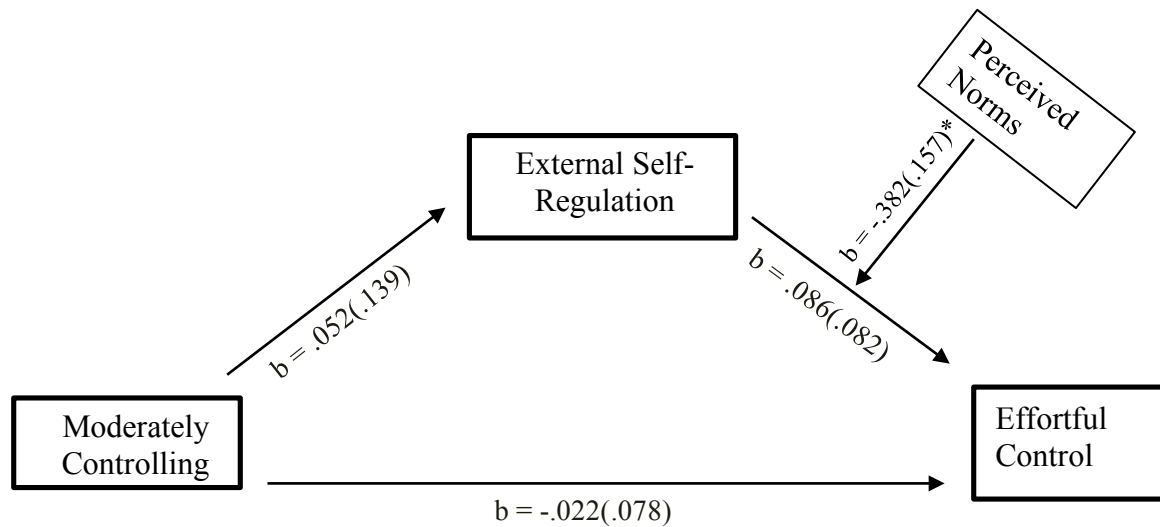


Figure 6. Moderately Controlling Parenting's association with Effortful Control as mediated by External Self-Regulation.

The significant interaction was probed to examine the effect of perceived social norms. Due to limited variability, social norms were dichotomized into two categories (0 = *perceiving no close friends to approve of substance use* and 1 = *perceiving at least one close friend to be approving substance use*). For participants with high external self-regulation (+1SD), those who perceived their friends to be approving of substance use reported significantly lower effortful control compared to those who did not perceive their friends to be approving of substance use (Figure 6a). Among participants with low external self-regulation (-1SD) there was little difference in effortful control scores based on social norms. However, the influence of social norms became greater at higher levels of external self-regulation. For individuals with average external self-regulation (mean) those with low perceptions of peer approval of substance use scored higher in effortful control compared to those with high perceptions of peer approval of

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substance use. This pattern consistent and magnified in the high external self-regulation group the difference between high and low social norms.

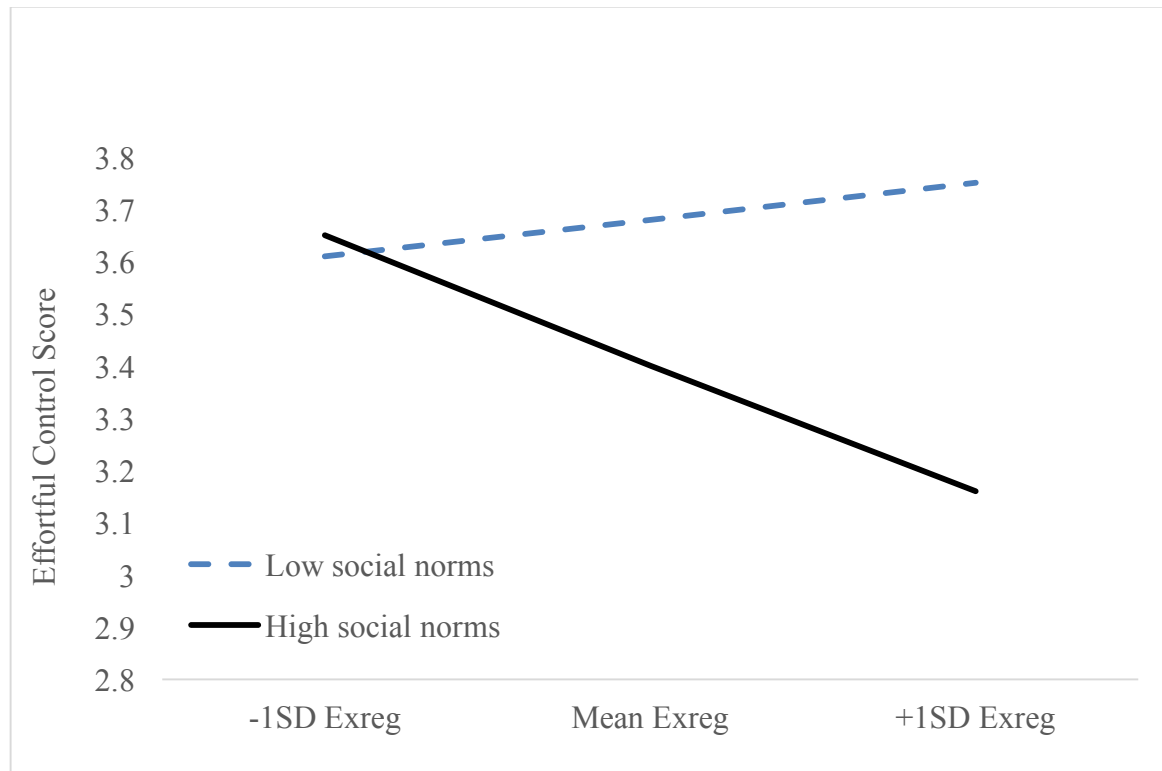


Figure 6a. Probed interaction for predicted effortful control in externally regulated youth across levels of perceived social norms.

This pattern was consistent when examining highly controlling parenting's association with effortful control as mediated by external regulation and moderated by social norms. The "a" path examined highly controlling's association with external regulation and the "b" path examined external regulation's association with effortful control. Specifically, there was a significant association between external regulation and effortful control as moderated by social

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norms ($B = -.354(.157)$, $p = .025$; Figure 7; Figure 7a). However, the mediated effect was not significant ($ab = .003$, 95% ACI $[-.02, .03]$). Among participants with low external self-regulation (-1SD) there was little difference in effortful control scores based on social norms. However, the influence of social norms became greater at higher levels of external self-regulation. For individuals with average external self-regulation (mean) those with low perceptions of peer approval of substance use scored higher in effortful control compared to those with high perceptions of peer approval of substance use. This pattern consistent and magnified in the high external self-regulation group the difference between high and low social norms.

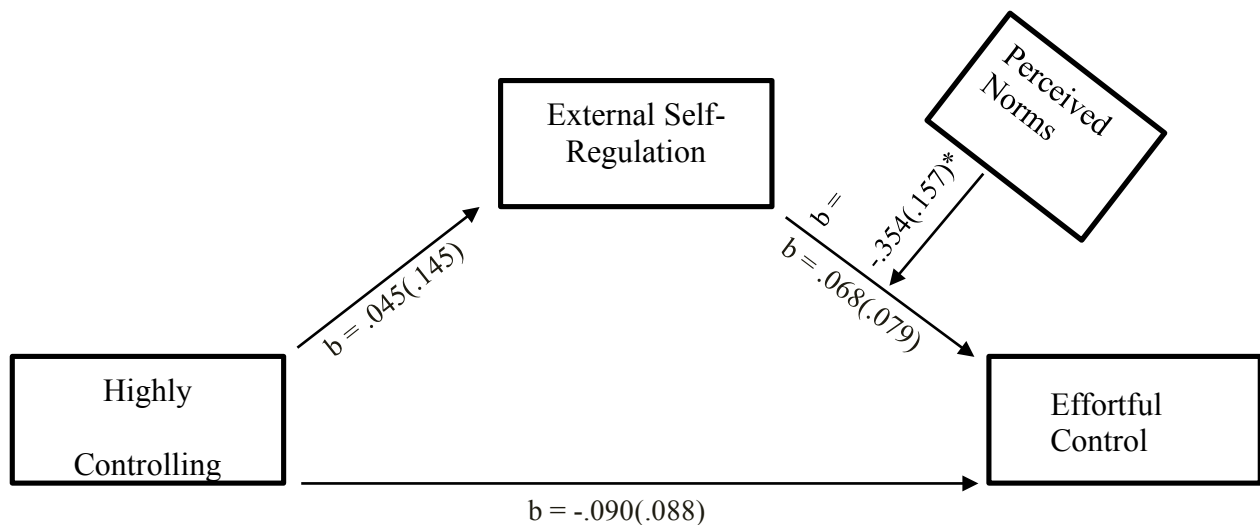


Figure 7. Highly Controlling Parenting's association with Effortful Control as mediated by External Self-Regulation.

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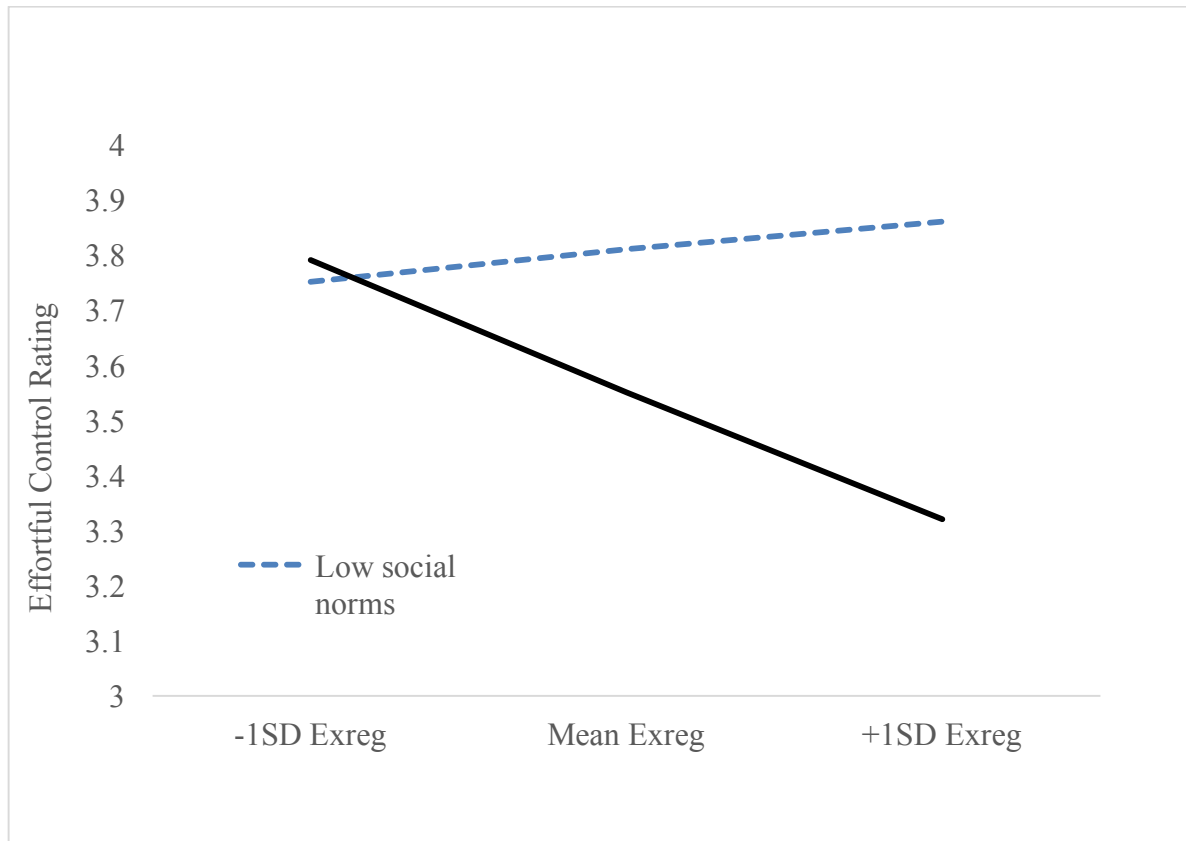


Figure 7a. Probed interaction for predicted effortful control in externally regulated youth across levels of perceived social norms.

Chapter 4: Discussion

When examining self-regulation and effortful control, identified self-regulation was significantly associated with higher rates of effortful control. Overall, external self-regulation was significantly associated with lower rates of effortful control. More specifically, through examination of the moderated effect, those who perceived their friends to be approving of substance use reported significantly lower effortful control compared to those who did not perceive their friends to be approving of substance use. The hypothesized models of parental support of autonomy predicting youth effortful control as mediated by youth prosocial self-regulatory styles were not significant.

Findings observed in the current study are consistent with prior literature examining self-regulation and effortful control. Prior research (Wong, 2008) has shown that identified self-regulation in academics was significantly associated with higher rates of effortful control. Self-determination theory suggests that, through youth, self-regulation can differ across settings. Therefore, self-regulation's association with effortful control has the potential to differ across settings. The current findings suggested a more robust association between these two variables as the pattern was consistent within the context of prosocial behavior. Contrary to prior research, parental support of autonomy was not related to self-regulation. Prior research has suggested that, in youth, perceived parental support of autonomy was related to higher levels of intrinsic self-regulation (Wong, 2008). The discrepancy in these findings may suggest that youth perception of autonomy support is more impactful on effortful control than the parent's report of autonomy support. Further, parental report of autonomy support is subjective and may not accurately reflect the true actions of what occurs within the child's environment (e.g., parents may engage in positive impression management). However, the non-significance of these

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findings may also be a product of the high rate of missing data within parent report. As mentioned above, there was 42.55% of missing data on this measure.

These findings, in consideration with prior research, suggest that self-regulation in not only academics, but prosocial behaviors are associated with effortful control. Importantly, effortful control has been associated with meaningful outcomes among youth such as substance use and academic performance (Wong, 2008, Wong & Rowland, 2013). Additionally, external regulation and effortful control was significantly moderated by social norms, suggesting that youth with higher rates of external self-regulation are more impacted by perceptions of peers and that these youth may display lower rates of effortful control.

Consistent with this argument, youth self-regulatory style appears to have an impact on susceptibility to peer influence. Within the current study, individuals who displayed higher rates of external self-regulation also reported lower rates of effortful control when they perceived their peers were more accepting of substance use. While within the current study both peer and participant substance use were unable to be examined due to lack of variability, prior research has suggested that both lower effortful control and perceptions that peers are more accepting of substance use were positively associated with participant substance use (Jackson et al., 2014; Wong & Rowland, 2013). However, these effects were predominately found in older adolescent and young adult samples. Therefore, it is possible that while individuals in the current study were not endorsing substance use, the combination of higher rates of external self-regulation and perceived peer approval may be risk factors of later substance use.

Self-regulation is an independent factor that affects academic performance and substance use. Prior research has noted that adolescents who are more identified in academic regulation performed better in school and demonstrated lower disruptive behavior and substance use

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(Wong, 2008). On the other hand, college students with low inhibitory control (related to effortful control) were more likely to report higher levels of alcohol use (Patrick et al., 2008). However, the window of influence may be limited as research has suggested that while stronger self-regulatory skills are a protective factor for later substance use problems, once substance use has started, the positive effects of self-regulation diminish (Piehler et al., 2012). Therefore, considering youth self-regulatory styles and susceptibility to peer influence and how this exposure may impact effortful control is important in understanding high-risk behaviors such as substance use. So, it is possible, individuals who are more externally motivated (i.e., driven by rewards and punishment; Ryan & Deci, 2000a) may be more sensitive to their environment and external factors (e.g., peer influence). Given that prior research has suggested that adolescents are more influenced by peers comparative to other social factors (e.g., family; Mrug & McCay, 2013), those who are more sensitive to these external factors (externally self-regulated) may be more likely to engage in behaviors exhibited by their peers (e.g., substance use). This may be due to or amplified by the lower effortful control exhibited by externally self-regulated individuals with peers who approve of substance use as shown in the current study.

Limitations

While the current study offers important implications, it is not without its limitations. First, due to recruiting challenges, analyses were underpowered and therefore, findings may not be stable and potential significant associations may have been unable to be detected. Relatedly, there was not enough variability in the substance use variables to test the proposed model. Additionally, all variables were self-report or parent-report. Self-report questionnaires are more susceptible to response bias and positive impression management which may have impacted the accuracy of participant responding. A high amount of parent-reported data were also missing in

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the current investigation. The missing data may have limited the ability to test the full mediated model. Finally, given that the study was correlational rather than experimental, we are unable to establish a causal relationship between variables of interest as no variables were manipulated. Similarly, as the current study was cross sectional in design rather than longitudinal, the temporal relationships between the variables were unclear.

Future directions

Further research is needed examining effortful control with measures that corroborate subjective self-report measures. Future research could extend on the current findings by examining performance-based measures of executive functioning believed to be linked with subjective report of self-regulation and effortful control (e.g., inhibition; Zhou, Chen, & Main, 2012), both of which have been associated with substance use (e.g., Wong, 2008). Inhibition may be a key factor of interest as deficits in inhibition may produce greater impulsivity and lead to problem behaviors like substance use (Bari, & Robbins 2013; Nigg et al., 2006). Inhibition has been measured by tasks such as the Delis-Kaplan Executive Functioning color-word interference task (Delis, Kaplan, Kramer, 2001). Examining more objective measures may further substantiate findings of self-reported measures. Additionally, understanding specific executive functioning impairments that might be associated with increased substance use risk could aid in identifying vulnerable clinical populations.

In addition to assessing how executive measures correlate with self-reported regulation and effortful control, it may be beneficial to have a measure of both parent reported support of autonomy and youth perceptions of support to examine how they correlate together as well as to determine which may be stronger predictor of self-regulation. Prior research has not examined the influence of parent-reported autonomy support on prosocial self-regulatory styles, though

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research has demonstrated that youth perceptions of autonomy support was associated with academic self-regulation and academic performance (Chilenski, Ridenour, Bequette, & Caldwell, 2015; Wong 2008). Yet, in the current study, parent-reported autonomy support was not significantly associated with self-regulation. It is unclear if autonomy support's influence on prosocial self-regulation is distinct from academic self-regulation or if the process of internalized messages of autonomy support (youth report) is distinct from parent reported support. Therefore, in the future, perceived parental support could be included within the study.

Additional predictors of self-regulatory styles and effortful control, given their association with youth outcomes for academics and early onset substance use, should be examined in order to best understand associations related to these behaviors. Specifically, some research has identified how behavioral self-control moderated the association between negative life events and peer substance use's effect on adolescent substance use (Wills, Pokhrel, Morehouse, & Fenster, 2011). Given that one type of self-control (effortful control) has been linked to self-regulatory styles, it is possible that behavioral self-control is also influenced by self-regulatory styles. In the current study, more externally regulated individuals appeared to be more influenced by social norms; future research may benefit from examining how level of stressors experienced impacts substance use as mediated by self-regulatory styles and moderated by social norms and behavioral self-control. Understanding more complete influences allows researchers to identify the graded effects of factors. Additionally, understanding these interactions allows for better understanding of substance use in adolescence and which vulnerabilities are likely to lead to these behaviors.

Identifying groups who are more at risk of externalizing problems after experiencing repeated stress may provide clinical utility in preventative care for mental health concerns. For

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example, if adolescents who experience higher rates of negative life events and are more externally regulated are more likely to engage in substance use when peers are using substances, heavier focus on peer groups, may be beneficial in warding off potential substance use problems. Additionally, if behavioral self-control appears to play a role in these relationships, behavioral interventions targeting these deficits have the potential to provide additional protection to vulnerable youth (e.g., those with high levels of negative stress and those in environments where peer substance use is high).

Given the limitations of the current study, future research should aim to attain an adequately powered sample with minimal missing data. To do this, researchers may find the use of social media, community flyers, and online resources helpful in the recruitment process. While using the school as a resource allowed for access to youth, it was challenging to both work with timelines of the school system and reach parents to gain consent and parent-reports. Relatedly, providing a higher incentive such as a raffle for a larger prize, may aid in the likelihood of individuals expressing interest. As the proposed sample (junior high school students) did not frequently endorse substance use, it may be beneficial for future research to recruit in an older adolescent sample (e.g., high school students).

Conclusion

Despite limitations, the current study extended prior literature by indicating a robust effect of self-regulation on effortful control. Past research has indicated that academic self-regulatory styles were associated with effortful control and the current study showed that this effect is also present across another type of self-regulation (i.e., prosocial behaviors). This is important as self-determination theory stresses how self-regulatory styles may be different across contexts (e.g., academics, prosocial; Ryan & Deci, 2000a) and therefore influence behaviors and

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cognitions differently across situations. In other words, factors that are influenced by academic self-regulatory styles may not be the same as those factors that are influenced by prosocial self-regulatory styles. Additionally, the role of social norms as a moderator was examined. Although research has examined social norms association with substance use, there appears to be limited to no research examining the effects of social norms in the relationship between effortful control and self-regulatory styles. While somewhat exploratory in nature, the current study creates a platform for further investigation into the role of social norms when examining self-regulatory styles and effortful control. Understanding youth risk and protective factors may help adults notice potentially problematic behavior. For example, if a youth is associating with peers who are more deviant in their behaviors, parents may be warranted in feeling concerned, particularly if the youth is more externally regulated as it may be associated with greater risk for substance use. Thus, the current study raises questions about these complex relations. These questions, if addressed in future research, could help identify populations at risk for externalizing problems such as substance use and dependence.

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Appendix A

Demographics – Child Report

1. What is your gender?
 - a) Male
 - b) Female
 - c) Transgender
2. How old are you? _____
3. What is your current grade in school?
 - a) 6th grade
 - b) 7th grade
 - c) 8th grade
4. Typically, what kind of grade do you receive in school?
 - a) Mostly A's
 - b) A's and B's
 - c) Mostly B's
 - d) B's and C's
 - e) Mostly C's
 - f) C's and D's
 - g) Mostly D's
 - h) D's and F's
 - i) Mostly F's
5. How many people live at home with you? _____

Appendix B

Demographics – Parent Report

1. What is your gender?
 - a) Male
 - b) Female
 - c) Transgender
2. What is your relationship to your child?
 - a) Biological parent
 - b) Adoptive parent
 - c) Step-parent
 - d) Other: _____
3. What is your child's gender?
 - a) Male
 - b) Female
 - c) Transgender
4. What is your child's birthdate? _____(MM/YYYY)
5. What is your child's current grade in school?
 - a) 6th grade
 - b) 7th grade
 - c) 8th grade
6. Typically, what kind of grade does your child receive in school?
 - a) Mostly A's
 - b) A's and B's
 - c) Mostly B's
 - d) B's and C's
 - e) Mostly C's
 - f) C's and D's
 - g) Mostly D's
 - h) D's and F's
 - i) Mostly F's
7. How many people live in your home? _____
8. What is your approximate annual household income? _____
9. Do you have a religious affiliation? _____

If so, which religion do you affiliate with? _____

Appendix C
Prosocial Self-Regulation Questionnaire (SRQ-P)

Ryan, R.M., & Connell, J.P. (1989)

Why I Do Some Behaviors:

These questions are about the reasons you do things. Different kids have different reasons. We want to know how true each of these reasons is for you. Please rate each reason using the scale below. Circle the rating that you feel best describes how true each reason for a behavior is for you.

---- 4 ----	----- 3 -----	----- 2 -----	----- 1 -----
Very true	Sort of true	Not very true	Not at all true

MOTIVATION AND AUTONOMY SUPPORT

A. Why do you keep a promise to friends?

1. So my friends will like me.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
2. Because I'd feel like a bad person if I didn't.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
3. Because my friends will get mad at me if I don't.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
4. Because I think it's important to keep promises.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
5. Because I don't like breaking promises.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true

B. Why do you not make fun of another child for making a mistake?

6. Because if I do, I'll get in trouble.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
7. Because I think it's important to be nice to others.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
8. Because I'd feel ashamed of myself after I did it.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
9. Because other kids won't like me if I do that.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true
10. Because I don't like to be mean.
(4) very true
(3) sort of true
(2) not very true
(1) not at all true

MOTIVATION AND AUTONOMY SUPPORT

C. Why don't you hit someone when you're mad at them?

11. Because I'll get in trouble if I do.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

12. Because I want other kids to like me.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

13. Because I don't like to hit others.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

14. Because I wouldn't want to hurt someone.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

15. Because I'd feel bad about myself if I did.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

D. Why do you try to be nice to other kids?

16. Because if I don't, other kids won't like me.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

17. Because I'll get in trouble if I don't.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

18. Because I think it's important to be a nice person.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

19. Because I will feel bad about myself if I don't.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

20. Because I don't like being mean.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

MOTIVATION AND AUTONOMY SUPPORT

E. Why would you help someone who is in distress?

21. Because I think it's important to give help when it's needed.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

22. Because I could get in trouble if I didn't.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

23. Because I'd feel bad about myself if I didn't.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

24. Because I want people to like me.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

25. Because it is satisfying to help others.

- (4) very true
- (3) sort of true
- (2) not very true
- (1) not at all true

Appendix D

Early Adolescent Temperament Questionnaire Short Form- Revised

Lesa K. Ellis and Mary K. Rothbart (1999)

Directions

On the following page you will find a series of statements that people might use to describe themselves. The statements refer to a wide number of activities and attitudes.

For each statement, please circle the answer that best describes how true each statement is **for you**. There are no best answers. People are very different in how they feel about these statements. Please circle the first answer that comes to you.

You will use the following scale to describe how true or false a statement is about you:

Circle number:

- 1**
- 2**
- 3**
- 4**
- 5**

If the statement is:

- Almost always untrue of you
- Usually untrue of you
- Sometimes true, sometimes untrue of you
- Usually true of you
- Almost always true of you

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How true is each statement for you?	Almost always untrue	Usually untrue	Sometimes true, sometimes untrue	Usually true	Almost always true
1) It is easy for me to really concentrate on homework problems.	1	2	3	4	5
2) I have a hard time finishing things on time.	1	2	3	4	5
3) It's hard for me not to open presents before I'm supposed to.	1	2	3	4	5
4) When someone tells me to stop doing something, it is easy for me to stop.	1	2	3	4	5
5) I do something fun for a while before starting my homework, even when I'm not supposed to.	1	2	3	4	5
6) The more I try to stop myself from doing something I shouldn't, the more likely I am to do it.	1	2	3	4	5
7) If I have a hard assignment to do, I get started right away.	1	2	3	4	5
8) I find it hard to shift gears when I go from one class to another at school.	1	2	3	4	5
9) When trying to study, I have difficulty tuning out background noise and concentrating.	1	2	3	4	5
10) I finish my homework before the due date.	1	2	3	4	5
11) I am good at keeping track of several different things that are happening around me.	1	2	3	4	5
12) It's easy for me to keep a secret.	1	2	3	4	5
13) I put off working on projects until right before they're due.	1	2	3	4	5
14) I tend to get in the middle of one thing, then go off and do something else.	1	2	3	4	5
15) I pay close attention when someone tells me how to do something.	1	2	3	4	5
16) I can stick with my plans and goals.	1	2	3	4	5

Appendix E

Washington State Healthy Youth Survey – Part A (2014)

Instructions:

This is not a test, so there are no right or wrong answers. Answer the questions by circling one of the answers that best applies to you. If any question does not apply to you, or you are not sure of what it means, just leave it blank.

MOTIVATION AND AUTONOMY SUPPORT

Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many of your best friends have. . .

1. Smoked cigarettes?

- a. None of my friends
- b. 1 of my friends
- c. 2 of my friends
- d. 3 of my friends
- e. 4 of my friends

2. Tried beer, wine, or hard liquor (for example vodka, whiskey, or gin) when their parents didn't know about it?

- a. None of my friends
- b. 1 of my friends
- c. 2 of my friends
- d. 3 of my friends
- e. 4 of my friends

3. Used marijuana?

- a. None of my friends
- b. 1 of my friends
- c. 2 of my friends
- d. 3 of my friends
- e. 4 of my friends

4. Used LSD, cocaine, amphetamines, or other illegal drugs?

- a. None of my friends
- b. 1 of my friends
- c. 2 of my friends
- d. 3 of my friends
- e. 4 of my friends

How wrong do your friends feel it would be for you to:

5. Have one or two drinks of an alcoholic beverage nearly every day?

- a. Very wrong
- b. Wrong
- c. A little bit wrong
- d. Not at all wrong

6. Use tobacco?

- a. Very wrong
- b. Wrong
- c. A little bit wrong
- d. Not at all wrong

7. Use marijuana?

- a. Very wrong
- b. Wrong
- c. A little bit wrong
- d. Not at all wrong

8. Use prescription drugs not prescribed to you?

- a. Very wrong
- b. Wrong
- c. A little bit wrong
- d. Not at all wrong

Appendix F

Washington State Healthy Youth Survey – Part B (2014)

Instructions:

This is not a test, so there are no right or wrong answers. Answer the questions by circling one of the answers that best applies to you. If any question does not apply to you, or you are not sure of what it means, just leave it blank.

MOTIVATION AND AUTONOMY SUPPORT

During the past 30 days, on how many days did you:

1. Smoke cigarettes?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10–29 days
 - f. All 30 days
2. Drink a glass, can, or bottle of alcohol (beer, wine, wine coolers, hard liquor)?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
3. Use marijuana or hashish (weed, hash, pot)?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
4. Not counting alcohol, tobacco, or marijuana, use another illegal drug?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
5. Use loziderb?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
6. Use a pain killer TO GET HIGH, like Vicodin, OxyContin (sometimes called Oxy

or OC) or Percocet (sometimes called Percs)?

- a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
7. Use prescription drugs not prescribed to you?
- a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days

In your lifetime, within an average month, how many days did you:

8. Smoke cigarettes?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10–29 days
 - f. All 30 day
9. Drink a glass, can, or bottle of alcohol (beer, wine, wine coolers, hard liquor)?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
10. Use marijuana or hashish (weed, hash, pot)?
 - a. None
 - b. 1–2 days
 - c. 3–5 days
 - d. 6–9 days
 - e. 10 or more days
11. Not counting alcohol, tobacco, or marijuana, use another illegal drug?
 - a. None
 - b. 1–2 days

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- c. 3–5 days
d. 6–9 days
e. 10 or more days
12. Use loziderb?
a. None
b. 1–2 days
c. 3–5 days
d. 6–9 days
e. 10 or more days
13. Use a pain killer TO GET HIGH, like Vicodin, OxyContin (sometimes called Oxy or OC) or Percocet (sometimes called Percs)?
a. None
b. 1–2 days
c. 3–5 days
d. 6–9 days
e. 10 or more days
14. Use prescription drugs not prescribed to you?
a. None
b. 1–2 days
c. 3–5 days
d. 6–9 days
e. 10 or more days
15. Think back over the last 2 weeks. How many times have you had five or more drinks in a row? (A drink is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink).
a. None
b. Once
c. Twice
d. 3–5 times
e. 6–9 times
f. 10 or more times
16. How many times in the past year (12 months) have you been drunk or high at school?
a. Never
b. 1–2 times
c. 3–5 times
d. 6–9 times
e. 10 or more times
- How old were you the first time you:**
17. Used marijuana?
a. Never have
b. 10 or younger
c. 11
d. 12
e. 13
f. 14
g. 15 or older
18. Smoked a cigarette, even just a puff?
a. Never have
b. 10 or younger
c. 11
d. 12
e. 13
f. 14
g. 15 or older
19. Had more than a sip or two of beer, wine, or hard liquor (for example vodka, whiskey, or gin)?
a. Never have
b. 10 or younger
c. 11
d. 12
e. 13
f. 14
g. 15 or older

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20. Began drinking alcoholic beverages regularly, that is, at least once or twice a month?

- a. Never have
- b. 10 or younger
- c. 11
- d. 12
- e. 13
- f. 14
- g. 15 or older

21. In the past year, which of the following happened because you drank alcohol or used drugs? Choose all that apply:

- a. I did not use alcohol or drugs in the past year.
- b. I did not have any problems from drinking alcohol or using drugs in the past year.
- c. I missed classes or school.
- d. I failed classes or dropped out of school.
- e. I got sick (vomited) or had a hangover.
- f. I felt depressed, anxious, scared, or had other emotional problems.
- g. I got hurt or injured.
- h. I hurt or injured someone else.
- i. I got in trouble with my parents or family.
- j. I did things I didn't want to do or regretted afterward.

22. In your lifetime, which of the following happened because you drank alcohol or used drugs? Choose all that apply:

- a. I did not use alcohol or drugs in the past year.
- b. I did not have any problems from drinking alcohol or using drugs in the past year.
- c. I missed classes or school.
- d. I failed classes or dropped out of school.
- e. I got sick (vomited) or had a hangover.
- f. I felt depressed, anxious, scared, or had other emotional problems.
- g. I got hurt or injured.
- h. I hurt or injured someone else.
- i. I got in trouble with my parents or family.
- j. I did things I didn't want to do or regretted afterward.

Appendix G

The Problems in Schools Questionnaire (PIS)

Deci, E. L., Schwartz, A. J., Sheinman, L., & Ryan, R. M. (1981)

On the following pages you will find a series of vignettes. Each one describes an incident and then lists four ways of responding to the situation. Please read each vignette and then consider each response in turn. Think about each response option in terms of how appropriate you consider it to be as a means of dealing with the problem described in the vignette. You may find the option to be perfect, in other words, extremely appropriate in which case you would respond with the number 7. You might consider the response highly inappropriate, in which case would respond with the number 1. If you find the option reasonable you would select some number between 1 and 7. So think about each option and rate it on the scale shown below. Please write your rating of each of the four options for the vignette on the line after the option.

There are no right or wrong ratings on these items. People's styles differ, and we are simply interested in what you consider appropriate given your own style. Some of the stories ask what you would do as a teacher. Others ask you to respond as if you were giving advice to teacher or to a parent. Some ask you to respond as if you were the parent.

Please respond to each of the 32 items using the following scale.

--- 1 ---	--- 2 ---	--- 3 ---	--- 4 ---	--- 5 ---	--- 6 ---	--- 7 ---
very			moderately			very
inappropriate			appropriate			appropriate

A. Jim is an average student who has been working at grade level. During the past two weeks he has appeared lethargic and has not been participating during reading group. The work he does is accurate but he has not been completing assignments. A phone conversation with his mother revealed no useful information. The most appropriate thing for Jim's teacher to do is:

1. She should impress upon him the importance of finishing his assignments since he needs to learn this material for his own good. _____
2. Let him know that he doesn't have to finish all of his work now and see if she can help him work out the cause of the listlessness. _____
3. Make him stay after school until that day's assignments are done. _____
4. Let him see how he compares with the other children in terms of his assignments and encourage him to catch up with the others. _____

B. At a parent conference last night, Mr. and Mrs. Greene were told that their daughter Sarah has made more progress than expected since the time of the last conference. All agree that they hope she continues to improve so that she does not have to repeat the grade (which the Greene's have been kind of expecting since the last report card). As a result of the conference, the Greens decide to:

5. Increase her allowance and promise her a ten-speed if she continues to improve. ____
6. Tell her that she's now doing as well as many of the other children in her class. ____
7. Tell her about the report, letting her know that they're aware of her increased independence in school and at home. ____
8. Continue to emphasize that she has to work hard to get better grades. ____

C. Donny loses his temper a lot and has a way of agitating other children. He doesn't respond well to what you tell him to do and you're concerned that he won't learn the social skills he needs. The best thing for you to do with him is:

9. Emphasize how important it is for him to control himself in order to succeed in school and in other situations. ____
10. Put him in a special class which has the structure and reward contingencies which he needs. ____
11. Help him see how other children behave in these various situations and praise him for doing the same. ____
12. Realize that Donny is probably not getting the attention he needs and start being more responsive to him. ____

D. Your son is one of the better players on his junior soccer team which has been winning most of its games. However, you are concerned because he just told you he failed his unit spelling test and will have to retake it the day after tomorrow. You decide that the best thing to do is:

13. Ask him to talk about how he plans to handle the situation. ____
14. Tell him he probably ought to decide to forego tomorrow's game so he can catch up in spelling. ____
15. See if others are in the same predicament and suggest he do as much preparation as the others. ____
16. Make him miss tomorrow's game to study; soccer has been interfering too much with his school work. ____

E. The Rangers spelling group has been having trouble all year. How could Miss Wilson best help the Rangers?

17. Have regular spelling bees so that Rangers will be motivated to do as well as the other groups. _____
18. Make them drill more and give them special privileges for improvements. _____
19. Have each child keep a spelling chart and emphasize how important it is to have a good chart. _____
20. Help the group devise ways of learning the words together (skits, games, and so on). _____

F. In your class is a girl named Margy who has been the butt of jokes for years. She is quiet and usually alone. In spite of the efforts of previous teachers, Margy has not been accepted by the other children. Your wisdom would guide you to:

21. Prod her into interactions and provide her with much praise for any social initiative. _____
22. Talk to her and emphasize that she should make friends so she'll be happier. _____
23. Invite her to talk about her relations with the other kids, and encourage her to take small steps when she's ready. _____
24. Encourage her to observe how other children relate and to join in with them. _____

G. For the past few weeks things have been disappearing from the teacher's desk and lunch money has been taken from some of the children's desks. Today, Marvin was seen by the teacher taking a silver dollar paperweight from her desk. The teacher phoned Marvin's mother and spoke to her about this incident. Although the teacher suspects that Marvin has been responsible for the other thefts, she mentioned only the one and assured the mother that she'll keep a close eye on Marvin. The best thing for the mother to do is:

25. Talk to him about the consequences of stealing and what it would mean in relation to the other kids. _____
26. Talk to him about it, expressing her confidence in him and attempting to understand why he did it. _____
27. Give him a good scolding; stealing is something which cannot be tolerated and he has to learn that. _____
28. Emphasize that it was wrong and have him apologize to the teacher and promise not to do it again. _____

H. Your child has been getting average grades, and you'd like to see her improve. A useful approach might be to:

- 29. Encourage her to talk about her report card and what it means for her. _____
- 30. Go over the report card with her; point out where she stands in the class. _____
- 31. Stress that she should do better; she'll never get into college with grades like these. _____
- 32. Offer her a dollar for every A and 50 cents for every B on future report cards. _____

Appendix H

MOTIVACIÓN DE ADOLESCENCIA Y APOYO DE LOS PADRES.

Problemas en las escuelas Cuestionario (PIS)

Deci, E. L., Shwartz, A. J., Sheinman, L., & Ryan R.M. (1981)

En las siguientes páginas encontrará una serie de viñetas. Cada uno describe un incidente y cuatro maneras de responder a la situación. Por favor lea cada viñeta y luego considere cada respuesta a cambio. Piense en cada opción que tiene por respuesta en términos de que tan apropiado usted considere como un medio de hacer frente al problema descrito en la viñeta. Puede encontrar una opción perfecta, en otras palabras, extremadamente apropiada, en cual usted entonces respondería con el número 7. Puede considerar que la respuesta sea altamente inapropiada, en cual usted entonces respondería con el número 1. O si encuentra la opción razonable usted seleccionaría un número entre 1 y 7. Piense en cada opción y califica en la escala mostrada. Por favor escribe su calificación de cada cuatro de las opciones de las viñetas en la línea.

No hay calificaciones correctas ni incorrectos. Los estilos de los padres son diferentes. Simplemente estamos interesados en que considere usted lo apropiado según su estilo. Alguna de las historias pregunta sobre qué haría usted como maestra/maestro en la situación. Otras preguntas piden, sobre como respondería si usted estuviera dando consejo a la maestra(o). Otras preguntas también piden respuestas como padre.

Por favor responde a cada uno de los 32 elementos usando la escala presentada.

--- 1 ---	--- 2 ---	--- 3 ---	--- 4 ---	--- 5 ---	--- 6 ---	--- 7 ---
Muy Apropiado		moderadamente				Muy Inapropiado

A. Jim es un estudiante promedio que ha estado trabajando a nivel de grado. Durante las pasadas dos semanas él ha estado sin energía y no ha estado participando durante el grupo de lectura. El trabajo que hace es correcto, pero no ha estado cumpliendo su tarea. Una conversación de teléfono con su madre no ha revelado ninguna información útil. Lo más apropiado hacer en la situación de la maestra de Jim es:

1. Ella debería expresar la importancia de sus tareas que es importante aprender el material por su propio bien. _____
2. Hazle saber que no tiene que terminar toda su tarea ahorita y a ver cómo ella puede ayudarle arreglar la causa de su languidez. _____
3. Hazlo quedarse después de escuela hasta que termine todas sus tareas. _____
4. Dejarlo ver como se compara con otros estudiantes con relación a sus tareas Y animarlo a ponerse al día con sus compañeros. _____

B. En una conferencia de padres en la noche anterior, al señor y la señora Greene se les dijo que su hija Sarah ha avanzado más de lo esperado desde la última conferencia. Todos coinciden en que anticipan que siga mejorando de modo de que ella no tendra que repetir el grado (en lo cual los señores Greene esperaban basado el último reporte de calificaciones). Como resultado de la conferencia, los señores Greene deciden:

5. Prometen aumentar su mensualidad y una bicicleta si ella sigue mejorando. ____
6. Decirle que ella ahora está haciendo igual de bien, como muchos de los otros niños de su clase. ____
7. Decirle sobre el informe, haciéndole saber que están conscientes de su independencia mejorada en la escuela y en el hogar. ____
8. Expresarle continuamente la importancia de que tiene que trabajar duro para obtener mejores calificaciones. ____

C. Donny es temperamental y tiene una forma de agitar a los otros niños. Él no responde bien a lo que le dices que haga y estás preocupado de que no va a aprender las habilidades sociales que necesita. Lo mejor que puedes hacer con él es:

9. Haga saber lo importante que es para él poder controlarse con el fin de tener éxito en la escuela y en otras situaciones. ____
10. Ponerlo en una clase especial que tiene la estructura de y recompensa que necesita. ____
11. Ayúdele a ver cómo otros niños se comportan en estas diversas situaciones y aprécienlo por hacer lo mismo. ____
12. Reconocer que Donny probablemente no recibe la atención necesaria y empezar a ser más sensible hacia él. ____

D. Su hijo es uno de los mejores jugadores de su equipo de fútbol infantil la cual ha estado ganando la mayoría de sus juegos. Sin embargo, está preocupado porque le ha dicho que ha fallado su prueba de ortografía y tendrá que volver a tomarlo de nuevo pasado mañana. Usted decide que lo mejor que puede hacer es:

13. Pedirle que hable acerca de cómo planea manejar la situación. ____
14. Le dice que probablemente debería renunciar al partido de mañana para que pueda ponerse al día con la ortografía. ____
15. Averiguar si los demás están en la misma situación y sugerir hacer la preparación igual como los demás. ____
16. Haz que se pierda el partido de mañana para estudiar; fútbol ha estado interfiriendo demasiado con su trabajo escolar. ____

E. El equipo de ortografía llamado Rangers ha tenido problemas durante todo el año. ¿Cómo podría la señorita Wilson mejor ayudar a los Rangers?

17. Tener concursos de ortografía regulares para que los Rangers se sientan motivados a hacer tan bien como los otros grupos. _____
18. Hacer más prácticas de darles privilegios especiales por mejorar. _____
19. Hacer que cada niño mantenga una tabla de ortografía y enfatizar la importancia de tener una buena tabla. _____.
20. Ayudar al grupo a idear formas de aprender las palabras juntas (obras de teatro, juegos, etc.) _____

F. En su clase hay una niña llamada Margy que ha sido el objeto de burlas por años. Ella es tranquila y por lo general está sola. A pesar de los esfuerzos de los maestros anteriores, Margy no ha sido aceptada por los otros niños. Su sabiduría guiaría a que:

21. Envuélvela en interacciones y darle mucha alabanza por cualquier iniciativa social. _____
22. Habla con ella y enfatizar que debería hacer amigos para que sea más feliz. _____
23. Invitarla a hablar acerca de sus interacciones con otros niños, y animarla a dar pequeños pasos cuando esté lista. _____
24. Animarla a observar cómo otros niños se relacionan y se una con ellos. _____

G. En las últimas semanas cosas han desaparecido del escritorio de la maestra y dinero para el almuerzo de algunos de los escritorios de los niños han sido tomados. Hoy en día, Marvin fue observado por el maestro que obtuvo un pisapapeles de plata de su escritorio. El maestro le llamó a la madre de Marvin y habló con ella sobre este incidente. Aunque el profesor sospecha de que Marvin ha sido responsable de los otros robos, sólo menciona uno y le aseguró a la madre que va a mantener una vigilancia estricta sobre Marvin. Lo mejor que puede hacer la madre es:

25. Hablar con él acerca de las consecuencias del robo y lo que significa en relación con los otros niños. _____
26. Hablar con él al respecto, expresando su confianza en él y tratar de entender por qué lo hizo. _____
27. Darle una buena reprimenda; el robo es algo que no puede ser tolerado y tiene que aprender. _____
28. Enfatizar la importancia en que no era correcto y que él se disculpe con el maestro y prometer no volver hacerlo. _____

H. Su hija ha estado recibiendo calificaciones medias, y le gustaría ver su mejoría. Un enfoque útil podría ser:

- 29. Animarla a que hable acerca de su tarjeta de calificaciones y lo que significa para ella. _____
- 30. Revisa sus calificaciones con ella; señala dónde queda en comparación a los demás. _____.
- 31 Estresar que ella debe hacer mejor; que nunca volverá a entrar a la universidad con calificaciones como éstas. _____
- 32. Ofrécele un dólar por cada A y 50 centavos por cada B en futuros reportes. _____

Appendix I

Demografía – Informe de Padres

1. Cuál es su sexo
 - a) Hombre
 - b) Mujer
 - c) Transgénico
2. ¿Cuál es su relación con su hijo
 - a) Padre biológico
 - b) Padres adoptivos
 - c) Padrastro/Madrastra
 - d) Otro: _____
3. ¿Cuál es el sexo de su hijo(a)?
 - a) Hombre
 - b) Mujer
 - c) Transgénico
4. ¿Cuál es la fecha de nacimiento de su hijo (MM /AAAA) _____
5. ¿Cuál es el grado actual de su hijo en la escuela?
 - a) 6º grado
 - b) 7º grado
 - c) 8º grado
6. ¿Alguna vez su hijo a repetido o a continuado pasar un grado en la escuela? SÍ/ NO
 - a. Si su respuesta fue sí, explique por qué. _____
7. En general, ¿qué tipo de grado recibe su hijo en la escuela o en el hogar?
 - a) Por la mayoría A's
 - b) A's y B's
 - c) Por la mayoría B's
 - d) B's y C's
 - e) Por la mayoría C's
 - f) C's y D's
 - g) Por la mayoría D's
 - h) F's y D's
 - i) Por la mayoría F's
8. ¿Cuántas personas viven en su hogar? _____
9. ¿Cuál es su ingreso anual aproximado? _____
10. ¿Tiene una afiliación religiosa? _____
 Si es así, ¿cuál es la religión que está afiliado? _____