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Effects of Adolescent Motivation and Personality on Adherence and Success in a Voluntary Residential Bootcamp Program

Lydia Sigurdson

EFFECTS OF ADOLESCENT MOTIVATION AND PERSONALITY ON ADHERENCE AND SUCCESS IN A VOLUNTARY RESIDENTIAL BOOTCAMP PROGRAM

by

Lydia Sigurdson

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Approved by:

Dr. Nora E. Charles, Committee Chair
Dr. Joye Anestis
Dr. Randy Arnau

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ABSTRACT

The Youth ChalleNGe Program is a voluntary program for adolescents who have dropped out of high school and is intended to address various needs of at-risk youth. As a result, individuals are motivated to enroll for an array of reasons. Though prior research on the Youth ChalleNGe Program has sought to identify individual factors that determine program outcomes, no study has considered motivation for enrollment as a predictor of program success. Further, personality traits related to goal setting and self-regulation may impact the relationship between motivation and program outcome. Archival data was gathered from 710 participants in the Youth ChalleNGe program on their reasons for enrollment and their personality. Facility records regarding disciplinary infractions and early program termination were collected. It was hypothesized that there would be 3 major reasons for enrollment (education, life-improvement, and job or military interest). Further, that motivations to enroll would predict different rates of program completion and disciplinary infractions. Finally, it was hypothesized that borderline and antisocial personality traits would attenuate positive effects on outcome. Results of the study found that education, life-coping skills, and career goals were the 3 most frequent motivations for enrollment, though 2 additional reasons were also coded. The second hypothesis was partially supported, as motivation predicted disciplinary infractions but not program termination. Borderline and antisocial traits did not impact the relationship. The current research adds to the literature on non-traditional residential treatment for adolescents and the role of motivation and autonomy in adolescent treatment success.

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CHAPTER I - INTRODUCTION

There is a never-ending list of reasons why some adolescents drop out of high school prematurely. Though some reasons ("school is boring") evoke less sympathy than others ("I needed to help provide for my family"), dropping out has serious implications on an individual level and on a societal level. Leaving school without a diploma or General Educational Development certificate (GED) puts a young person at a much higher risk for occupational and psychosocial problems within his or her life (Spencer, Tugenberg, Ocean, Schwartz, & Rhodes, 2016). Society is then faced with consequent issues such as higher crime rates and dependence on social programs (Boylan & Renzulli, 2017). One effort to address the issues associated with high school non-completion was initiated by Congress through the 1993 Defense Authorization Act. This act allotted funding for the National Guard to design and implement military-based residential programs for young people to earn a high school diploma or GED (Bombac, 2009). The National Guard Youth ChalleNGe Program has expanded rapidly since 1993, and now has well-established program sites in more than half of the states (Bloom, Gardenhire-Crooks, & Mandsager, 2009).

The Youth ChalleNGe Design

Though the Youth ChalleNGe Program was implemented as a tool for high school dropouts to obtain a diploma or GED, it was also designed to account for other problems that can accompany these youth. The program varies by site to best serve the specific needs of that location, but they all have the same mission and overarching goals: positive youth development and addressing youths' needs to prepare them for success in society (Bloom et al., 2009). This means that, unlike traditional alternative school programs,

participants in the Youth ChalleNGe Program are intended to develop themselves socially, physically, and psychologically, in addition to academically (Bombac, 2009). Specifically, there are eight core components of the Youth ChalleNGe Program curriculum: (1) Academic Excellence, (2) Life Coping Skills, (3) Job Skills, (4) Health and Hygiene, (5) Responsible Citizenship, (6) Service to the Community, (7) Leadership/Followership, and (8) Physical Fitness ("Mississippi ChalleNGe Academy," n.d.). This design means that the Youth ChalleNGe program attracts youths for a variety of reasons beyond simply obtaining a GED.

The positive-youth-development design of the Youth ChalleNGe Program makes it an attractive option for treating adolescents with milder behavioral or emotional problems who might otherwise be at-risk of placement in residential treatment settings or juvenile detention centers (Bloom, 2010; Weis, Wilson, & Whitemarsh, 2005). Considering that high school dropouts are three and a half times more likely to be arrested than their graduated peers, there is reason to believe that addressing aspects of youth development beyond academic achievement is important for this population (Bloom et al., 2009). Besides benefitting the individual by fostering multiple aspects important to their development, programs such as the Youth ChalleNGe Program can be cost-effective compared to residential treatment options or incarceration (Weis, Crockett, & Vieth, 2004). However, this is dependent on appropriate youth-to-program placement. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) referenced "net widening," or referral to this type of program by school officials or judges when probation or school-provided resources would be adequate, as a major source of cost inefficiency (Weis et al., 2004). Further, the OJJDP proposed only enrolling adolescents

who will successfully complete this program (and thus, screening out adolescents who would likely terminate before program completion) as a principal method of improving cost effectiveness. As such, research has attempted to uncover indicators that predict whether a candidate will be successful in this type of program (Weis et al., 2004; Weis et al., 2005). Though the current body of literature surrounding the Youth ChalleNGe Program has recognized it is unique from traditional residential facilities, and that individual differences in potential enrollees can predict who is best fit for this type of program to optimize program efficiency, they fail to consider a crucial individual difference: the person's reason for making the decision to enroll.

Motivation

Motivation is an important variable in understanding goal-directed behavior and is considered in many areas of clinical and adolescent development literature. Research on clinical treatment program completion, GED attainment, and a variety of other youth-relevant programs have considered the role of motivation (e.g., Ryan, Plant, & O'Malley, 1995; Lambert, Hurley, Tomlinson, & Stevens, 2013; Pelletier, Tuson, & Haddad, 1997; Zuroff, Koestner, Moskowitz, McBride, Marshall, & Bagby, 2007). With the voluntary nature and the multidimensional curriculum of the Youth ChalleNGe Program, motivations for enrollment may be especially heterogeneous compared to other programs, and especially valuable to consider.

Self-determination theory

Self-Determination Theory (SDT) is one model of motivation quality that is considered across areas of research. It places motivation on a continuum from extrinsic (driven by outside influences) to intrinsic (driven by internal forces; Deci & Ryan, 1985)

as seen in Figure 1. The more internalized a goal is, or the closer to the intrinsic end of the continuum, the better the performance, persistence, and outcome (Ryan & Deci, 2000). As evident by the name *Self-Determination* Theory, this theory stresses the human need for autonomy and the feeling of control in goal pursuit. The more autonomous one's decision to pursue a goal and the more internal the perceived locus of causality, the more desirable the outcome (Ryan & Deci, 2000). In other words, those who are motivated to do something because they personally want to (internal locus of causality) and are freely choosing to (high autonomy) are more likely to succeed than those who are motivated because they feel they have to (external locus of causality) and the decision was not really theirs (low autonomy) (Howard et al., 2017; Merrill, 2014). On the extrinsic end of the SDT continuum, motivations have low levels of autonomy and an externalized locus of causality. Motivations with high autonomy and an internal locus of causality are on the intrinsic end of the continuum (Ryan & Connell, 1989).

Extrinsic motivation

It is rare to be motivated by a purely intrinsic reason, but extrinsic motivation is not always superficial. For example, a student who is motivated to graduate because they will be punished for dropping out is different than a student who is motivated to graduate so they have the qualification to pursue a personally meaningful career, though they are both motivated by an external source. Extrinsic motivation is split into four regulatory styles over the SDT continuum (see Figure 1), which vary by level of autonomy and perceived locus of causality (Howard et al., 2017). The most extrinsic regulation is *external regulation,* which is the motivation to do something for a shallow or materialistic outcome, or to avoid punishment. An example of this is a student who is

motivated to score an A on an exam because they were promised a reward from their parents for doing so. Similarly, this could be a student who is motivated to pass an exam to avoid a punishment from his parents for failing. The next on the continuum is *introjected regulation,* which has a small amount of internalization but is largely driven by outside forces. Introjected regulation involves feelings of shame, avoiding guilt, and protecting one's self-esteem (Ryan & Deci, 2000). An example of this would be a person in a sport or music competition who wants to succeed to make their parent in the audience proud, or to avoid the shame of disappointing them. Though the motivation is coming from themselves, it is an outside force (the parent's opinion) largely driving the behavior. This could also be a person who feels as though their pride and self-worth are contingent upon their performance in the competition. Though there is not a specific person in the audience, their behavior is being motivated by how the outside world would perceive them if they were to fail or succeed. *Identified regulation* represents a goal or behavior that is meaningful to that person, though the action may not be autonomous or enjoyable (Ryan & Deci, 2000). An example of this is participation in a group volunteer event. Though the person may not feel a deep connection to saving sea turtles, per se, they agree with the environmental goal and see their own participation as meaningful and valuable. The fourth and most internalized extrinsic regulation is *integrated regulation.* In this case, a person engages in a behavior because it is considered important to their sense of self. Though the action itself is not enjoyable, the outcome or purpose is an inherent value of the person or engrained in the person's identity (Ryan & Deci, 2000). This could be a person who works at a veterinary clinic and feels devoted to helping

animals. Though the tasks that come with caring for sick animals may not all be enjoyable, the person sees them as purposeful and directly related to their inherent value.

Intrinsic motivation

Truly intrinsic motivation is when the action is the reward in itself and there is no external or instrumental drive behind it (Howard, Gagné, & Bureau, 2017). *Intrinsic regulation* (the only regulation of intrinsic motivation) is when the goal is important to the person's sense of self, and the action itself is enjoyable (Ryan & Deci, 2000; Howard et al., 2017). An example of this is a person who dedicates their life to mountain climbing. Not only is the task of climbing a mountain integral to that person's identity, but they find the actual action of climbing the mountain enjoyable in itself. True intrinsic motivation is not common and most actions in society have at least a small degree of external pressure (Ryan & Deci, 2000).

Motivation in Treatment Success

Research in clinical settings has looked at the relationship between motivations to seek treatment and treatment response. Ryan, Plant, and O'Malley (1995) compared patients who were mandated to attend an alcohol treatment program with patients who voluntarily attended. Unsurprisingly, those with internal motivation (driven by one's own will) had better treatment outcomes than those who were externally motivated (driven by outside influences). Interestingly, the researchers found a significant interaction between external and internal motivations. If a person was motivated to get treatment for both internal and external reasons (the person genuinely wants to change, and the person will lose their job if they do not complete treatment), they had the highest likelihood of persisting in treatment. The authors conclude that in an alcohol treatment setting, external

pressures (such as being legally mandated) are only valuable if there is an internalized reason for treatment as well (Ryan et al., 1995). In another study of substance use disorder treatment, researchers looked at youths' motivations for treatment as well as their parents' motivations (Cornelius, Earnshaw, Menino, Bogart, & Levy, 2017). Only the youths' own motivation for substance use treatment was predictive of program engagement. Parents that were seen as the driving force behind treatment (rather than the youth wanting treatment) reported the greatest conflict with their children and parents' motivation did not show any effect on program success. Finally, in a study considering motivation for outpatient depression treatment, the authors found that internal, self-driven motivation was found to be a stronger predicter of achieving remission and seeing symptom improvement than were treatment variables such as therapeutic alliance (Zuroff et al., 2007).

Motivation has been studied in alternative education settings as well. A study that considered motivations in a GED alternative school setting found that those who reported self-determined, intrinsic motivation were more likely to complete the alternative school program than those who were extrinsically motivated (Farrelly, 2013). In another case, incarcerated adults were asked about their motivations for participating in a GED program (Barr, 2016). In this setting, external reasons such as "money" and "a good paying job" were found to be strong motivators for program completion, rather than internal reasons such as "avoiding old lifestyles" and "doing better than what I've been [before prison]". The author discusses that the concept of money is complex and may be especially valuable for someone in a prison setting. Even though money is a materialistic

reward, it can represent social status or a self-sustaining identity on a basic level (Barr, 2016).

Because of the unique and multifaceted structure of the Youth ChalleNGe Program, it may be especially valuable to understand how motivation is related to program success. Only two studies have asked Youth ChalleNGe participants about their reasons for enrolling in the program, which were reported as frequencies and not analyzed further (Bombac, 2009; Bloom et al., 2009). Bombac (2009) asked participants who it was that introduced them to the Youth ChalleNGe Program, and how much they personally wanted to enroll in the program. Results found that they were mostly influenced to enroll by friends (50%), parents (43%), or other relatives (41%). The majority (88%) of participants indicated that they personally wanted to enroll in the program. This study also asked participants what helped them to succeed in the Youth ChalleNGe Program. Bombac (2009) found that parental support, acquiring new values, and teacher support were reported as the factors most strongly associated with helping participants succeed. Bloom and colleagues (2009) asked participants why they were interested in the Youth ChalleNGe Program and found that most reported wanting their high school diploma or GED (81.3%), followed by wanting to 'get their life on track' (76.9%), wanting to go to college after (44.5%), wanting to get a job after (38.8%), and finally wanting to join the military (30.7%).

Individual Differences That May Affect Youth ChalleNGe Success

In addition to the youths' reason for enrollment, their successful completion of a program like Youth ChalleNGe is likely affected by other individual differences in personality and psychopathology. Military-style residential programs such as the Youth

ChalleNGe Program may be especially beneficial for youth with conduct problems, substance use issues, and antisocial qualities because they provide increased structure and monitoring (Styve, MacKenzie, Gover, & Mitchell, 2000; Weis & Toolis, 2008). However, there is notable concern that a highly structured and military-styled program could put youth under substantial stress and result in worsened socioemotional functioning in some cases (MacKenzie, Wilson, Armstrong, & Gover, 2001; Weis et al., 2005). Previous research has compared correctional boot camp programs with traditional juvenile detention and treatment facilities for juvenile offenders. MacKenzie, Wilson, Armstrong, and Gover (2001) found that boot camp facilities were considered more positive and therapeutic than traditional facilities, and this positive environment perception led to (1) reduced impulsivity, (2) improved social bonds, and (3) decreased antisocial attitudes. However, the authors also found that youths with histories of abuse saw significantly less improvement in their antisocial attitudes in the bootcamp condition, suggesting that a militaristic and highly structured environment might be detrimental for individuals who have experienced abuse. Though this study looks at involuntary placements in juvenile justice settings, it offers valuable information for the military-style Youth ChalleNGe Program. First, it suggests that military structure is perceived positively and even therapeutically by many youths, and this perception leads to more positive outcomes. Second, it indicates that individual factors can discriminate which youths will benefit in this type of program over others. Considering that those enrolled in the Youth ChalleNGe Program have less severe issues than those in a criminal justice setting, and that it is a voluntary program, it would likely lead to even more positive outcomes. Those enrolled in the Youth ChalleNGe Program are motivated to participate

in a program when they also have the option of remaining in the community, rather than the choice to attend a boot camp program or another type of confinement (MacKenzie et al., 2001; Weis & Toolis, 2008).

Studies that have specifically looked at the Youth ChalleNGe Program have also found individual factors that predict program success. Weis, Whitemarsh, and Wilson (2005) conducted a study to look at gender differences in the Wisconsin Youth ChalleNGe Program. Contrary to their hypothesis, they did not find a difference in the effectiveness or completion rate between boys and girls, but they did uncover an important distinction between girls who completed the program and girls who dropped out. They found that 84% of girls with histories of physical abuse withdrew from the Youth ChalleNGe Program, compared to only 24% of girls who did not have histories of physical abuse. Unexpectedly, the study also found that boys, but not girls, whose parents reported elevated levels of somatization were more likely to drop out from the program (54%) than boys who scored in the normal range (24%). Though girls showed significantly higher internalizing (but comparable externalizing) symptoms at baseline, the authors did not find any other scale to be predictive of program withdrawal. This study illustrates that this program is generally beneficial across genders, but that individual differences that affect program outcome vary by gender (Weis et al., 2005).

Another study considered personality profiles in predicting program success in the Youth ChalleNGe Program. Weis, Crockett, and Vieth (2004) used the Minnesota Multiphasic Personality Inventory- Adolescent (MMPI-A; Butcher et al., 1992) to assess if certain personality profiles were predictive of early program termination. The authors found that participants who tended to over-report socioemotional problems were more

likely to withdraw, as well as participants who often have somatic complaints and tend to seek validation from others by expressing psychological distress somatically. Specifically, those with elevated F scales (endorsement of unusual socioemotional disturbances, usually associated with over-reporting of symptoms), Hs scales (concerns about physical ailments despite reassuring evidence when under psychological stress), and Hy scales (specific physical complaints that suggest maladjustment though they consider themselves to be well adjusted) on the MMPI-A were more likely to terminate before completion. This suggests that adolescents who cope with distress somatically and use physical complaints for validation are not a good fit for a military-style program such as this. Though adolescents who showed greater endorsement of unusual types of socioemotional dysfunction were also at greater risk for withdrawing, the authors note that there were not significant differences between program completers and non-completers on scales specific to anxiety and depression. They suggest that the structure and goal-directed nature of the program may be therapeutic for youths who have symptoms of depression and anxiety such as low motivation, lethargy, and low self-esteem (Weis et al., 2004). Further, the authors did not find a difference in completion rate between those with and without high levels of antisocial traits or externalizing behaviors. They suggest that adolescents with externalizing problems and deviant behaviors may be an appropriate fit for the structure and discipline of a bootcamp program. This study adds a valuable contribution to the literature by illustrating that specific personality profiles are less successful in this type of program.

Understanding how program success is impacted by personality features is an important consideration in this population. Though this program is not a treatment facility

per se, previous research in this setting has shown that many participants have clinical or subclinical levels of personality traits related to problems in goal-setting and self-regulation (Weis et al., 2005; Charles, Floyd, Cole, & Barry, 2019). Elevated levels of these traits may have a detrimental impact on the relationship between motivation and program outcome, such that the positive impacts of motivation for enrollment on program outcomes will be weakened if they have these traits.

Borderline personality traits

Borderline personality disorder (BPD) features may be especially relevant to consider in the relationship between motivation and program outcome. BPD features include extreme mood fluctuation and emotion dysregulation, ambivalent relationships, impulsive and reckless behavior, and an insecure sense of identity (American Psychiatric Association, 2013). BPD traits in adolescence are associated with serious functional impairment and life dissatisfaction (Sharp, Kalpakci, Mellick, Venta, & Temple, 2015). Past research has suggested that adolescents with BPD diagnoses are vulnerable to dropping out of treatment (Desrosiers, Saint-Jean, & Breton, 2015), and research on BPD traits in an adolescent community sample found that BPD symptoms predicted significant dysfunction across multiple life domains (Winograd, Cohen, & Chen 2008). Further, research conducted with the Youth ChalleNGe Program considered BPD features in relation to disciplinary infractions (Charles et al., 2019) and found that they were positively associated with being disciplined for behaviors related to poor impulse control and self-regulation. It could be that BPD features, especially the affective instability, impulsivity, and identity uncertainty, play a role in the connection between a person's motivation and program success.

Antisocial personality traits

Antisocial personality disorder (APD) features are also important to consider in the relationship between motivation and program outcome. This construct includes conduct and aggression problems, narcissism, callousness, and sensation-seeking behavior (Morey, 2007). Research has linked antisocial traits in youth with institutional misconduct, an increased likelihood of reoffending, and low intrinsic motivation for change (Simmons et al., 2018; Caldwell, McCormick, Wolfe, & Umstead, 2012; Gillen, 2018). The previously mentioned study conducted by Charles and colleagues (2019) also considered antisocial traits in regard to program misconduct. They found that different components of the APD construct related to different types of misbehavior. For example, while aggression was predictive of verbal altercations with staff, narcissism was predictive of disruptive behaviors. This study did not find a significant association between misconduct and the stimulus-seeking feature of APD, which was inconsistent with the authors' expectations based on previous literature. It could be that the Youth ChalleNGe Program is an effective intervention for adolescents with sensation seeking tendencies, causing these traits to be unrelated to their disciplinary problems while in the program. This is consistent with Weis and colleagues' argument that youths with antisocial and externalizing traits benefit from the structure of the bootcamp program (2004) but may mean that some of these traits are more related to program effectiveness than are others. Antisocial traits should be considered in the relationship between motivation and program outcome, as impulsivity and aggression could negatively impact a person's likelihood to stay motivated by a long-term goal when they are tempted to act out in the moment. On the other hand, the narcissistic and egocentric aspects of APD

could be beneficial for program success because the person may place their personal goal at a higher importance than the temptation of misconduct in the moment.

Current Study

Previous research on the Youth ChalleNGe Program has indicated the value in understanding who will be successful in this unique type of program and encourages further examination of factors predicting program completion and success. The Youth ChalleNGe Program is unique from other residential programs in its voluntary nature and multidimensional design, which attracts youth participation for a variety of reasons (Bloom et al., 2009; Weis & Toolis, 2008). Though this is an aspect that differentiates the Youth ChalleNGe Program from comparable programs, only two studies have scratched the surface of why youth choose to participate (Bloom et al., 2009; Bombac, 2009, Weis & Toolis, 2008). As such, this study intends to fill this research gap by developing a better understanding of the reasons why youth enroll in this program and how this relates to program outcomes.

Because the Youth ChalleNGe Program is unique in its multidimensional design, and participants enroll for a variety of reasons, it is not clear why youth are motivated to enroll and how their motivations relate to their success in the program. Though it could be that youth motivated by reasons such as self-improvement ("getting my life on track") are more personally connected to their goal and thus more likely to be successful in the program, it may also be that youth with more external and tangible motivations (such as their GED) are better able to envision their goal and endure this type of program. Further, it may be that youth with certain personality traits related to self-regulation show a different pattern in their relationship between motivation and program success.

Specifically, youth with elevated BPD and APD features may be less likely to achieve positive program outcomes even when they have more promising motivations for enrolling.

In sum, this study has three aims. First, to develop our understanding of why youth enroll in this program by analyzing archived qualitative data for trends in responses. Second, to understand how youths' motivations to enroll in the Youth ChalleNGe Program relate to their success in the program. Finally, to investigate the impact of certain personality factors on the relationship between motivation type and program success. The research questions that will be addressed in the current study are:

1. Why do youth choose to enroll in the Youth ChalleNGe Program?
2. Is motivation for enrollment predictive of success in the Youth ChalleNGe Program?
3. Is the relationship between motivation and program success influenced by borderline and antisocial personality traits?

It is hypothesized that youth will report 3 major reasons for enrollment: (1) for their GED or High School Diploma, (2) for self-improvement or life skills ("to get my life on track"), and (3) for facilitating the transition to the military, college, or employment. It is also hypothesized that motivations to enroll will have different associations with program success (in terms of a higher completion rate and fewer disciplinary infractions); however, because this is the first study to consider motivation in this multidimensional setting, no prediction is made for which motivation will be associated with better outcomes. Finally, it is hypothesized that borderline and antisocial personality traits will moderate the relationship between motivation and program success

such that they will have an attenuating effect on any positive relationships between motivation and program outcome.

CHAPTER II – METHODS

Participants

The Mississippi Youth ChalleNGe Academy (YCA) is a Youth ChalleNGe site in southern Mississippi. Two cohorts of approximately 200 youths (ages 16-19) are enrolled in the program per year (Mississippi Youth ChalleNGe Academy website, n.d). Archival data was collected from eight cohorts of Youth ChalleNGe participants between Spring 2016 and Fall 2019 who responded to the open-ended question "why did you decide to come to Youth ChalleNGe?" as part of a larger battery of measures.

Measures

Demographics. Participants were asked to answer basic demographic questions including their age, gender identity, and ethnicity.

Motivation. Unlike other settings for motivation research that have a homogeneous reason for participating in a program, participants have different reasons for enrolling in YCA. The open-ended question "why did you decide to come to Youth ChalleNGe?" was presented to each cohort as part of program feedback for YCA administrators. The qualitative responses were then reviewed to identify themes, which were mostly consistent with findings from Youth ChalleNGe studies at other locations (Bloom et al., 2009). All valid responses were coded for the following 5 motivations: education, life coping skills, career goals, external influence, and other.

Personality features. Personality profiles were assessed using the Personality Assessment Inventory- Adolescent (PAI-A), which is an objective self-report measure of

personality, psychopathology, and other treatment-relevant traits (Morey, 2007). It is composed of 264 items that are measured on a 4-point Likert scale, with response values ranging from 0 (“false”) to 3 (“very true”). Corresponding items are summed into raw scores for individual scales of the PAI, then converted into T-scores with a mean of 50 and standard deviation of 10. This study will specifically consider two scales measuring problematic personality traits.

Antisocial features scale. The Antisocial Features Scale (ANT) includes 18 items that measure antisocial traits and behaviors, such as egocentricity, risk-taking, and sensation-seeking (Morey, 2007). Previous research on antisocial traits in adolescents has suggested that elevated levels of these traits are related to delinquent behavior and poorer treatment outcomes (Frick & Dickens, 2006).

Borderline features scale. The Borderline Features Scale (BOR) includes 20 items that measure traits associated with Borderline Personality Disorder, such as poor emotion regulation, relationship instability, and self-destructiveness (Morey, 2007).

Program outcome. Program success was conceptualized in two ways. First, by the number of disciplinary infractions the participant received throughout the course of the program. Disciplinary infractions are recorded by program staff so that higher counts of infractions (meaning more frequent disciplinary issues) would indicate lower program success than those with fewer infractions. Second, for cohorts in which termination data was available, program success was measured as a dichotomous outcome in which participants either successfully completed the program or terminated the program early. Termination data was available for 375 cases (52.8%).

Procedure

Archival data collected for other research projects between Spring 2016 and Fall 2019 were used in this study. Data collection procedures and the design of the original studies were approved by the Institutional Review Board at the University of Southern Mississippi. In addition, the program director of YCA serves as guardian *ad litem* for the residents during their enrollment and provided informed consent to recruit participants and conduct the study on the program's property. Participants 18 years or older were also provided informed consent, and participants under 18 were provided assent to participate. In accordance with YCA rules, participants were not compensated for their contribution. They were reminded that their participation was completely voluntary before data collection began. Data collection took place in a classroom on the YCA campus and was overseen by trained research assistants. Participants completed the measures electronically via Qualtrics computer software as part of larger batteries of self-report measures.

Data Coding

The qualitative responses to the question "why did you decide to come to Youth ChalleNGe?" were compiled and reviewed to identify themes before coding. The following 5 motivation categories were identified from this preliminary data review: education ("to get my GED/high school diploma", "because of problems/academic difficulties in traditional school"), life coping skills ("to get my life on track/become a better person", "to get more structure/better influences in my life"), career goals ("to join the military afterwards", "to get into college afterwards", and "to get a job afterwards", "to get a trades certification"), other external influence ("to avoid jail", "pressured by

parents"), and other (valid but uncommon responses such as physical fitness or following in an older sibling's footsteps). Following this initial review to identify themes, responses were then independently coded for primary motivation by two trained researchers. Comparing coding between both raters found substantial inconsistency in determining primary motivations from multi-motivation responses. Consistent with the research, which suggests people are often driven by more than one motivation (Plant, & O'Malley, 1995, Ryan & Deci, 2000; Ryan), 33% of the responses reported multiple motivations (n = 231). Due to time and pandemic restraints, the data was not recoded by both researchers. To manage this coding error, those who endorsed multiple motivations were separated into a "multiple motivations" group to analyze with the (single) motivation groups. Responses were additionally coded for whether or not a motivation was endorsed, meaning that individuals could belong to more than one group, and those who endorsed multiple motivations were included with those who endorsed only one.

Data Analysis

Statistical analyses were conducted using SPSS v27. First, data were screened for invalid and missing values. To address the first research question, frequencies of motivation were investigated generally and as a function of demographic features. Additionally, preliminary analyses testing associations among independent, dependent, and moderating variables were conducted. To address the relationship between motivation and program success, data were analyzed several ways. Because the disciplinary infraction data was not normally distributed, non-parametric tests were conducted for all models using this dependent variable. Mann-Whitney *U* tests were conducted for each motivation separately to determine if endorsement of that motivation

was predictive of disciplinary infractions. Mann-Whitney *U* tests were also conducted to analyze differences in disciplinary infractions between individuals who endorsed a certain motivation and those who endorsed that motivation in addition to others. Kruskal-Wallis tests analyzed whether motivation predicted disciplinary infractions by categorizing those with single motivations and creating a "multiple motivation" category to compare infractions. This was done so that motivations could be compared against each other to determine whether certain motivations significantly predicted better program adherence (fewer infractions) than other motivations. Logistic regressions were used to further investigate whether motivation predicted program termination by first analyzing the endorsement of each motivation in relation to program termination, then by analyzing the motivation categories. Finally, to answer the third research question, moderators (PAI-A scales ANT and BOR) were added to the models using motivation type (rather than endorsement) as the independent variable. PROCESS v 3.5.2 (Hayes, 2013) was used to run ten interaction models using disciplinary infraction data as the dependent variable. To determine interactions in regard to program completion versus termination, moderators were added to logistic regression models of motivation type and program completion separately (2 models). In addition, 10 models were run to analyze each dummy coded motivation group separately (5 models to account for BOR interactions in each of the 5 motivation categories, and 5 models to account for ANT interactions in each of the 5 motivation categories).

CHAPTER III - RESULTS

Data Screening and Descriptive Analyses

Initial data included 803 cases collected from 8 cohorts of participants between Spring 2016 and Fall 2019. Data were screened for invalid responses to the question "Why did you decide to come to Youth ChalleNGe?", which included responses that were clearly playful content ("none of your business"; "because I felt like doing it for the research"), had unclear meaning ("I did some stupid stuff"; "to keep my mind going"), and responses left blank. This resulted in 57 cases being removed from analysis. Further, responses deemed invalid based on PAI-A validity scales were removed from analysis. Consistent with PAI-A validity cutoff recommendations, individuals with an inconsistency scale T-score (ICN) of 73 or greater or an infrequency T-score (INF) of 75 or greater were deemed invalid and removed from analysis (Morey, 2007). This resulted in an additional 36 cases being removed from analysis. Overall, 93 cases were deemed invalid and removed from analysis. Missing values in valid responses were then examined to determine if they were missing completely at random (MCAR) and imputation techniques were used to retain valid data. 710 cases were retained for analysis of missing data. Analyses found that infraction data were missing for 53 cases (7.5%), BOR scores were missing for 191 cases (26.9%), and ANT scores were missing from 183 cases (25.8%). Age was missing from 1 case (0.1). Little's Test of Missing Completely at Random (MCAR) was found to be nonsignificant (X^2 (19, N = 710) = 20.66, p = .36), suggesting data is missing completely at random. Multiple Imputation methods were used, and all 710 cases were ultimately retained for analyses. This sample size was deemed sufficient for detecting a medium effect size, which is consistent with similar

studies that found small to medium effect sizes when analyzing factors contributing to Youth ChalleNGe program completion (Weis et al., 2004; Weis et al., 2005). Studies that considered motivation in academic programs also found medium effect sizes (Farrelly, 2013; Wang et al., 2006).

Demographic and descriptive data can be seen in tables 1 and 2. The majority of participants identified as male (79.2%) and Caucasian (61.8%) with a mean age of 16.8. Disciplinary infractions ranged from 0 to 52, with a median of 6. BOR scores ranged from 29.2 to 88.0 with a mean score of 56.6, and ANT scores ranged from 30.6 to 90.0 with a mean score of 54.5. From the subset of cohorts with termination data (n = 375), 33 individuals (8.8%) were terminated.

Motivation Frequencies

Frequencies for motivation endorsements can be seen in table 3. Education motivations were endorsed by 429 participants (60.4%), and 220 of these participants (31.0%) endorsed education as the only motivation for enrolling in YCA. Life coping skills were endorsed as motivation by 385 participants (54.2%), including 211 participants (29.7%) who endorsed this as their only motivation for enrollment. Career goals (including military interest) were endorsed as motivations by 121 participants (17.0%), and 19 of these participants (2.7%) endorsed only this motivation. Finally, 35 participants (4.9%) endorsed other external motivations (such as court or parent influence), and 29 of these participants (4.1%) endorsed this as their only motivation for enrollment. Overall, the majority of participants endorsed a single motivation (n = 479, 67.5%), followed by participants who endorsed two motivations (n = 202, 28.5%). The

maximum number of motivations endorsed by participants was 3, which included 29 participants (4.1%).

Motivation on Program Outcome

*Disciplinary infractions***.** Mann-Whitney *U* tests were performed to determine if there were significant differences in disciplinary infractions between participants who endorsed and did not endorse each of the motivations (see table 4). Mann-Whitney analysis was significant in that participants who endorsed education as a motivation received fewer infractions than participants who did not endorse education, $U = 71{,}627.0$, $z = 3.2$, $p = .001$. However, results indicated no significant difference in disciplinary infractions between participants who endorsed education as their only motivation and participants who endorsed education in addition to other motivations ($U = 23{,}924.0$, $z = 0.7$, $p = .47$). Further, no significant difference in infractions was found between participants who endorsed life coping skills as a motivation and participants who did not endorse life coping skills ($U = 61{,}864.5$, $z = -1.1$, $p = .28$). However, amongst individuals who endorsed life coping skills, participants who endorsed additional motivations received significantly fewer infractions than those who only endorsed life coping skills ($U = 20{,}790.5$, $z = 2.2$, $p = .03$). Participants who endorsed career goals as a motivation received significantly fewer disciplinary infractions than those who did not endorse career goals ($U = 43{,}599.0$, $z = 3.5$, $p < .001$). No significant difference in infractions were found between those who endorsed only career goals and those who endorsed additional goals ($U = 1{,}056.0$, $z = .6$, $p = .53$). Individuals who endorsed other external motivations received significantly more disciplinary infractions than those who did not ($U = 9{,}235.5$, $z = -2.3$, $p = .02$). No significant difference was found between individuals

who endorsed this motivation only and individuals who endorsed other motivations in addition ($U = 123.5$, $z = 1.6$, $p = .112$).

A Kruskal-Wallis test was conducted to determine differences in disciplinary infractions between motivation types. Results indicated that disciplinary infractions were significantly affected by motivation type ($H(4) = 18.7$, $p < .001$). Pairwise comparisons (with *p*-values adjusted using Bonferroni correction methods) were significantly different between those motivated by education and those motivated by other external influences ($p = 0.03$, $r = -0.20$), so that those motivated by education (*Mdn* = 6) tended to have fewer infractions than those motivated by other external influences (*Mdn* = 10). Significant differences in disciplinary infractions were identified between those motivated by life coping skills and those endorsing multiple motivations ($p = 0.03$, $r = 0.14$), so that those motivated by life coping skills tended to have more infractions (*Mdn* = 7) than those with multiple motivations (*Mdn* = 5). Disciplinary infractions were also significantly different between those motivated by other external influences (*Mdn* = 10) and those endorsing multiple motivations (*Mdn* = 5; $p < 0.01$, $r = 0.22$). Analyses found no significant differences in disciplinary infractions between participants motivated by education and participants motivated by life coping skills ($p = .52$, $r = -0.10$). Further, no significant differences were found between those motivated by education and those motivated by career goals ($p = 1.0$, $r = 0.02$), or between those motivated by education and those with multiple motivations ($p = 1.0$, $r = 0.05$). No significant differences in disciplinary infractions were indicated between those motivated by life coping skills and those motivated by other external influences ($p = 0.40$, $r = -0.13$), or between those motivated by other external influences and those motivated by career goals ($p = 0.22$, $r =$

-0.33). Finally, no significant differences in infractions were found between those motivated by career goals and those who endorsed multiple motivations (p = 1.0, r = 0.01), or between those motivated by career goals and those motivated by life coping skills (p = 1.0, r = 0.07). All pairwise comparisons can be located in table 5.

*Program termination***.** Logistic regressions were conducted to further assess the relationship between motivation and program outcome. First, logistic regressions were performed for each of the motivation categories to determine if the endorsement of that motivation (dichotomous) predicted program termination versus completion (dichotomous). Results from these analyses were nonsignificant across motivation models, indicating that the endorsement of the respective motivation did not predict program termination. This was further analyzed by conducting a logistic regression for motivation categories to determine if belonging to a motivation group (rather than the endorsement of a motivation) predicted program completion or termination. Omnibus test results indicated that the addition of motivation type was not significant (X^2 (4, 375) = 9.23, p = .06), and pairwise comparisons can be found in table 6.

Personality features as moderators

*Disciplinary infractions***.** To test the hypothesis that BOR and ANT would significantly moderate the association between motivation and number of citations, ten separate moderation analyses were conducted using PROCESS for SPSS. The first model analyzed the disciplinary infractions of individuals motivated to enroll for education reasons with borderline traits (BOR) as the moderator. Results indicated that the model was not significant (F = .39, p = .76, R^2 = .002), and no significant main effects or interactions were revealed (see Table 7). The second model analyzed disciplinary

infractions of individuals motivated to enroll for life coping reasons with BOR as the moderator. The overall model was not significant (F = 2.07, p = .10, R^2 = .009), and there were no significant main effects or interactions (see Table 7). The third model examined infractions of those motivated by career goals with BOR as the moderator. This model was not significant (F = .15, p = .93, R^2 = .001), and no significant main effects or interactions were revealed (see Table 7). The fourth model analyzed infractions in individuals motivated by other external influences with BOR as the moderating variable. Results indicated that the overall model was significant (F = 4.37, p = .005, R^2 = .02), however no main effects or interactions were significant (see Table 7). The fifth model analyzed infractions in individuals motivated by multiple reasons with BOR as the moderator. The overall model was significant (F = 4.17, p = .006, R^2 = .02), however no main effects or interactions were significant (see Table 7). Overall, results indicated that two models with BOR as the moderating variable were significant, however no main effects or interactions were significant. Models six through ten analyzed infractions by motivation type with antisocial traits (ANT) as the moderating variable. Results indicated that model six, which analyzed those motivated by education, was significant (F = 9.02, p < .001, R^2 = .04), with a significant main effect from ANT traits (B = .09, p<.001) and no significant interaction (see Table 7). The seventh model analyzed infractions in those motivated by life coping skills and found an overall significant model (F = 11.20, p < .001, R^2 = .05), with a significant main effect from ANT traits (B = .21, p<.001), though no significant interaction (see Table 7). The eighth model examined career goals as the motivation and found that the overall model was significant (F = 8.96, p < .001, R^2 = .04), with a significant main effect from ANT traits (B = .18, p<.001)

and no significant interaction (see Table 7). Model nine examined those motivated by other external influences and similarly found that the overall model was significant (F = 12.82, $p < .001$, $R^2 = .05$), with a significant main effect from ANT traits (B = .15, $p<.001$) and no significant interaction (see Table 7). Finally, model ten analyzed disciplinary infractions in individuals motivated by multiple motivations with ANT as the moderating variable and found that the overall model was significant ($F = 13.03$, $p <$ .001, $R^2 = .05$), with a significant main effect from ANT traits (B = .20, $p<.001$) and no significant interaction (see Table 7). Overall, results found that models with ANT as the moderating variable were significant, however, no significant interactions were found. As seen in Table 7, the significance of the models seemed to be caused by the direct effect of ANT traits on disciplinary infractions, such that higher ANT scores predicted higher disciplinary infractions.

*Program termination***.** BOR and ANT scores were separately added to the aforementioned logistic regression model of motivation type and program completion. In addition, 10 models were run to analyze each of the 5 motivation types with both BOR and ANT moderators. For each model, motivation type (dummy coded as a dichotomous variable), personality trait (continuous variable), and interaction between motivation and personality trait were analyzed. No interactions with motivation type or main effects from either trait were found, indicating that program termination is not significantly predicted by BOR or ANT scores and that these personality features also do not moderate the association between motivation for enrollment and program completion.

CHAPTER IV – DISCUSSION

This study explored the reasons why adolescents are motivated to enroll in the Youth ChalleNGe Program. Responses to the question "Why did you decide to come to Youth ChalleNGe?" were coded from 8 cohorts of participants to better understand trends in motivations. This study further investigated how motivations for enrollment related to participants' program success and if the relationship would be impacted by borderline and antisocial personality traits. It was hypothesized that 3 major reasons for enrollment would emerge from the data: motivated to continue their education, motivated to improve life-coping skills, and motivated by military, college, or employment goals. Further, it was hypothesized that motivations to enroll would predict program success, and that positive relationships between motivation endorsement and program success would be negatively impacted by increased levels of borderline or antisocial traits.

Results of the study partially supported the first hypothesis. Although education, life-coping skills, and career goals were the 3 most frequent motivations for enrollment, 2 additional reasons for enrollment were coded. This suggests that the majority of individuals were motivated to enroll for the educational opportunities provided by YCA, followed by opportunities to better cope with life problems and situations. The third most frequent motivation to enroll was to facilitate the transition into a career, including interest in joining the military, receiving job and trade skills, and interest in attending college. Finally, results indicated that the fourth most common motivation was external influences such as avoiding punishment by parents or court order. Other uncommon but valid reasons (such as improving physical fitness or wishing to follow in a sibling's footsteps) were also coded in this data, however due to the low frequency of these

responses, this group was not included in analyses. In addition to type of motivation, many participants identified multiple motivations for enrollment in their responses, which was not predicted in the hypotheses. Though the majority of participants only endorsed a single motivation, these findings suggest that a substantial number of individuals were motivated by more than one reason. In other words, many adolescents may be motivated by the multidimensional aspect of the program in itself, rather than motivated by just one aspect.

The second hypothesis, that motivation would predict program success, was supported in these results when conceptualizing success by disciplinary infractions received. First, analyzing the endorsement of each motivation separately revealed that the endorsement of education and career goal motivations significantly predicted program success (fewer disciplinary infractions), and the endorsement of other external influences significantly predicted program difficulty (more disciplinary infractions). Life coping skills were not significantly predictive of program outcome. This is consistent with Self-Determination Theory research, which suggests that self-driven motivations (such as receiving one's high school diploma or a trade certification) would have preferable outcomes to outside forces (to avoid punishment or appease parents or the court; Ryan & Deci, 2000). It may be that the way that qualitative responses were coded into the category of life coping skills was less than optimal. For example, though responses such as "to get a restart in my life and start fresh", "more direction in my life", and "to better myself and become a responsible man" all fit within the framework of life or self-improvement, they might be better represented by more specific categories. Further, comparing those who endorsed a single motivation with those who endorsed that

motivation in addition to other motivations revealed that additional motivations did not result in different infraction outcomes for any of the 3 aforementioned significant motivations (education, career goals, or other external influences). However, those who endorsed life coping skills singularly received significantly worse outcomes (more infractions) than those who endorsed life coping skills in addition to other motivations, suggesting that those with a broad life-improvement motivation have worse outcomes than those with additional, more specific goals.

To further investigate this hypothesis, individuals who endorsed a singular motivation were categorized into motivation groups, and a separate group was added for those who endorsed multiple motivations. Analyzing the disciplinary infractions between these groups revealed that motivation type significantly predicted program success. Specifically, those in the multiple motivations category had significantly fewer infractions than those in the life coping skills category and those in the other external influences category. Further, those in the education category had significantly fewer infractions than those in the other external influences category. In other words, individuals motivated to enroll for life coping skills or due to other external influences tended to be less successful in this program than individuals motivated by more than one aspect of YCA, and those motivated by other external influences additionally tended to be less successful than those motivated by education. It is important to note that group sizes differed substantially (see table 3) and the same results may not have been found with larger group sizes, however these findings support the hypothesis that motivation predicts program success. Interestingly, the pattern is not explicitly consistent with models of SDT, which would suggest that external or material goals (such as receiving

one's GED or trade certification) would be less successful than internal or self-fulfilling goals (such as self-betterment or personal improvement; Ryan and Deci, 2000). It seems as though external goals such as education and career motivations may be more predictive in this situation. This may be because having a specific goal in mind makes the end-goal and purpose of the program clearer and more attainable. It may also be that goals such as education and careers are technically external and/or material (receiving one's GED or receiving money from a job) but hold deeper value for one's sense of self and purpose and are thus more intrinsically motivating (Barr, 2016).

The second hypothesis was partially supported when conceptualizing program success by program completion versus termination. This study found that individuals in the education group and individuals in the other external influence group were significantly more likely to be terminated early than those in the multiple motivations category. While this is consistent with the finding that individuals with more than 1 motivation are more successful than those who are motivated by an external influence, the significant difference between education and multiple motivation groups is unexpected. Taken together, these results suggest that individuals motivated by life coping skills are relatively more likely to need discipline, while individuals motivated by education are more likely to be terminated early. It may be that individuals seeking life skills require more structure and attention (and thus receive more discipline) while in the program, whereas individuals motivated to receive their GED do not require as much discipline but are not as driven to graduate the program. These findings are consistent with the conclusions drawn by Weis et al., who suggest that the structure and goal-directed nature of YCA may be therapeutic for individuals with low motivation and low

self-esteem, as well as individuals with externalizing problems (2004). Such individuals who are motivated to make a life change regarding these difficulties may require additional structure and discipline but may be a good fit for success in this type of program. These findings also support the research of Styve et. al., who concluded that the structure and increased monitoring of bootcamp programs is perceived by participants as therapeutic and beneficial (2000).

Results from this study did not support the third hypothesis, which was that borderline personality traits and antisocial personality traits would moderate the effect of motivation on program outcome (Desrosiers et al., 2015; Winograd et al., 2008; Gillen, 2018). Instead, this study found that borderline traits were not related to motivation type and did not impact the relationship between motivation and disciplinary infractions or motivation and program termination. Antisocial traits were similarly found to not impact the relationship between motivation and disciplinary infractions, however there were significant differences in ANT scores by motivation group. Participants who enrolled because of other external influences reported the highest ANT scores, which was significantly higher than the average ANT scores of individuals who enrolled for career or education motivations. It may be that individuals who are influenced to enroll by parents or court recommendation tend to have higher antisocial traits, but that having these traits does not influence the role of motivation on program outcome. Also, antisocial traits were individually related to program termination, though motivation for enrollment was not influenced by scores. This is consistent with research regarding antisocial traits and program termination, including lower completion rates of substance use disorder programs (O'Neill, Lidz, & Heilbrun, 2003) and outpatient therapy services

for depression (O'Keeffe, Martin, Goodyer, Wilkinson, & Midgley, 2018). Overall, these results suggest that motivation for enrollment predicts success in YCA that is not impacted by borderline or antisocial personality factors.

The current research adds to the literature on non-traditional residential treatment facilities for adolescents. Though research has investigated predictors of success in military-style programs such as YCA (Styve et al., 2000; Weis et al., 2004; Weis et al., 2005; Weis & Toolis, 2008), this study adds valuable understanding to the role of motivation. A key aspect of YCA is its voluntary nature, giving the adolescent autonomy in his or her decision to enroll. Consistent with research on self-determination theory in adolescent treatment settings (Cornelius et al., 2017), this may be an especially beneficial aspect of the program. Though all participants enrolled voluntarily, those who reported enrolling because of pressure from their parents or the judicial system tended to be less successful (receive more disciplinary infractions, terminate the program early) than their peers who enrolled for self-driven reasons.

Another valuable finding is that the endorsement of education and career motivations predicted fewer disciplinary infractions, but that the endorsement of life coping skills did not. This may reflect the importance of having a specific goal that is seen as attainable in this type of program. Enrolling in a program with a goal such as receiving one's high school diploma, or a trade certification, has an obvious end-goal. On the other hand, being motivated to "to make my life better" or "to better myself" does not have a specific end-goal and would be more challenging to work towards or even conceptualize. This is further supported in the finding of significant differences in infractions between those who only endorsed life coping skills and those who endorsed

life coping skills in addition to at least 1 other motivation. The results suggest that being motivated to improve one's life with a specific step to do so (i.e., "to get my GED and better myself"; "because I wanted to get my life back on track and plan to go to the military") is associated with receiving significantly fewer infractions than are received by those motivated to improve their lives generally. Further, these results may reflect the value of receiving a high school diploma or job as adolescents navigate the process of identity formation and the transition into adulthood. As suggested by Barr (2016), it may be that such motivations seem external (receiving a diploma or money through a job) but are more likely representations of internal drives for social status or an accomplished sense of self.

This study also calls into question the conceptualization of success in such programs. Though individuals motivated by education were successful in terms of fewer infractions, they were also found to have higher rates of early termination. It may be that individuals motivated by education choose to terminate after receiving their GED, and thus, consider their program outcome successful with termination. This should be interpreted with the consideration that only 33 individuals were terminated, which will be discussed as a limitation. Further, individuals who receive substantial disciplinary infractions but graduate from the program may consider their outcome successful. Many individuals indicated that they were motivated to enroll for "more structure" in their lives. It would make sense that these individuals may receive more infractions than their peers, but this does not necessarily translate to being less successful if they are graduating from the program at the same rate as their peers. These findings reflect previous research on positive youth development models, which tend to use outcome variables that suggest

improvement in multiple domains to conceptualize success (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002). For example, Gardner, Roth, and Brooks-Gunn conceptualized program outcome using education (enrollment in school), civic engagement (voting and volunteering), and occupation (employment and income) to account for development across different domains (2008). In this way, success is determined by positive development regardless of which area has improved.

Limitations and Future Directions

Though this study adds a valuable contribution to our understanding of adolescent motivation and enrollment in youth-development residential programs, there were notable limitations in the current research. First, the data that was used for this research was archival qualitative data, which was initially coded for the individual's "primary reason for enrollment". Comparing coding between both raters found substantial inconsistency when determining primary motivations from multi-motivation responses. Though efforts were made to try to alleviate unreliable coding methods, the lack of interrater reliability is a limitation of this study. Future research should follow coding procedures to ensure reliability, and use quantitative methods to study primary motivations for enrollment and remove research error of miscoding or misinterpreting qualitative responses. Another limitation of using qualitative data was creating appropriate coding groups. For example, 'life coping skills' was an umbrella term used for motivations related to self-improvement ("to better myself"), situation-improvement ("a fresh start"), and life-improvement ("more structure", "be successful in life"). These were all coded together because these all fit most closely with YCA's core component of life coping skills ("Mississippi ChalleNGe Academy," n.d.). Future studies may want to conceptualize

these motivations differently or more specifically to parse apart any differences. This may also address the limitation of substantially differing group sizes, as some groups may be too broadly defined. Future research might also expand the current findings by measuring motivation on the SDT continuum to investigate whether the motivations found in this study fit into the SDT framework (Deci & Ryan,1985; Ryan & Deci, 2000). This study was also limited in that termination data was not available for the whole sample. Further, only 33 individuals were terminated in this sample, which makes it difficult to draw conclusions about the differences in disciplinary infractions and termination results. Another limitation of this study was that Cronbach's alpha coefficients were not included for BOR and ANT scales, meaning that the internal consistency of the moderating variables were not reported. To better understand the reliability of these scales, future research should include an analysis of internal consistency. Additionally, future studies should consider the conceptualization of program success to determine best avenues for outcome measurement in this type of program. Because of the multidimensional design of this program, it is less straightforward than measuring outcomes of other programs, such as sobriety for substance use treatment programs or recidivism for juvenile detention programs. It may be important to understand participants' motivations to accurately measure outcome. For example, GED attainment or scores may be a more useful measure of success for individuals motivated to enroll for education, whereas employment status following program completion may be a better indicator of success for individuals motivated for career related reasons. Further, collecting data following program completion would

allow researchers to draw causal relationships about program motivation and success in a way that this cross-sectional study could not.

Finally, though the relationship between motivation and program success was not impacted by borderline or antisocial traits in this study, there are valuable implications that should be investigated in future research. On one hand, it may be that these traits do not play a role in the relationship between motivation and success, and other personality traits should be considered instead. It may also be that previous research has been focused on individual and measurable differences without crediting the importance of adolescent autonomy and choice. Future research should consider the possibility that an adolescent's motivation and self-determination for enrollment, rather than personality traits or other individual differences outside of the youth's control, predicts their success in a voluntary program such as YCA.

APPENDIX A

Figure 1. Self-Determination Theory Continuum

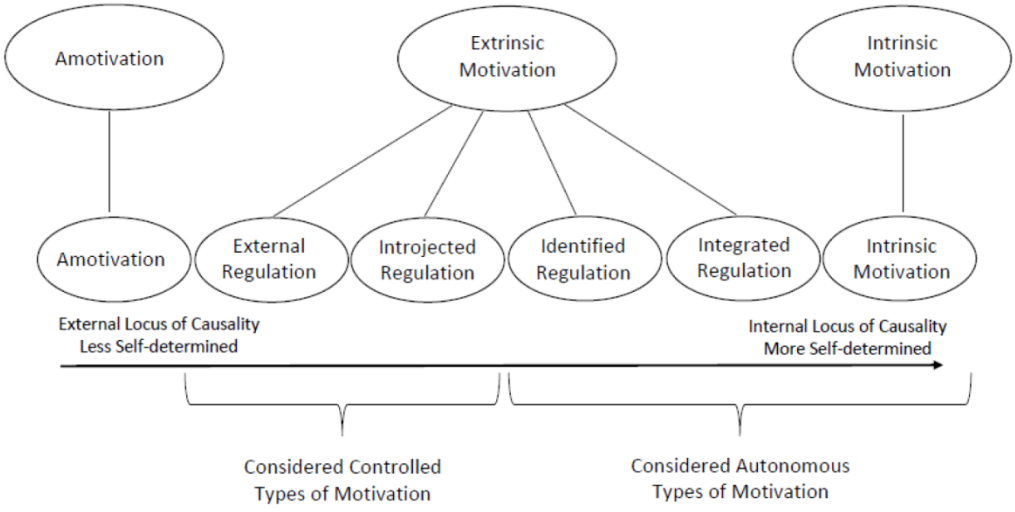

Table A1. *Demographics*

	N (%)
Gender	
Male	562 (79.2)
Female	148 (20.8)
Ethnicity	
Caucasian	439 (61.8)
African American	182 (25.6)
Hispanic/Latinx	33 (4.6)
Asian/Pacific Islander	5 (.7)
American Indian/ Alaska Native	6 (.8)
Multiracial	29 (4.1)
Other	16 (2.3)
	M (SD)
Age	16.8 (.73)
BOR scale score (T-score)	56.6 (11.3)
ANT scale score (T-score)	54.4 (9.7)
Disciplinary Infractions	9.2 (9.2)

Table A2. . *Preliminary Analyses*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Age									
2.Gender: Male	-.04								
3. Race: White	-.07	-.03							
4. Infract.	.01	.09*	-.22**						
5. GED	.01	-.05	.16**	-.12**					
6. Life coping	.03	-.13**	-.08*	.01	-.47**				
7. Career	.02	-.01	.05	-.13**	.07	-.13**			
8. Other external	-.06	.07	-.05	.11*	-.23**	-.22**	-.10**		
9. BOR scores	-.01	-.14**	.10**	.01	-.03	.09*	-.05	.02	
10. ANT scores	-.02	.07	.04	.19**	-.07	.08*	-.10**	.14**	.54**

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

Table A3. *Motivation for Enrollment*

	N (%)
Education	429 (59.5%)
Education only	220 (31.0%)
Life Coping Skills	385 (53.3%)
Life coping skills only	211 (29.2%)
Career Goals	121 (16.8%)
Career goals only	19 (2.7%)
Other External Influence	35 (4.8%)
Other external influence only	29 (4.1%)
Single Motivation	479 (66.3%)
Education	220 (31%)
Life Coping Skills	211 (29.2%)
Career Goals	19 (2.7%)
Other External	29 (4.1%)
Multiple Motivations ***# endorsed***	231 (32.0%)
2	202 (28.0%)
3	29 (4.0%)
0 Valid Motivation Endorsed	12 (1.7%)

Table A4. *Mann Whitney U Tests of Motivation Endorsement on Disciplinary Infractions*

	Motivation Endorsement				
		N	U	Z	P
Motivation	Group				
Education	Yes	429	68820.5	3.2	.001*
	No	281			
Life coping	Yes	385	59,631.0	-1.1	.28
	No	325			
Career goals	Yes	121	43,104.5	3.6	<.001*
	No	589			
Other external	Yes	35	8,736.5	-2.6	.01*
	No	675			
	Motivation Singular Endorsement				
		N	U	Z	P
Motivation	Group				
Education only	Yes	220	24314.0	1.0	.30
	No	209			
Life coping only	Yes	211	20,895.0	2.3	.02*
	No	174			
Career goals only	Yes	19	1,087.5	.85	.40
	No	102			
Other external only	Yes	29	123.0	1.6	.12
	No	6			

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

Table A5. *Kruskal-Wallis Pairwise comparison*

	Education ***r*** **(p)**	**Life coping skills** ***r*** **(p)**	**Career goals** ***r*** **(p)**	**Other external** ***r*** **(p)**	**Multiple** ***r*** **(p)**
median	*6*	*7*	*5*	*10*	*5*
Education	-				
Life coping skills	-.10 (.52)	-			
Career goals	.02 (1.0)	.07 (1.0)	-		
Other external	-.20 (.03)*	-.13 (.40)	.22 (.33)	-	
Multiple	.05 (1.0)	.14 (.03)*	.01 (1.0)	.22 (<.01)*	-

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

Table A6. *Termination Logistic Regression*

Motivation	**X^2(1)**	**OR**	**p**	**95% CI**
Education	5.2	3.2	.02*	1.2 – 8.59
Life coping	2.4	2.3	.12	.81 – 6.5
Career goals	0.0	0.0	.99	.00 - .99
Other external	4.9	5.5	.03*	1.2 – 24.6

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

Table A7. *Moderation of BOR and ANT scales on disciplinary infractions*

Outcome	Moderator	*B*	*SE(B)*	*df*	*F*	R^2
Disciplinary Infractions	**BOR**					
1.				3	.386	.002
Education		3.75	3.91			
BOR		.03	.04			
Education*BOR		-.07	.07			
2.				3	2.07	.009
Life Coping		5.15	3.94			
BOR		.02	.04			
Life Coping *BOR		-.06	.07			
3.				3	.15	.001
Career Goals		.65	10.88			
BOR		.01	.03			
Career Goals*BOR		-.03	.18			
4.				3	4.37*	.02
Other External		-4.43	9.49			
BOR		-.001	.03			
Other External*BOR		.18	.16			
5.				3	4.17*	.02
Multiple Motivations		-6.86	3.67			
BOR		-.02	.04			
Multiple*BOR		.08	.06			
	ANT					
6.				3	9.02**	.04
Education		-3.18	4.34			
ANT		.09**	.04			
Education*ANT		-.09	.08			
7.				3	11.2**	.05
Life Coping		8.26	4.27			
ANT		.21**	.04			
Life Coping*ANT		-.12	.08			
8.				3	8.96**	.04
Career Goals		8.92	13.67			
ANT		.18**	.04			
Career Goals*ANT		-.19	.27			
9.				3	12.82**	.05
Other External		-14.54	10.53			
ANT		.15**	.04			
Other External*ANT		.32	.17			
10.				3	13.03**	.05
Multiple		-.21	4.09			
ANT		.20**	.04			
Multiple*ANT		-.04	.07			

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

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