STUDENT ENGAGEMENT IN ELEMENTARY SCHOOL: PROFILES AND ASSOCIATED CHARACTERISTICS

by

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(Under the Direction of Amy Reschly)

ABSTRACT

Theories of student engagement for dropout and school completion are proposed to begin as early as age five. Although student engagement in elementary-age students has been linked to a plethora of negative outcomes, there is a dearth of research examining patterns and profiles of student engagement in this population. In an effort to provide more individualized support and intervention, work in the field of student engagement has begun to examine profiles of student engagement and disengagement or disaffection. This study explored the identification of distinguishable groups based on student engagement in a sample of third-grade students and those groups' associations with demographic and outcome variables. Consistent with findings of research with older students, elementary-age students demonstrated distinct profiles of student engagement that were differentially associated with outcome variables. Notably, the gender of the students was found to impact the number of distinct profiles and their associations with outcome variables. Implications and future directions for research are discussed.

INDEX WORDS: school psychology, student engagement, dropout, early identification, elementary school

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CHAPTER 1

INTRODUCTION

School dropout is associated with a number of undesired outcomes for both the individual and society as a whole (Alliance for Excellent Education, 2011; Snyder, de Brey, & Dillow, 2018; Sum, Khatiwada, & McLaughlin, 2009). As a result, dropout has long captured the interest of educational policymakers as a target of educational reform (Reschly & Christenson, 2012; Rumberger, 2011). Although the overall rates of school completion have improved since the early 20th century, the earnings and employment gap between those who graduate from high school and those who do not continues to widen, providing an intensified urgency for early identification and prevention (Alliance for Excellent Education, 2011; Snyder et al., 2018).

Investigations of dropout began as early as 1911 and examined demographic variables associated with school dropout (Barclay & Doll, 2001). Demographic variables continue to be a concern related to dropout, as Snyder and colleagues (2018) recently reported on the perpetuation of disproportionately high levels of dropout among minorities and those of lower socioeconomic status. As school completion rates have increased over the last century, the focus of research shifted to prospective studies examining factors amenable to intervention in contrast to unalterable demographic variables (Barclay & Doll, 2001). As prospective research emerged, so too did theories and models of dropout. In his seminal article, Finn (1989) proposed a Participation Identification model of a dropout emphasizing dropout as a developmental process t beginning early in an individual's educational career.

In addition to offering a developmental perspective of dropout, Finn (1989) described the process as involving student's participation, or engagement, and identification with school as being the reciprocal factors contributing to the developmental process of dropping out of school. Student engagement has since developed into a widely accepted vehicle for understanding school dropout and completion, thanks in part to its understandability by those with vested interests in educational policy (Appleton, Christenson, & Furlong, 2008; Finn & Zimmer, 2012). Despite the broad acceptance of student engagement as that vehicle, and the agreement in the field regarding the multidimensional nature of the construct, the description of those dimensions, and thus, the specific indicators contained within each dimension are variable within the literature (Reschly & Christenson, 2012). The most common arrangement of dimensions in the literature include cognition, emotion, and behavior; however, as previously stated, the definitions and indicators of these dimensions vary (Fredricks, Blumenfeld, & Paris, 2004).

Although the multidimensionality aspect of student engagement is generally accepted by scholars in the field, research incorporating these aspects is lagging, particularly in younger students (Archambault & Dupéré, 2017). Likely related to the low-inference nature and easy accessibility, there has been stronger research and an overemphasis on behavioral and academic engagement subtypes (Appleton, Christenson, Kim, & Reschly, 2006).

Despite the recency of interest in the construct of engagement, some common themes regarding student engagement and its development and associations have emerged in the literature. For example, the relation between student engagement and achievement and school completion has been consistently noted throughout the literature (Balfanz, Herzog, & Iver, 2007; Finn, 2006; Henry, Knight, & Thornberry, 2012; Lovelace, Reschly, & Appleton, 2017). There is growing evidence supporting the impact of student engagement beyond direct educational

outcomes, such as evidence supporting its relation with subjective well-being, incarceration, mental health, and substance use (Heffner & Antaramian, 2016; Henry et al., 2012; Reschly, Pohl, Christenson, & Appleton, 2017; Tian, Zhang, Huebner, Zheng, & Liu, 2016).

The aforementioned research represents a variable-centered approach to data and relies on linear models for data analysis (Laursen & Hoff, 2006; Magnusson, 2003). The maturation of the field has led to the increased endorsement of person-centered approaches to understand the individual differences, particularly as it relates to the developmental course of student engagement (Fredricks, Ye, Wang, & Brauer, 2019). For example, the use of the variable-centered approach allowed researchers to uncover the overall downward trend of students' self-reported engagement as they progress through school (Benner & Graham, 2009; Fredricks et al., 2004) and the person-centered approach revealed the heterogeneity of engagement profiles and the downward trend amongst individuals (Li & Lerner, 2011; O'Donnell, Lovelace, Reschly, & Appleton, 2018; Wang & Eccles, 2012).

Despite the recognition that an understanding of these various developmental profiles of student engagement is critical for identification and intervention for those most at-risk of dropping out (Fredricks et al., 2019), this research has rarely been conducted with younger students (Archambault & Dupéré, 2017; Carter, Reschly, Lovelace, Appleton, & Thompson, 2012). The current understanding of student engagement in elementary students is lacking, as the existing research only addresses a single dimension of student engagement or evaluates student engagement only within a single context (Archambault & Dupéré, 2017; Pagani, Fitzpatrick, & Parent, 2012).

The following chapters of this dissertation will review the state of the research of student engagement, which has informed the research questions found in the current study in Chapter 2.

Chapter 3 will provide information regarding the participants, methods, measures, and the analytical strategies employed in the current study, as well as the hypotheses generated from the research presented in Chapter 2. Chapter 4 will include the results and their interpretation. Chapter 5 will discuss the implications and limitations of the current study, followed by the future directions potentially implicated by the information in previous chapters in conjunction with the current study.

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Chapter 2

LITERATURE REVIEW

Dropout-Related Outcomes

High school dropout has long been a topic of national interest and for good reason (Barclay & Doll, 2001). Previous research indicates school dropout is associated with a plethora of negative outcomes, both for the individual and for society as a whole (Rumberger, 2011). For the individual, dropping out of high school results in increased difficulty attaining a job reflected in lower employment rates (Snyder, de Brey, & Dillow, 2018) as well as a 29% lower median annual income than those who completed high school (Snyder et al., 2018). Similarly, as time progresses, jobs increasingly require higher levels of education, suggesting these disparities in employment and income will only increase over time (Alliance for Excellent Education [AAE], 2011).

In terms of the impact high school dropout has on the nation, the AAE calculated the economic impact of those who did not complete high school in 2011 alone was approximately $154 billion of income lost from the national economy (AEE, 2011). The AAE (2011) projected cutting the dropout rate in half would add approximately 54,000 new jobs and $9.6 billion in gross domestic product to the national economy. Beyond the economic impact, though explicitly related, are the associations with negative physical and mental health outcomes as well as increased likelihood of substance use and incarceration. (Kaplan, Damphousse, & Kaplan, 1994; Lansford, Dodge, Pettit, & Bates, 2016; Sum Khatiwada, & McLaughlin, 2009) . Therefore, in addition to the lost income described above, there are economic costs associated with these

adverse mental and physical health through the increased cost of healthcare and incarceration (Rumberger, 2011; Sum, Khatiwada, & McLaughlin, 2009)

History of Dropout Research

Given the seriousness of these ramifications, it should come as little surprise that dropout has been a target of educational reform for a number of decades (Reschly & Christenson, 2012; Rumberger, 2011), even being called a national obsession (Finn, 1989). Investigations into the demographic variables related to dropout began as early as 1911. Interestingly, prior to 1950, more individuals dropped out than completed high school (Barclay & Doll, 2001; Shreiber, Kaplan, & Strom, 1965). The increase in high school completion coincided with the beginning of the trend in American history in which the availability of unskilled labor began to shrink and acquiring a high school diploma became increasingly necessary to live independently (Barclay & Doll, 2001). Similarly, recent data indicate school completion is trending up, as 2015 and 2016 successively achieved record high graduation rates, surpassing the previous record graduation rate from the 1970s (Snyder et al., 2018). Similarly, the status dropout rate, or the percentage of dropouts among individuals 16 to 24-years-old, has also decreased across the past two decades. Although positive, some reported rates might be misleading as individuals who left school but obtained a GED credential were not included in the data as dropouts, despite research suggesting that obtaining a GED is not protective for some negative outcomes typically associated with dropping out of high school (Reingle Gonzalez et al., 2016). It is also notable that, although school completion rates continue to increase, African American and Hispanic individuals still experience disproportionately high rates of high school dropout, as do those in the lowest quarter of family income (Snyder et al., 2018).

Variables have been conceptualized as falling into two distinct categories, status or demographic variables that cannot easily be intervened upon such as race and socioeconomic status (SES), and variables that are responsive to intervention or functional risk factors such as achievement and academic engagement (Christenson, 2008; Reschly & Christenson, 2012). Historically, the variables examined in relation to high school dropout were status variables, such as being male, low SES, being African American or Hispanic, having a disability, or being retained in grade at any point (Day & Newburger, 2002; Hughes, Cao, West, Allee Smith, & Cerda, 2017; Parr & Bonitz, 2015; Reschly & Christenson, 2006). The rapidly expanding significance of high school completion in the 1950s and 1960s led to the emergence of prospective studies investigating precursors to completion potentially amenable to intervention. These initial prospective studies were crucial in uncovering a number of functional risk factors previous studies had failed to identify, such as how individual differences in social, emotional, and behavioral variables contribute to school completion and the methodological requirements for longitudinal studies of school completion and dropout (Barclay & Doll, 2001).

In 1996, the American Psychological Association (APA) recognized the need to increase the role of psychologists in the national dialogue and research surrounding educational completion and implemented the Interdivisional Task Force on School Dropout Prevention (Doll & Hess, 2001). A significant finding of the task force noted a plethora of research examining predictors of dropout in middle and high school students but the earliest predictors in elementary school students had gone largely unexamined. Additionally, the task force found that the preponderance of research had examined the aforementioned status variables. Although noted as important areas of research, the task force described these factors as uninformative to developing intervention programs (Doll & Hess, 2001). This sentiment has been echoed in similar research

findings highlighting the importance of identifying factors that are most amenable to intervention (Christenson, Sinclair, Lehr, & Godber, 2001; Christenson & Thurlow, 2004). The task force also noted the apparent dearth of research examining the factors associated with school completion, particularly for those populations with increased risks for dropping out. This discrepancy in research was particularly relevant as the task force described the need for a shift in the conceptualization of dropout, moving away from prevention and toward promoting positive outcomes (Doll & Hess, 2001). Similarly, Christenson et al. (2001) noted interventions focused on the completion of school and the attainment of skills were much stronger than those focused solely on the prevention of dropout. A conceptual shift to the promotion of positive outcomes rather than the prevention of negative ones takes the burden and blame off of the individual student and instead promotes the distribution of responsibility among key actors, such as the school, family, and student (Sinclair, Christenson, Lehr, & Reschly, 2003)

Theories and Models of Dropout

A number of theories and models exist regarding the process of dropping out of school. These models primarily differ in the factors hypothesized to contribute most significantly to the decision to leave school (Rumberger & Rotermund, 2012). One such early model described by Rumberger and Rotermund (2012) is that of Wehlage, Rutter, Smith, Lesko, and Fernandez (1989), which focused on school-level factors, highlighting the importance of school alienation and providing guidelines for reducing alienation through school reform, viewed as the only potential way to reduce alienation. Yet another early model discussed by Rumberger and Rotermund (2012) is that of Connell and Wellborn (1991), which focused on factors within the individual that develop throughout the lifespan positing school success was related to an individual's evaluation of three basic needs being met (competency, autonomy, and relatedness)

and then action is taken to work harder or increase engagement to have these needs met or move away from or disengage from the task or environment. This evaluation of the learners' needs in a particular context is called self-system processes.

In 1989, Finn posited two models of dropout. The first of these models, Finn (1989) titled the Frustration-Self-Esteem model. The Frustration-Self-Esteem model proposed that dropout resulted from a cycle of early school failure leading to impaired self-view, which resulted in a de-identification or distancing of oneself from the underlying cause of the reduced self-view, in this case school (Finn, 1989). Critics of this model have noted it omits various non-academic factors uncovered by longitudinal studies (Kaplan, Peck, & Kaplan, 1997; Marcus & Sanders-Reio, 2001).

Finn's (1989) more widely accepted model, the Participation-Identification model, included attachment and aggression as well as factors at both the school-level and at the individual-level. This model focused on the student's participation in their education and subsequent identification with the educational body. He proposed four levels of participation in which students move throughout their educational careers. Beginning in the primary grades with level one, Finn (1989) described participation as simply responding to instruction and questions and being prepared. Finn (1989) further noted that although many students enter school willing to engage in this level-one participation, a number of students may also enter school resistant to participation and identification as a result of influences outside of the individual, be it home factors or school-level factors.

The second level of participation involved increases in the amount of time dedicated to educational endeavors such as classwork and homework, and for some expanding their participation into participating in clubs and other subject-related activities. Finn (1989) proposed

that students expand this participation into social and extracurricular aspects of school, which are parts of the third level of participation. Although level three of participation appears on its face to be more tangentially related to education, Finn (1989) defended its inclusion as involvement with any positive aspect of the school likely increases an individual's identification with the school, particularly for those who may be particularly weak academically. Finn's (1989) assertions regarding level three of participation have been widely supported by research indicating a relationship between participation in extracurricular activities and school attachment (Feldman & Matjasko, 2005; Fischer & Theis, 2014; McNeely, Nonnemaker, & Blum, 2002). Last, level-four participation includes students' active participation in academic decisions, either at the class, grade, or school level. Finn (1989) posited level-four participation was particularly important for youth most at-risk for not identifying with school. Although originally conceptualized as being pieces of a larger whole, contemporary research has viewed each of these levels as distinct entities unto themselves (Finn & Zimmer, 2012)

The affective component of the participation-identification model, identification, is defined by Finn (1989) as composed of two parts, feelings of belongingness with the school and the valuing of success in school-related areas. The model proposed a self-sustaining cycle in which early school participation led to success and achievements, which result in increased identification, which would in-turn lead to increases or at minimum maintenance of participation.

The theoretical convergence of affect and behavior and their impact upon academic performance as well as the utility in identifying variables that are amenable to intervention has contributed to the popularity of this model (Appleton, Christenson, & Furlong, 2008; Finn & Zimmer, 2012). The theory also posited early school environments as critical to the initiation of the cycle and thus future academic success (Finn & Zimmer, 2012). This position has been

echoed in the findings of a number of research studies, such as that by Burt and Roisman (2010) in which longitudinal data indicated a cascading pathway in which early behavior problems later manifested into academic difficulties and internalizing disorders.

Additionally, Finn's (1989) Participation-Identification model focused on positive processes leading to school completion, rather than focusing solely on factors associated with non-completion. This positive view of processes and emphasis on early education factors is most in line with the aforementioned task force guidelines, which too might have attributed to the continuation of this model. Finn's (1989) article provided student engagement as the primary vehicle for understanding school completion and dropout. This terminology, "student engagement," is one that is easily understood and prioritized by the education community as it captures the students and their environment and is related to achievement and positive social and emotional outcomes (Appleton et al., 2008; Finn & Zimmer, 2012; Pietarinen, Soini, & Pyhältö, 2014).

Student Engagement

The use of the term "student engagement" was used sparsely prior to the publication of a review by Mosher and McGowan (1985) in which the authors investigated the existing literature on student engagement (Appleton et al., 2008). They found only two articles which had used the term student engagement and those had only implied its existence by evaluating disengagement. Mosher and McGowan (1985) likened the tasks of those with interests in understanding student engagement with the challenges faced by the Lindberg crew in crossing the Atlantic, stating that, "He must fly largely by the seat of his pants while looking in a mirror reflecting many fog-obscured objects which may or may not be landmarks along the way to LeBourget" (p. 4), which foretold the varied conceptualizations of student engagement that followed. Although some agreement has emerged, such as the notion that student engagement is multidimensional, there

are numerous models positing various combinations of and definitions of each dimension, which has led to a lack of clarity for the field (Reschly & Christenson, 2012). At minimum, there is agreement that student engagement is comprised of participatory and affective components, with a number of models complementing these components with additional subtypes, resulting in three- and four-subtype models. Although three-subtype models are frequently cited in the literature and similar names are often used, the subtypes and content of the subtypes of various models often vary, further exacerbating the aforementioned conceptual haziness (Reschly & Christenson, 2012).

Similar and integral to the study of student engagement is the study of motivation. Connell and Wellborn's (1991) model of self-system process further described motivation and its relationship to engagement. The authors described student engagement as the action, and motivation as the underlying force that directs that action. Further, in discussing the self-system processes, Connell & Wellborn (1991) recognized the need to evaluate engagement independently based on the orthogonal relationship that it and motivation share, such that the presence of motivation does not necessitate the presence engagement.

Using Connell and Wellborn's (1991) self-system theory, together with Finn's (1989) participation-identification model and research and experience with the Check & Connect intervention, Christenson, Appleton, Reschly and colleagues developed a multi-dimensional model of student engagement, consisting of four-subtypes of engagement: academic, behavioral, cognitive, and psychological/affective (Appleton, Christenson, Kim & Reschly, 2006; Reschly, Appleton, & Christenson, 2007; Reschly & Christenson, 2006). Within this model, each subtype contains a number of indicators. The academic subtype of this model includes indicators directly relatable to the learning process, such as time-on-task, progress toward graduation, and

homework completion (Appleton et al., 2006). The academic subtype functions as a threshold, as there is a minimum amount of academic engagement necessary for learning to occur (Finn & Zimmer, 2012). The second subtype in the Appleton et al. (2006) model, behavioral engagement, refers to attendance, suspensions, and classroom participation. As a lack of engagement creates a lack of opportunity to be engaged in one's learning, behavioral engagement acts as a moderator between academic engagement and achievement (Finn & Zimmer, 2012).

Notably, both academic engagement and behavioral engagement include easily observable behaviors, which have previously led to stronger research on these subtypes as well as an overemphasis of these subtypes (Appleton et al., 2006). As such, Appleton et al. (2006) labeled these subtypes as low-inference forms of engagement that might readily be available in school records (e.g., disciplinary referrals, attendance, assignment completion). Conversely, Appleton and colleagues (2006) identified cognitive and affective engagement as high-inference subtypes best investigated using student self-report measures. The cognitive subtype facilitates learning and its indicators are the valuing of education, self-regulation strategies, and academic goal setting (Appleton et al., 2006; Finn & Zimmer, 2012). The last of Appleton and colleague's (2012) subtypes, psychological or affective engagement, is indicated by a student's identification with school and feelings of belongingness. Affective engagement provides the motivation for students to engage in school and persevere through difficult academic tasks (Finn & Zimmer, 2012). Within this model, the subtypes are highly influenced by contextual factors that are organized into three categories: peers, home, and school (Appleton et al., 2006).

In addition to scholarly debate regarding the number of subtypes, there is also debate regarding the appropriateness of delineating indicators from facilitators (Reschly & Christenson,

2012). Indicators are direct representations of a student's connection to school and learning such as attendance and time on-task. Facilitators refers to students' perceptions of contextual factors influencing the indicators, such as school policy and parental valuing of education (Sinclair et al., 2003). Although some researchers argue for the delineation of the two as a necessary step to understanding the interactions among them (Lam, Wong, Yang, & Liu, 2012; Skinner, Furrer, Marchand, & Kindermann, 2008; Skinner & Pitzer, 2012), others argued that the measurement of both is necessary to inform intervention (Reschly & Christenson, 2012; Sinclair et al., 2003). Reschly and Christenson (2012) argued objectively parsing out internal processes such as those seen in affective and cognitive engagement from the context in which it develops might not be feasible.

Further contributing to the aforementioned lack of conceptual clarity, is the debate of continuum versus continua (Reschly & Christenson, 2012). Early models of student engagement conceptualized engagement and disengagement as representing opposing ends of a single continuum; however, researchers investigating disaffection have suggested such an assumption might not be accurate (Reschly & Christenson, 2012; Skinner et al., 2008). Skinner, Kindermann, and Furrer (2009) described disengagement as the passive lack of behavioral engagement; however, their description of disaffection included this behavioral passivity and further included the potential mental or emotional withdrawal such as anxiety, frustration, or anger as it pertained to student engagement. Such a definition suggests a dual-factor model of engagement and disaffection. A dual-factor model of engagement is consistent with developments in other areas of psychology, such as the dual-factor model of mental health, which states that happiness and mental illness are separate continua and elevated levels of each might coexist within an individual (Seligman & Csikszentmihalyi, 2000). In terms of student

engagement, a dual-factor model would suggest students might simultaneously engage in highly engaged and highly disaffected behaviors (Skinner et al., 2008) and highlights the importance of investigating engagement and disaffection simultaneously to develop a comprehensive understanding of the construct of student engagement (Reschly, Betts, & Appleton, 2014).

Subjective well-being. In addition to the recognized value of student engagement in dropout prevention, student engagement is related to other variables of interest such as happiness, or subjective well-being (Heffner & Antaramian, 2016; Tian, Zhang, Huebner, Zheng, & Liu, 2016). Research notes a number of cognitive and affective engagement indicators also related to subjective well-being (Rodríguez-Fernández et al., 2016; Tian et al., 2016) Similarly, Elmore and Huebner (2010) uncovered a negative relationship between school satisfaction, a component of subjective well-being, and disaffection. These findings are particularly relevant in context of Fredrickson's (1998, 2001) Broaden-and-Build theory, which suggests experiencing positive emotions broadens an individual's repertoire of behaviors and thoughts and subsequently builds a richer repertoire of coping skills and personal resources for future use. Findings from Reschly, Huebner, Appleton, and Antaramian (2008) supported the positive relationship or positive emotions and broadened coping skills as well as a number of engagement variables. Similarly, Pietarinen, Soini, and Pyhältö (2014) also identified life-satisfaction as a strong correlate for cognitive and emotional engagement as well as accounting for unique variance in achievement. Taken together, these findings highlight the importance of including subjective well-being variables in a comprehensive model of student engagement.

Assessment of Student Engagement

The lack of conceptual clarity regarding the construct of student engagement has further been reflected in its measurement. Although student engagement research is still in its earliest stages, a plethora of diverse measures have been developed for use in research, policy, and practice. In addition to utilizing various sources for data (e.g., behavioral observations, teacher and parent report, self-report), measures of student engagement vary in a number of ways, such as theoretical underpinning, aspects of the construct measured (i.e., entire construct versus single dimension), population, and context of engagement (e.g., general or specific area) (Fredricks et al., 2011; Fredricks & McColskey, 2012). As previously discussed, many researchers believe as a result of the highly inferential nature of the cognitive and affective subtypes of engagement, those subtypes are best understood from the point of view of the student themselves, and research has suggested students can validly and reliably report on their levels of cognitive and affective engagement (Appleton et al., 2006, Reschly & Christenson, 2012). In a review of self-report measures, Fredricks and McColskey (2012) found relatively few self-report measures of student engagement in which engagement is identified as a multidimensional construct and are also psychometrically sound. The authors also found self-report measures varied in the alignment of items onto dimensions, such that similar items were found representing different dimensions contingent upon the measure being examined. This variation is both the result of and contributes to the conceptual haziness of the construct itself and limits comparison across measures and studies.

In addition to the various measures and theories used in engagement literature, there also exists variability in the statistical and analytical approaches taken to understand the construct. Throughout the past three decades, the number of longitudinal studies has increased, and with it,

so too have the data collection and analysis techniques (Laursen & Hoff, 2006). These techniques are derived from two different approaches, variable-centered and person-centered. Which of these approaches is used by any individual study is determined by the questions being asked (Bergman & Trost, 2006). For example, studies interested in investigating the stability and relation among variables across time would be examined from a variable-centered approach; however, if a study were interested in investigating and identifying groups of individuals based on traits or to identify a pattern such as that found in development, a person-centered approach would be taken (Magnusson, 2003).

The variable-centered approach, as one may expect, focuses on the variables and the differences among individuals and variables (Magnusson, 2003). Studies which implement this approach use linear models and rely upon techniques such as regressions, analysis of variance, and structural equation modeling (Laursen & Hoff, 2006; Magnusson, 2003). Such investigations rely upon the assumptions of a normal distribution as well as the homogeneity of relations among variables (Magnusson, 2003). The use of variable-centered approaches has proven invaluable to the understanding of student engagement. Variable-centered approaches have been used in research supporting the association of student engagement with school completion and achievement in K-12 (e.g., Balfanz et al., 2007; Henry et al., 2012; Lovelace et al., 2017) as well as in post-secondary education (e.g., Finn, 2006; Fraysier, Reschly, & Appleton, in press; Niehaus, Irvin, & Rogelberg, 2016). In addition, variable-centered approaches have been used to understand the impact of different contexts on student engagement, such as family, peers, and teacher relationships (Elmore & Huebner, 2010; Pietarinen, Soini, & Pyhältö, 2014; Rodríguez-Fernández et al., 2016). As the study of student engagement has progressed, it has increasingly demonstrated utility beyond its original intended scope, with associations being found with

delinquency (Henry et al., 2012; Hirschfield & Gasper, 2011), mental health (Reschly, Pohl, Christenson, & Appleton, 2017), and overall well-being (Heffner & Antaramian, 2016; Tian et al., 2016).

Despite the broad utility of the variable-centered approach, other approaches are necessary to fully understand any construct. In contrast to the variable-centered approach, the person-centered approach is used to investigate the lack of homogeneity in the relation among variables (Laursen & Hoff, 2006). Such investigation utilizes statistical methods such as profile, class, and cluster analyses to identify groups that are quantitatively similar to each other in regard to a variable or set of variables and quantitatively different from others on the same variable (Laursen & Hoff, 2006). In recent years, this type of analysis has been used in the student-engagement literature to further understand various profiles of student engagement and their implications for development and intervention (Fredricks, Ye, Wang, & Brauer, 2019). For example, Wang and Peck (2013) utilized person-centered methods to evaluate profiles of cognitive, emotional, and behavioral student engagement in Grade 9 students. Their results indicated three groups with consistent levels of student engagement across the three subtypes examined (low, moderate, high) as well as two additional subtypes that experienced low emotional engagement and moderate to high cognitive and behavioral engagement or low cognitive engagement and moderate to high emotional and behavioral engagement. In addition, Wang and Peck (2013) found outcomes such as dropout rates, pursuit of post-secondary education, and mental health were differentially related to the various profiles of engagement. The existence of various profiles of engagement and disengagement has been revealed in numerous studies, though few have examined both engagement and disengagement

simultaneously (Fredricks et al., 2019). Table 2.1 provides a summary of person-centered studies used to identify profiles of engagement.

Combining person-centered and variable-centered approaches has allowed researchers to identify groups of individuals based on their trajectories of engagement. Although research identified a broad downward trajectory as children age, particularly for minority students (Benner & Graham, 2009; Fredricks, Blumenfeld, & Paris, 2004), further investigation has revealed heterogenous profiles of development for engagement (Li & Lerner, 2011; Wang & Eccles, 2012). For example, O'Donnell, Lovelace, Reschly, and Appleton (2017) used group-based trajectory modeling to elucidate seven unique student engagement trajectories from approximately 22,000 students in grades 6 through 9. Trajectories were differentially related to rates of dropout and post-secondary education indicating different patterns of engagement among various individuals. Various profiles of engagement and developmental trajectories of development are critical in the timely and appropriate identification and intervention of students who are most at-risk for negative outcomes (Fredricks et al., 2019).

Despite these findings in older students and the impetus set forth by the Task Force on School Dropout and Prevention (1996), there remains a paucity of research examining student engagement prior to middle school (Archambault & Dupéré, 2017; Carter, Reschly, Lovelace, Appleton, & Thompson, 2012). This is particularly notable as Finn (1989) described the significance of early experiences in the process of dropping out and developmental pathways of dropping out have since been delineated in the literature (Reschly & Christenson, 2012). For the literature that does exist for this age-group, much of it has not considered the multidimensionality of student engagement (Archambault & Dupéré, 2017). For example, Pagani, Fitzpatrick, and Parent (2012) identified three trajectories of student engagement

differentially related to attention skills in in first through sixth grade, but only considered behavioral engagement. Similarly, the aforementioned study by Li and Lerner (2011) investigated students from Grade 5 to Grade 8, thus examining the transition from elementary school to middle school, but only investigated behavioral and affective engagement. Archambault and Dupéré (2017) examined behavioral, cognitive, and affective engagement from Grade 3 through Grade 6 in the context of language arts.

Current Study

The current study seeks to fill a gap in the literature regarding student engagement. As previously described, although previous research has examined the various profiles and trajectories of student engagement in middle and high school, there is currently no research available examining elementary students' profiles of engagement broadly and as a multi-dimensional construct (Archambault & Dupéré, 2017). In addition, a paucity of research exists for any age student addressing engagement and disaffection simultaneously (Archambault & Dupéré, 2017). Examining both constructs simultaneously might provide a more fine-grained approach to identifying those at risk.

The current study seeks to address these shortcomings in the literature by examining profiles of general student engagement and disaffection in elementary students. In addition, earlier research has suggested the inclusion of life satisfaction variables in student engagement conceptualizations (Pietarinen et al, 2014; Reschly et al., 2008). Therefore, the use of a person-centered approach will provide groupings of similar students on dimensions of student engagement identified by Christenson and colleagues as well as disaffection and life satisfaction. To further provide additional understanding of the students within each group and to be able to more readily identify those at risk, a number of previously identified correlates of student

engagement will also be examined in relation to group affiliation. Correlates examined for the current study include the early indicators of dropout identified by Balfanz, Herzog, and Iver (2007) in 6th grade as well as demographic variables. Specific research questions for this study are:

1) Can student engagement, disaffection ratings, and life satisfaction be used to discriminate groups of elementary students similar to those found in research with older students?
    a. How do these groups relate to demographic variables?
2) Do these groups differ significantly in terms of indicators of dropout provided by Balfanz et al. (2007)?

Table 2.1

Profiles of Engagement in Past Research

Citation	Sample	Engagement Dimensions	Checked Variables	Profiles Identified
Fredricks, Ye, Wang, & Brauer (2019)	5th-12th grade students	Cognitive Disengagement, Behavioral Disengagement, Emotional Disengagement, Social Disengagement	Demographics, GPA, Absences, Disruptive Behavior, Education Aspiration	Emotionally and Socially Disengaged Cognitively Disengaged Emotionally Disengaged Behaviorally Disengaged
Lawson & Masyn (2015)	10th grade students (NELS)	Future Beliefs, Student initiative, Student investment, Student Ambivalence, Dis-identification	Demographics, 9th grade GPA	Academic Initiative Academic Investment Low Effort/Efficacy Boredom Ambivalence Disidentification
Salmela-Aro, Moeller, Schneider, Spicer, & Lavonen (2016)	9th-12th grade students	Engagement, Exhaustion, Cynicism, Inadequacy	School experiences of resources, demands, and emotional engagement (Checked using inter-individual Means and MANOVAS)	Engaged Engaged/Exhausted Moderately Burned Out Burned Out
Tuominen-Soini & Salmela-Aro, (2014)	17 – 19-year-old Finnish students	Schoolwork Engagement and Burnout	Year of study, Gender, SES, educational aspirations, stability over time (Checked using CONFA)	Engaged Engaged/Exhausted Cynical Burned Out
Wang & Peck (2013)	9th, 11th, and 1 year post high school	Behavioral Engagement Emotional Engagement Cognitive Engagement	ANCOVA = GPA, educational aspirations, depression Logistic Regression = dropout and college enrollment	Moderately Engaged Highly Engaged Minimally Engaged Cognitively Disengaged Emotionally Disengaged
Watt, Carmichael, & Callingham (2017)	3rd-9th grade students (Most in 3rd and 4th) in math	Behavioral Engagement Emotional Engagement Cognitive Engagement	Achievement, Mastery Environment, Perceived teacher enthusiasm, school caring	Disengaged Compliant Engaged

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Chapter 3

METHOD

Participants

Participants included third-grade students from a large, diverse school district in Georgia. There are approximately 180,000 students in the district, which is comprised of 140 schools (80 elementary schools, 29 middle schools, 22 high schools, and 9 other educational facilities). The district contains a relatively diverse population in terms of ethnicity (32% African American, 30% Hispanic, 24% Caucasian, 10% Asian/Pacific Islander, and 4% Multiracial), socioeconomic status (55% economically disadvantaged), and those individuals receiving special program services (12% students with disabilities) per the 2017 Georgia Schools Report (GOSA, 2017).

The current study utilized a subset of data originally collected as part of a study by Pinzone, Reschly, and Appleton (2019). Data were collected in Spring and Fall semesters across three academic years (n = 108,916). The current study utilized a sample of this data from the Spring semester of the 2014-2015 Spring semester and then follow up data from seventh grade (n = 3,795). Of these administrations, follow-up data were available for 3,029 participants. Demographic variables for the total sample as well as the sample with available data at follow-up and those without available data are presented in Table 3-1. Chi square analyses revealed that white students and students who did not possess an English Language Learner (ELL) designation were overrepresented in the group for whom data were not available. Conversely, Hispanic and students with an ELL designation were more likely to have data available for seventh grade. In

addition, students with less than 75% of data were excluded from analysis (13 cases removed, *n* = 3,016).

Measures

Student Engagement Instrument – Elementary Version. The Student Engagement Instrument – Elementary Version (SEI-E; Carter, Reschly, Lovelace, Appleton, & Thompson, 2012) is a 29-item downward extension of the Student Engagement Instrument (SEI; Appleton, Christenson, Kim, & Reschly, 2006) assessing cognitive and affective engagement in students in grades 3-5. The current iteration of the SEI as well as the SEI-E utilize a 5-point Likert-type scale (*1=strongly disagree, 3=in the middle, 5=strongly agree*). The SEI has been investigated as a 33- and a 35-item measure, depending on the context in which it is used. The 35-item version of the SEI contains six factors identified by research: Control and Relevance of School Work (CRSW), Future Aspirations and Goals (FGA), Extrinsic Motivation (EM), Teacher-Student Relationships (TSR), Family Support for Learning (FSL), and Peer Support for Learning (PSL; Appleton et al., 2006). Cognitive engagement is comprised of the former three factors and affective engagement the latter three. The 33-item measure omits the EM factor as it is only comprised of two items and presents with concerns regarding reverse-coding. As a result, administrators and education personnel tend to prefer the 35-item version as a result of the perceived importance of the EM factor, and the 33-item version of the SEI is typically preferred in research contexts. A number of studies have investigated the psychometric properties of the SEI and found consistent factor structure using various models (Appleton et al., 2006; Betts, 2012; Reschly, Betts, & Appleton, 2014), measurement invariance across age (grades 6-12) and gender (Betts, Appleton, Reschly, Christenson, & Huebner, 2010) and convergent and divergent

validity with another measure of engagement and motivation (Reschly et al., 2014). In addition, the SEI has evidenced relationships in the expected direction with a number of variables such as attendance, achievement, and suspensions (Appleton et al., 2006; Reschly et al., 2014), predictive validity of high school completion and dropout (Lovelace, Reschly, Appleton, & Lutz, 2014), and college attendance and persistence (Fraysier, Reschly, & Appleton, in press).

In contrast to the 5- and 6-factor models identified for the SEI, initial evidence of Exploratory Factor-Analysis (EFA) and Confirmatory Factor-Analysis (CFA) for the SEI-E suggests a 4-factor model for grades 3-5 (Carter, 2013; Carter et al., 2012). The SEI-E consists of 29-items revised for developmental appropriateness. The revised scale demonstrated acceptable internal consistency with the 4-factor model in prior research (Chronbach's α = .639 - .820) as well as in the current study (Chronbach's α = .695 - .8.14). The SEI-E has also demonstrated correlations in the expected directions for disciplinary referrals and attendance (Carter, 2013; Carter et al., 2012) in addition to measurement invariance across gender and SES status as identified by free or reduced lunch status (Carter, 2013).

Behavioral Engagement Items. The current study included three self-report of behavioral engagement items used in the National Education Longitudinal Study (NELS, 1988) and Education Longitudinal Study (ELS, 2002). The items used in this study include "how often did you come to class and find yourself: 1without pencils or paper; 2without books; 3without your homework done." Responses are provided on a 5-point Likert-scale ranging from 0 ("usually") to 4 ("never"). These items have been frequently used in research that utilized data from various educational longitudinal studies conducted by the National Center for Education Statistics (Lee & Smith, 2016; Reschly & Christenson, 2006)

Student Disaffection Pilot. Research by Reschly, Betts, and Appleton (2014) found

relationships between student engagement and maladaptive behaviors and cognitions that highlight the utility of examining both student engagement and disaffection simultaneously, rather than assuming they represent opposite ends of a single continuum. In lieu of these findings, 9-items were developed from descriptions of disaffection provided in Skinner's and Martin's theories (Martin, 2007; Skinner, Kindermann, & Furrer, 2009) and piloted as part of the SEI-E. Initial examination of these items using confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) found that 5 of the original 9-items exhibited loadings onto a singular construct labeled "disaffection" (Reschly, Pinzone, & Appleton, 2019). The current study retained 8 of the original 9-items following analyses of internal consistency analyses (Chronbach's $\alpha = .661$). Cognitive indicators (e.g., "I don't understand why I get the grades I do") and affective indicators (e.g., "I feel upset when I don't do well") of disaffection were retained.

Discipline Index and Behavioral Data. A Discipline Index (DI) was used to represent behavioral outcome data. Office referrals, school suspension, behavior report cards, teacher report, or universal behavior screenings have been frequently used as early indicators; however, in a meta-analysis of the early indicators literature, Bowers, Sprott, and Taff (2013) found that these indicators lacked appropriate specificity. Specifically, although such indicators were found to predict dropout at a high rate similar to the findings of Balfanz, Herzog, and Iver (2007), they were found to also produce high rates of false positives. The DI utilized in the current study, these traditional risk factors are assigned a weight based on the frequency, maximum severity, and average severity (Appleton, King, Reschly, & Long, 2019). Each individual risk factor, or dispositions, possesses a weight, which range from 1 (Mild) to 6 (Severe). These are added together and may provide a score of 1-18 for any given incident per individual. The DI has

demonstrated good positive predictive value (69.8%), negative predictive value (70.1%), sensitivity (43.7%), and specificity (87.4%; Appleton et al., 2019).

Brief Multidimensional Student Life Satisfaction Scale (BMSLSS). The Brief Multidimensional Student Life Satisfaction Scale (BMSLSS) is a brief version of the Multidimensional Student Life Satisfaction Scale. It is a 5-item self-report measure of life satisfaction across 5 domains (family, friends, school, self, and living situation; Seligson, Huebner, & Valois, 2003). The BMSLSS also provides an optional item assessing the perception of overall life satisfaction. Items are presented such that students are asked how they would describe their satisfaction with each domain and given the option to respond with the following options: Terrible, Unhappy, Mostly dissatisfied, Mixed, Mostly satisfied, Pleased, or Delighted. The BMSLSS was originally validated for use with adolescents and demonstrated acceptable internal consistency (Chronbach's $\alpha = .75$) as well as criterion and construct validity (Seligson et al., 2003). The BMSLSS was later validated for use with elementary age students and demonstrated acceptable internal consistency (Chronbach's $\alpha = .76$) when the overall life satisfaction item was included (Seligson, Huebner, & Valois, 2005). In addition, studies examining school functioning and life satisfaction have also found that the BMSLSS demonstrated significant correlations, as expected, with academic achievement and homework completion (Huebner, Antaramian, Hills, Lewis, & Saha, 2011; Lewis, Huebner, Malone, & Valois, 2011).

Procedures

A dataset was provided by the district Research and Evaluation office. Engagement surveys have been administered to 6-12 grade students in the district for over a decade as part of a district initiative to enhance student engagement. The SEI-E was piloted in 2011. Data for this

study were drawn from surveys collected in spring 2015. Follow-up data were added to the dataset before the data were de-identified and shared.

Analytical Procedures

Mplus 8.2 (Muthén & Muthén, 2017) and the Statistical Package for the Social Sciences (SPSS) Version 25. Question one was investigated using Latent Class Analysis (LCA), which creates mutually exclusive groups based on the existence of a latent variable (Lawson & Masyn, 2015). The factors entered into the LCA included student responses on the SEI-E and the disaffection items, behavioral engagement items, and scores from the DI, and attendance. Each of these factors was standardized using z-scores. Following the analytic procedure provided by Lawson and Masyn (2015), the models will be developed through the implementation of first estimating a one-class solution, followed by adding classes until there is a lack of model convergence, a lack of a lack of replication, and an extraction of a small latent class that is not usable. Model fit was evaluated via Bayesian Information Criterion (BIC), Consistent Akaike Information Criterion (CAIC), and Approximate Weight of Evidence Criterion (AWE). Analyses were then run on data split based on gender to ensure classes were similar. Analyses revealed the latent classes were not equally distributed when considering gender, thus the data were split by gender and the aforementioned steps were carried out on each dataset separately to ensure most appropriate fit. In addition, multivariate analysis of variance (MANOVAs) and Chi Square analyses were used to elucidate the relationship of engagement/disaffection profiles and demographic variables and outcome variables related to questions 1a and 2.

Research Question One. The number of profiles identified in the literature for middle and high school age children range from 3 to 6 depending on the types of variables included (Lawson & Masyn, 2015; Wang & Peck, 2013; Watt, Carmichael, & Callingham, 2017). Of

those studies, none considered both engagement and disaffection. In addition, Lawson and Masyn (2015) examined only behavioral engagement, and Watt and colleagues (2017) examined ages ranging from 8 to 15 and found engagement varied significantly by age. Taken together, the existing literature does not provide for a hypothesis regarding the specific number of profiles that might be elucidated from the data. Therefore, it is hypothesized that a number of different profiles will emerge from LCA reflecting various configurations of cognitive, emotional, and behavioral engagement, disaffection, and life satisfaction. In addition, the aforementioned studies found demographic variables were related to group affiliation (Lawson & Masyn, 2015; Wang & Peck, 2013; Watt et al., 2017). As such, it is hypothesized that profiles will differentially correlate with specific demographic variables such as SES, race ethnicity, and special education status in the current study, with better engagement favoring those with higher socioeconomic status and no disabilities.

Research Question Two. Balfanz and colleagues (2007) identified four key warning flags in 6th grade predictive of future dropout. Utilizing attendance, math grade, English grade, and suspensions in 6th grade, the authors were able to identify 60% of individuals who left school prior to graduation. In addition, Balfanz et al. (2007) contrasted these findings with those of students who demonstrated behavioral engagement and adequate achievement in 6th grade. They found 71% of these "engaged" students graduated on time, compared to 29% of the flagged students. Provided these findings, the current study seeks to use these indicators as an indicator of risk for future dropout. Given the previous research indicating a relationship between dropout and profiles of student engagement in older students (Wang & Peck, 2013), it is hypothesized that profiles of engagement, disaffection, and life satisfaction will be differentially related to these warning flags in the current sample.

Table 3-1
Demographics

Characteristic	*Total Sample*		*Sample w/ Outcome Data*		*Sample w/o Outcome Data*	
	N	*%*	*N*	*%*	*N*	*%*
Gender						
Male	1891	50.0	1508	49.8	383	49.5
Female	1896	50.0	1521	50.2	375	50.5
Race***						
American Indian	10	.3	8	.3	2	.3
Asian	336	8.9	291	9.6	*45*	*5.9*
Black	954	25.1	751	24.8	203	26.8
Hispanic	1243	32.8	**1063**	**35.1**	*180*	*23.7*
Multiracial	133	3.5	109	3.6	24	3.2
White	1111	29.3	*807*	*26.6*	**304**	**40.1**
FRL						
Yes	2138	56.3	1742	57.5	396	52.2
No	1649	43.5	1287	42.5	362	47.8
SPED						
Yes	409	10.8	313	10.3	96	12.7
No	3378	89.2	2716	89.7	662	87.3
ELL***						
Yes	894	23.6	**779**	**25.7**	*115*	*16.3*
No	2467	65.0	1875	61.9	**592**	**83.7**
Total	3787	100	3029	80	758	20

Note: FRL = Free/Reduced Lunch status; SPED = Special Education status; ELL = English Language Learner status; *p<.05; **p<.01; ***p<.001;
Overrepresented; *Underrepresented*

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CHAPTER 4

RESULTS

Research Question 1 and 1a

Model Building. Consistent with prior research, the current study began model-building by implementing enumeration, beginning with two classes and adding successive latent classes until there ceased to be an improvement in the model (Lawson & Masyn, 2015b). In addition to the three common LCA fit indices, the Bayesian information criterion (BIC), the Akaike information criterion (AIC), and the sample-size adjusted Bayesian information criterion (BICAdj), the current study also examined the Lo-Mendell-Rubin likelihood ratio-test (LMR), the number of replications across random starts, and entropy. As recommended by previous research, the best fit occurs for the number of classes that possesses the lowest BIC, AIC, BICAdja, the highest entropy, significant LMR, is able to be replicated, and is conceptually interpretable(Lawson & Masyn, 2015a, 2015b; Watt, Carmichael, & Callingham, 2017). The fit indices for the current study may be found in Table 4.1. To improve interpretation of fit values, Figure 4.1 provides a plot of the BICAdj and AIC (Morin & Marsh, 2015; Petras & Masyn, 2010).

As shown in Figure 4.1 and Table 4.1, model fit continued to improve as the number of clusters improved to six; however, the model with six clusters only replicated twice. Upon further examination of the variable means within each cluster, the six-cluster model possessed clusters that were not conceptually meaningful. Conversely, the five-cluster model resulted in classes significantly distinct and consistent with extant literature, therefore the five-cluster model

was selected.

To ensure the validity of the 5-cluster model, the sample was split by gender and applied separately to both groups. The cluster means for males and females separately as well as together as the total sample can be found in Table 4.2. A cursory visual examination of the cluster means for males and females revealed the means for males tended to be more similar to the means for the model run with both genders. The means for females diverged in notable ways, particularly in relation to Cluster 4, in which males possessed very high levels of absenteeism (z = 3.85) while females' absenteeism was much more moderate although positive (z = 0.32). Other marked differences were seen within this cluster as well such that males reported markedly higher disaffection (z = 0.41 versus z = 0.18) and behavioral engagement on the first behavioral item (z = 0.18 versus z = -2.35) and lower levels of life satisfaction (z = -0.41 versus z = -0.02). As a result of such findings, the aforementioned enumeration process was carried out separately for males and females.

For males, the 5-cluster model was determined to be the best fit. Although the 6-cluster model exhibited modest improvement across many indicators, it was not able to be replicated. In addition, the clusters developed in the 6-cluster model did not provide theoretically meaningful or discernible groups. The enumeration data for male models are presented in Table 4.3 and Figure 4.2. Consistent with the male enumeration process, analyses of female data revealed continued modest improvement up to a 6-cluster model as well. Unlike the male models; however, both the 5-cluster and 6-cluster models produced clusters whose differences in the examined variables were not theoretically meaningful, thus a 4-cluster model was determined to provide the best fit for the female data. This data is presented in Table 4.4 and Figure 4.3.

Cluster Attributes. Cluster means by gender can be found in Table 4.5, Figure 4.4, and

Figure 4.5. In addition, chi-square analyses were utilized to elucidate the distribution of demographic variables throughout each model. Significant values indicated demographic variable distributions varied across clusters significantly from what would be expected given the sample distribution. Chi-square analyses for males revealed significant associations for socioeconomic status (SES) as measured by eligibility for free or reduced price lunch (χ^2 = 25.68, *df* = 4, $p < .001$), special education status (χ^2 = 20.77, *df* = 4, $p < .001$), English-language learner (ELL) status (χ^2 = 21.84, *df* = 4, $p < .001$), but not by ethnicity (χ^2 = 24.95, *df* = 4, $p = .05$). With regard to the female model, significant associations were only found for ELL status (χ^2 = 18.89, *df* = 3, $p < .001$), and no significant associations were found regarding ethnicity (χ^2 = 16.34, *df* = 3, $p = .176$), SES (χ^2 = 7.69, *df* = 3, $p = .053$), and special education status (χ^2 = 6.38, *df* = 3, $p = .095$). Further examination of the standardized residuals was utilized to determine whether particular clusters were over-represented or under-represented in each cluster. Demographic variables for males and females can be found in Table 4.6 and Table 4.7, respectively.

Overall, the four-cluster model for females and the 5-cluster model for males consisted of similar clusters minus cluster four, which is discussed below. The largest cluster for males (*n* = 764, 50.9%) and females (*n* = 801, 60.6%) possessed overall high levels of engagement, low levels of disaffection, high levels of life satisfaction, low absenteeism, and relatively higher levels of behavioral engagement and was thus labeled as the "Engaged" cluster. For males, standardized residuals revealed white individuals and individuals with higher SES were overrepresented in this cluster. Conversely, individuals with lower SES, those that qualified for a special education designation, and those with an ELL designation were under-represented in this cluster for males. For females, those with an ELL designation were under-represented in this

cluster.

The next largest cluster for males (*n* = 394, 31.0%) and females (*n* = 465, 27.5%) was labeled as "Affective/Cognitively Disengaged" as this cluster, on average, displayed moderately low levels on measures of cognitive and affective engagement, moderately high levels of disaffection, moderately low levels of life satisfaction, somewhat average levels of absenteeism, and average levels of behavioral engagement. White males were under-represented in this cluster and those identified as ELL were over-represented for males and females.

Cluster three was labeled as "Behaviorally Disengaged" and contained approximately 10.8% (*n* = 162) and 8.2% (*n* = 109) of males and females, respectively. Typical scores for this cluster were relatively average cognitive and affective engagement, though males scored moderately lower on measures of teacher-student relationships and peer-support for learning. Similarly, this cluster had moderately high disaffection scores, moderately lower life-satisfaction scores, average absenteeism, and very low levels of behavioral engagement. Demographic variables were distributed consistent with expectation throughout this cluster for males and females.

The next smallest cluster was labeled the "Disengaged" cluster and consisted of approximately 5.4% (*n* = 81) and 3.7% (*n* = 49) for males and females, respectively. This cluster consisted of individuals whose scores indicated very low levels of engagement of all types, very high levels of disaffection, very low levels of life-satisfaction, but relatively average levels of absenteeism. Within the male model, those with a special education designation were over-represented in this cluster. Within the female model, the distribution of demographic variables did not differ from expected values.

The final cluster was enumerated in the male sample only (*n* = 30, 2%). It consisted of

individuals with average levels of engagement, moderately high levels of disaffection, moderately low levels of life-satisfaction, and very high levels of absenteeism. As such, this cluster was labeled as the "Absent" cluster. Demographic variables did not differ from expectations within this cluster, though the small size of this cluster may have contributed to this finding.

Research Question 2

Chi-square analyses were used to assess the relationship between cluster affiliation and outcome variables previously identified in previous research to be predictive of dropout. These outcome variables included behavioral risk, attendance risk, and achievement risk as indicated by math and Language Arts (LA) grades in seventh grade. Behavioral risk in seventh grade was significantly associated with cluster affiliation in third grade for males ($\chi^2 = 24.51$, $df = 4$, $p < .001$) but not for females ($\chi^2 = 4.55$, $df = 3$, $p = .208$). Specifically, the Absent cluster contained a disproportionate number of those identified as presenting behavioral risk. Students identified as at risk in terms of attendance were also significantly associated with cluster affiliation for males ($\chi^2 = 29.70$, $df = 4$, $p < .001$) and those at risk were also overrepresented in the Absent cluster as opposed to other clusters; however, this association was not found for females ($\chi^2 = 6.58$, $df = 3$, $p = .086$). A significant relationship between cluster affiliation and LA risk and math risk for males (LA: $\chi^2 = 55.65$, $df = 4$, $p < .001$; Math: $\chi^2 = 42.01$, $df = 4$, $p < .001$) and females (LA: $\chi^2 = 52.20$, $df = 3$, $p < .001$; Math: $\chi^2 = 46.20$, $df = 3$, $p < .001$). For females, individuals identified as at-risk based on LA grades and math grades were overrepresented in the Affective/Cognitively Disengaged and the Disengaged clusters and underrepresented in the Engaged cluster. For males, individuals identified as at risk for LA and math grades were overrepresented in the Behaviorally Disengaged, Absent, and Disengaged clusters and

underrepresented in the engaged cluster. In addition, those not at risk for LA grades were overrepresented in the Engaged cluster. Results from these analyses are presented in Table 4.8 and Table 4.9 for males and females respectively.

Cumulative risk was calculated by summing the number of individual risk factors each participant exhibited plus the additional risk factor of grade retention. A multi-variate analysis of variance (MANOVA) was conducted examining the effects of group affiliation on this cumulative risk. Students' raw Language Arts (LA) grades and mathematics grades were transformed into standardized Z-scores and were also entered into the MANOVA. Levene's Test revealed a violation of homogeneity for all factors except for math grades for males and for cumulative risk for females. However, Nordstokke and Zumbo (2007) found that the Levene's Test employed by most statistical packages, including SPSS, are vulnerable to Type I error due to a number of factors, including sample size and normality. In addition, individual variances of factors were examined and revealed variances were greatest in the smallest clusters (Absent and Disengaged for males and females respectively). Skidmore and Thompson (2013) noted such a pattern is likely to result in a more conservative outcome within an analysis, therefore the current analyses are considered a valid representation of the data. Outcomes of Levene's Test can be found in Table 4.10

Significant differences across clusters was found for absences, LA grade, and cumulative risk but not for mathematics grade for males. For females, math grade and cumulative risk varied significantly by cluster but not absences or LA grade. Gabriel's Pairwise Comparisons Test (GABRIELS) was implemented as a post-hoc analysis of variables. These analyses are presented in Table 4.11.

Table 4.1
Latent Class Models for Total Sample

Model	Npar	Replications	AIC	BIC	BICAdj	Entropy	Lowest Class Prob.	Smallest Cluster	LMR	Boot LRT
2	31	100/100	79645	79832	79933	.84	.92	26.7%	.000	.000
3	42	62/100	78182	78434	78301	.88	.90	10.5%	.000	.000
4	53	100/100	76975	77294	77126	.84	.86	4.4%	.000	.000
5	64	100/100	76430	76814	76611	.86	.85	2.5%	.028	.000
6	75	2/100	75925	76376	76137	.86	.82	3.3%	.038	.000
N	3016									

Npar= Number of parameters, AIC=Akaike Information Criterion, BIC=Bayesian Information Criterion, BICAdj=Adjusted Bayesian Information Criterion, LMR=Lo-Mendel-Rubin Likelihood Ratio, BootLRT=Bootstrapped Likelihood Ratio Test

Figure 4-1
Information Criterion for Total Sample

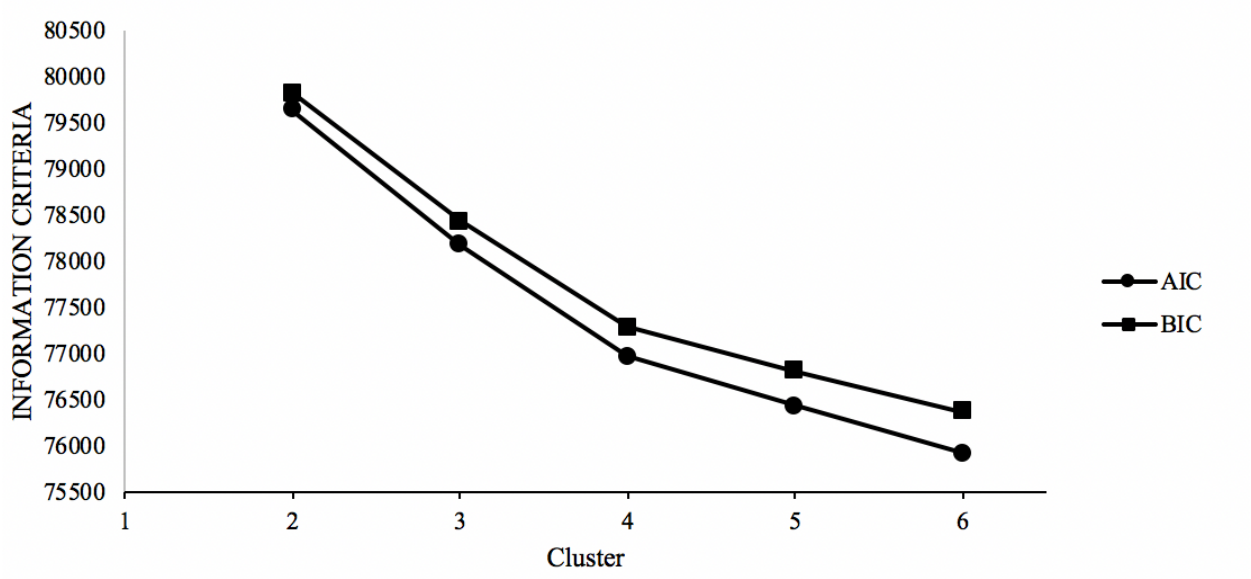


Table 4.2

5-Cluster Model Comparison by Gender

Clusters	Factors									
	Abs	*TSR*	*PSL*	*FGA*	*FSL*	*DIS*	*LS*	*Bx1*	*Bx2*	*Bx3*
Cluster 1										
Male	-0.15	0.42	0.41	0.38	0.36	-0.40	0.48	0.19	0.32	0.21
Female	-.0.06	0.51	0.44	0.48	0.44	-0.59	0.57	0.41	0.40	0.36
Both	-0.15	0.48	0.44	0.43	0.41	-0.50	0.54	0.25	0.35	0.29
Cluster 2										
Male	-0.08	-0.63	-0.47	-0.40	-0.55	0.57	-0.60	-0.14	0.18	-0.14
Female	0.12	-0.45	-0.50	-0.43	-0.41	0.51	-0.60	0.24	0.18	-0.07
Both	-0.06	-0.51	-0.48	-0.37	-0.47	0.52	-0.60	-0.06	0.17	-0.09
Cluster 3										
Male	0.01	-0.32	-0.36	-0.18	-0.04	0.46	-0.43	-1.09	-2.55	-0.86
Female	0.06	0.13	0.04	0.02	-0.01	0.25	-0.16	-0.64	-2.32	-0.52
Both	0.05	-0.16	-0.21	-0.14	-0.05	0.41	-0.36	-0.96	-2.48	-0.73
Cluster 4										
Male	3.85	0.02	-0.16	0.00	0.04	0.41	-0.41	0.18	-0.01	-0.19
Female	0.32	0.05	-0.07	0.35	0.06	0.18	-0.02	-2.35	0.16	-0.12
Both	3.52	-0.01	-0.04	0.00	0.05	0.14	-0.10	0.05	0.26	-0.22
Cluster 5										
Male	-0.04	-2.07	-1.69	-2.32	-1.75	1.52	-1.76	-0.85	-0.49	-1.21
Female	0.12	-1.57	-1.32	-2.88	-1.66	1.62	-1.63	-1.05	-0.80	-1.12
Both	-0.01	-1.96	-1.60	-2.45	-1.72	1.58	-1.67	-0.82	-0.49	-1.29

Note: Abs=Absences; TSR=Teacher-Student Relationships; PSL=Peer Support for Learning; FGA=Future Goals and Aspirations; FSL=Family Support for Learning; DIS=Disaffection; LS=Life Satisfaction; Bx1=Behavioral Engagement Item 1; Bx2=Behavioral Engagement Item 2; Bx3=Behavioral Engagement Item 3

Table 4.3
Latent Class Models for Student Engagement (Male)

Model	Npar	Replications	AIC	BIC	BICAdj	Entropy	Lowest Class Prob.	Smallest Cluster	LMR	Boot LRT
2	31	100/100	41030	41195	41096	.81	.88	29.5%	.000	.000
3	42	72/100	40263	40486	40353	.87	.88	11.6	.006	.000
4	53	100/100	39733	40015	39847	.83	.85	5.5%	.015	.000
5	64	100/100	39462	39802	39599	.85	.85	2.1%	.282	.000
6	75	0/100	39326	39635	39397	.85	.82	4.6%	.447	.000

Npar= Number of parameters, AIC=Akaike Information Criterion, BIC=Bayesian Information Criterion, BICAdj=Adjusted Bayesian Information Criterion, LMR=Lo-Mendel-Rubin Likelihood Ratio, BootLRT=Bootstrapped Likelihood Ratio Test

Figure 4.2

Information Criterion for Male Models

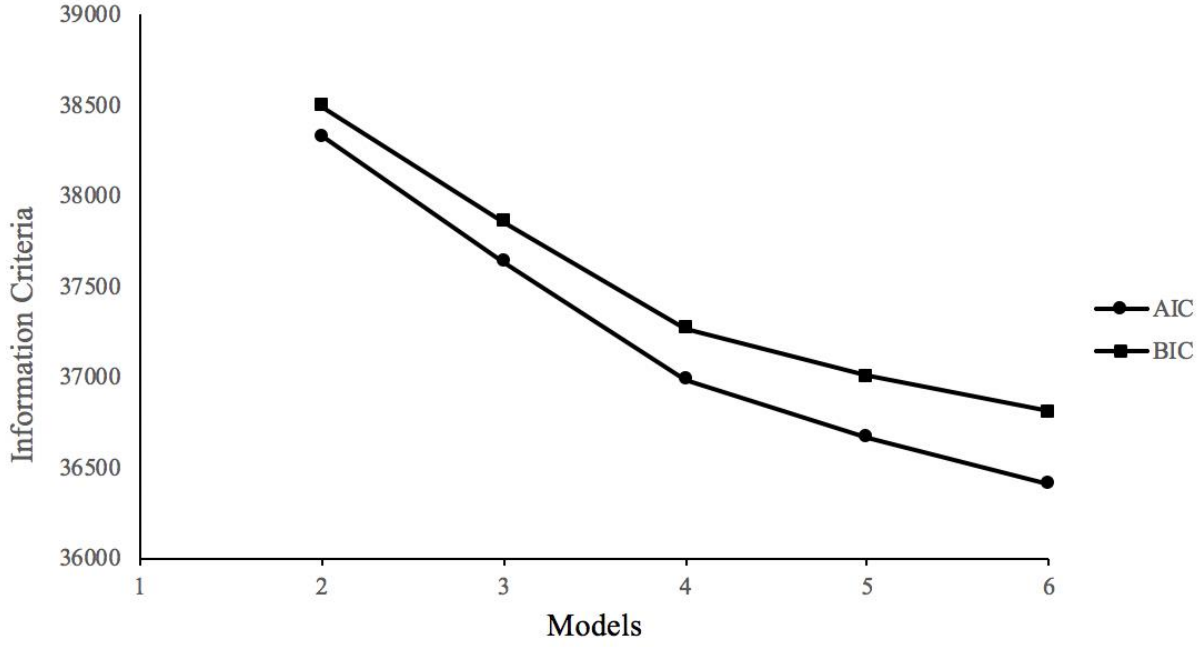


Table 4.4

Latent Class Models for Student Engagement (Female)

Model	Npar	Replic	AIC	BIC	BICAdj	Entropy	Lowest Class Prob.	Smallest Cluster	LMR	Boot LRT
2	31	100	38330	38495	38396	.87	.89	22.5%	.000	.000
3	42	100	37636	37860	37727	.83	.88	5.5%	.029	.000
4	53	97	36988	37270	37101	.87	.87	3.3%	.002	.000
5	64	11	36666	37007	36803	.88	.85	3.6%	.009	.000
6	75	05	36411	36811	36572	.89	.85	2.8%	.632	.000

Notes: Npar= Number of parameters, Rep = Replications out of 100; AIC=Akaike Information Criterion, BIC=Bayesian Information Criterion, BICAdj=Adjusted Bayesian Information Criterion, LMR=Lo-Mendel-Rubin Likelihood Ratio, BootLRT=Bootstrapped Likelihood Ratio Test

Figure 4.3

Information Criterion for Female Models

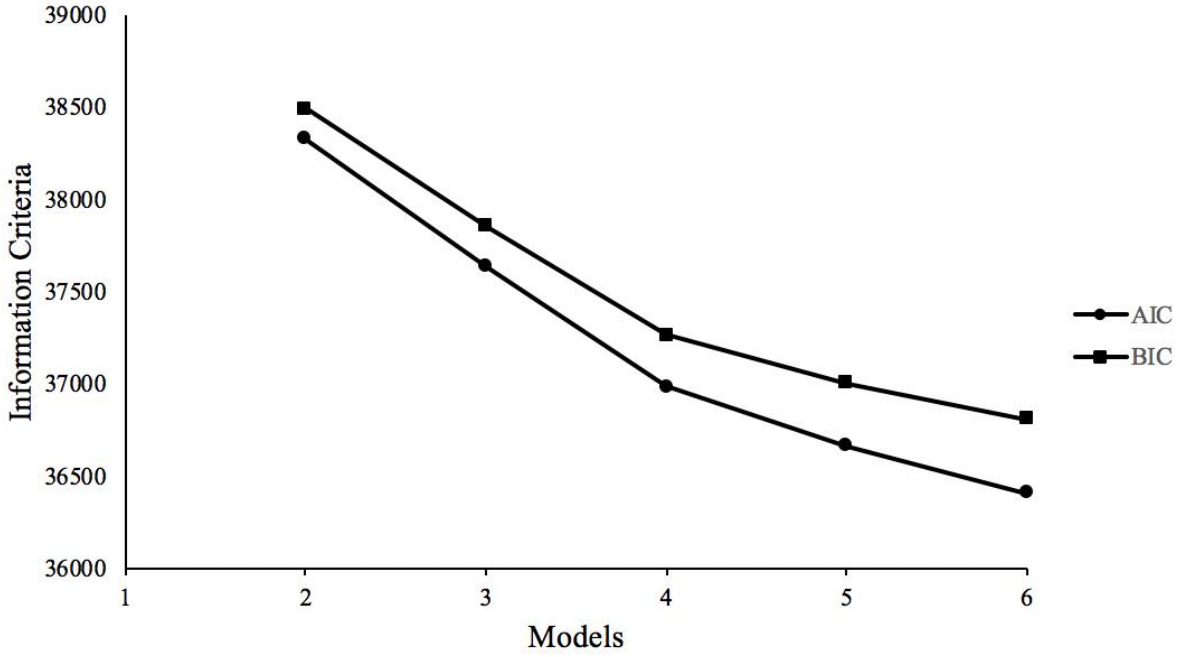


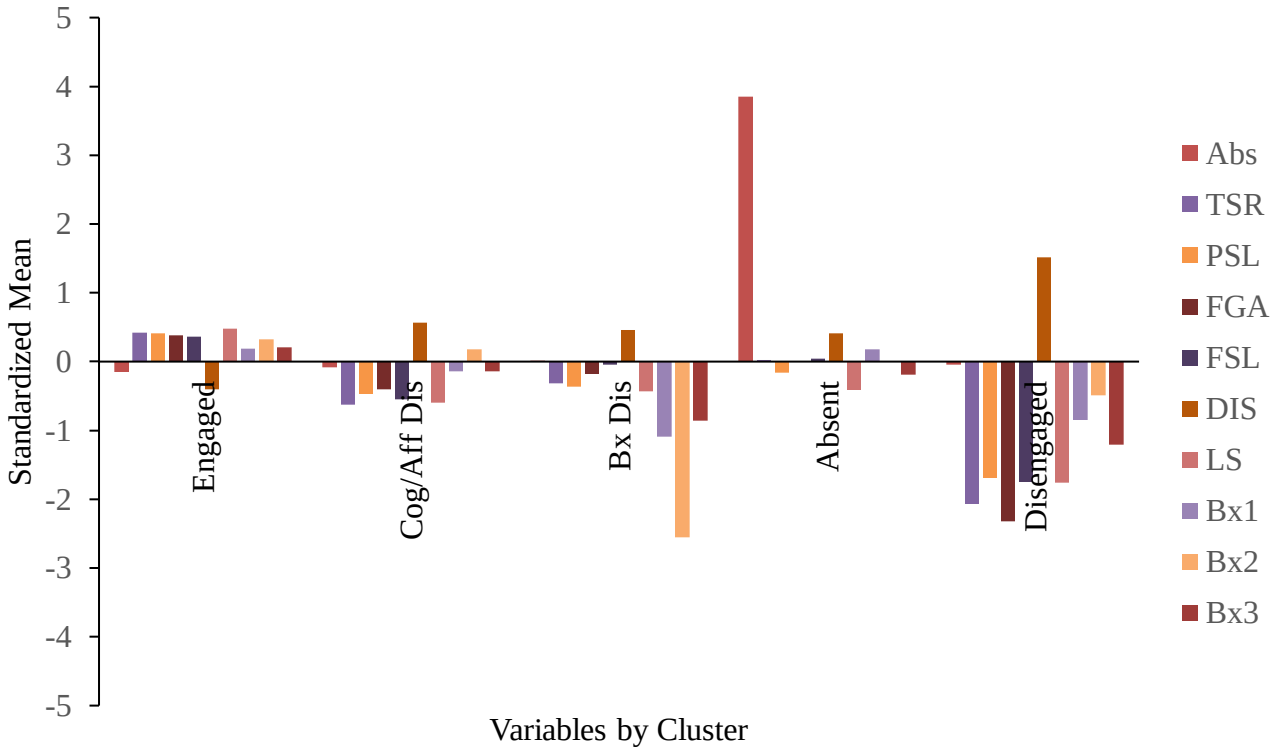
Table 4.5
Factor Means by Gender and Cluster

Clusters	Factors									
	Abs	*TSR*	*PSL*	*FGA*	*FSL*	*DIS*	*LS*	*Bx1*	*Bx2*	*Bx3*
Engaged										
Male	-0.15	0.42	0.41	0.38	0.36	-0.40	0.48	0.19	0.32	0.21
Female	-0.05	0.50	0.43	0.47	0.42	-0.56	0.55	0.29	0.40	0.35
Cog/Aff Dis										
Male	-0.08	-0.63	-0.47	-0.40	-0.55	0.57	-0.60	-0.14	0.18	-0.14
Female	0.16	-0.48	-0.56	-0.43	-0.44	0.55	-0.66	0.01	0.19	-0.12
Bx Dis										
Male	0.01	-0.32	-0.36	-0.18	-0.04	0.46	-0.43	-1.09	-2.55	-0.86
Female	0.04	0.12	0.06	0.04	-0.01	0.25	-0.16	-0.67	-2.22	-0.46
Absent										
Male	3.85	0.02	-0.16	0.00	0.04	0.41	-0.41	0.18	-0.01	-0.19
Female	-	-	-	-	-	-	-	-	-	-
Disengaged										
Male	-0.04	-2.07	-1.69	-2.32	-1.75	1.52	-1.76	-0.85	-0.49	-1.21
Female	0.11	-1.65	-1.33	-3.02	-1.67	1.67	-1.62	-1.00	-0.85	-1.13

Note: Abs=Absences; TSR=Teacher-Student Relationships; PSL=Peer Support for Learning; FGA=Future Goals and Aspirations; FSL=Family Support for Learning; DIS=Disaffection; LS=Life Satisfaction; Bx1=Behavioral Engagement Item 1; Bx2=Behavioral Engagement Item 2; Bx3=Behavioral Engagement Item 3

Figure 4.4

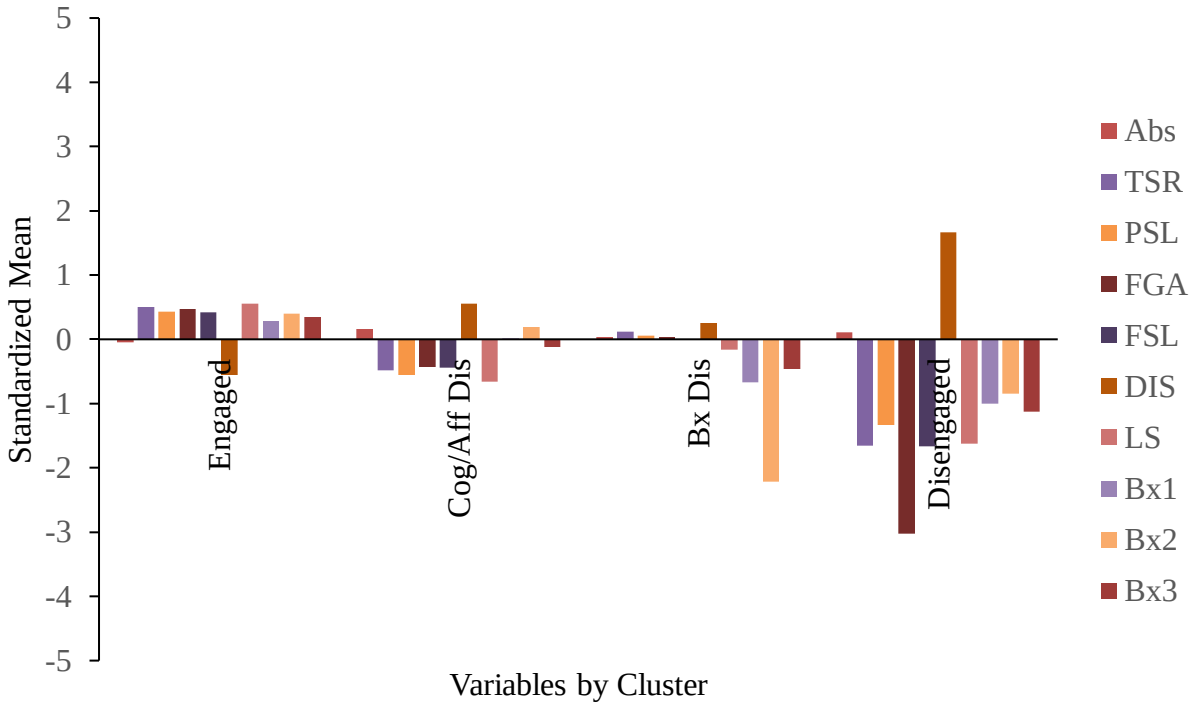
Cluster Means - Males



Note: Abs=Absences; TSR=Teacher-Student Relationships; PSL=Peer Support for Learning; FGA=Future Goals and Aspirations; FSL=Family Support for Learning; DIS=Disaffection;

Figure 4.5

Cluster Means - Females



Note: Abs=Absences; TSR=Teacher-Student Relationships; PSL=Peer Support for Learning; FGA=Future Goals and Aspirations; FSL=Family Support for Learning; DIS=Disaffection;

Table 4.6

Demographics by Cluster for Males

Characteristic	Clusters														
	Engaged			Affect/Cog Disengaged			Behaviorally Absent			Disengaged					
	N	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*
Race															
Asian	63	8.2	49.2	45	9.8	35.2	10	6.2	7.8	2	6.3	1.6	8	9.9	6.3
Black	185	24.2	48.9	119	25.9	31.5	46	28.4	12.2	7	23.3	1.9	21	25.9	5.6
Hispanic	244	31.9	46	178	38.7	33.5	63	38.9	11.9	16	53.3	3	30	37	5.6
Multiracial	29	3.8	50.9	19	4.1	33.3	5	3.1	8.8	1	3.3	1.8	3	3.7	5.3
White	**243****	**31.8****	**60.3****	*99**	*21.5**	*24.6**	38	23.5	9.4	4	13.3	1	19	23.5	4.7
FRL Yes	*391**	*51.2**	45.5*	293	63	34.1	102	63	11.9	23	76.7	2.7	51	63	5.9
FRL No	**373****	**48.8****	**58.1****	172	37	26.8	60	37	9.3	7	23.3	1.1	30	37	4.7
SPED Yes	*84**	*11.0**	40.6*	70	15.1	33.8	25	15.4	12.1	5	16.7	2.4	**23****	**28.4****	**11.1****
SPED No	680	89	52.5	395	84.9	30.5	137	84.6	10.6	25	83.3	1.9	58	71.6	4.5
ELL Yes	*172***	*26.1***	*41.0***	**154***	**37.5***	**36.7***	58	39.2	13.8	12	44.4	2.9	25	32.4	5.7
ELL No	488	73.9	54.2	257	62.5	28.6	90	60.8	10	15	55.6	1.7	50	67.6	5.6
Total	764		50.9	465		31	162		10.8	30		2	81		5.4

Note: FRL = Free/Reduced Lunch status; SPED = Special Education status; ELL=English Language Learner; %₁ = Vertical sum equal to 100%; %₂ =

Table 4.7

Demographics by Cluster for Females

Characteristic	Clusters											
	Engaged			Affect/Cog Disengaged			Behaviorally			Disengaged		
	N	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*
Race												
Asian	110	11.7	68.3	37	9.4	23	10	7.9	6.2	4	8.2	2.5
Black	224	23.7	60.4	98	25	26.4	37	29.4	10	12	24.5	3.2
Hispanic	304	32.2	58.1	157	40.1	30	43	34.1	8.2	19	38.8	3.6
Multiracial	36	3.8	69.2	8	2	15.4	5	4	9.6	3	6.1	5.8
White	270	28.6	66.8	92	23.5	22.8	31	24.6	7.7	11	22.4	2.7
FRL Yes	522	55.2	59.8	246	62.4	28.2	79	62.7	9	26	53.1	3
FRL No	423	44.8	66	148	37.6	23.1	47	37.3	7.3	23	46.9	3.6
SPED Yes	53	5.6	51	35	8.9	33.7	11	8.7	10.6	5	10.2	4.8
SPED No	892	94.4	63.3	359	91.1	25.5	115	91.3	8.2	44	89.8	3.1
ELL Yes	*179**	*22.3**	*51.0**	**123****	**33.9****	**35.0****	34	31.2	9.7	15	30.6	4.3
ELL No	622	77.7	64.1	240	66.1	24.7	75	68.8	7.7	34	69.4	3.5
Total	801		60.6	363		27.5	109		8.2	49		3.7

Note: FRL = Free/Reduced Lunch status; SPED = Special Education status; ELL=English Language Learner; %₁ = Vertical sum

Table 4.8

Outcomes Distribution by Cluster for Males

Characteristic	Clusters														
	Engaged			Affect/Cog Disengaged			Behaviorally Disengaged			Absent			Disengaged		
	N	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*	*N*	*%₁*	*%₂*
Bx Risk**															
At Risk	4	0.5	21.1	6	1.3	31.6	4	2.5	21.1	**3****	**10.0****	**15.8****	2	2.5	10.5
Not at Risk	760	99.5	51.2	459	98.7	31	158	97.5	10.7	27	90	1.8	79	97.5	5.3
Attend Risk**															
At Risk	82	10.7	41.8	67	14.4	34.2	25	15.4	12.8	**13****	**43.3****	**6.6****	9	11.1	4.6
Not at Risk	682	89.3	52.2	398	85.6	30.5	137	84.6	10.5	17	56.7	1.3	72	88.9	5.5
LA Risk**															
At Risk	*110***	*14.4***	*35.4***	110	23.7	35.4	**46***	**28.4***	**14.8***	**15****	**50.0****	**4.8****	**30****	**37.0****	**9.6****
Not at Risk	**654***	**85.6***	**54.9***	355	76.3	29.8	116	71.6	9.7	15	50	1.3	51	63	4.3
MA Risk**															
At Risk	*85***	*11.1***	*35.9***	78	16.8	32.9	**39****	**24.1****	**16.5****	**10***	**33.3***	**4.2***	**25****	**30.9****	**10.5****
Not at Risk	679	88.9	53.7	387	83.2	30.6	123	75.9	9.7	20	66.7	1.6	56	69.1	4.4
Total	764		50.9	465		31	162		10.8	30		2	81		5.4

Table 4.9
Outcomes Distribution by Cluster for Females

Characteristic	Clusters											
	Engaged			Affect/Cog			Behaviorally			Disengaged		
	N	*%1*	*%2*	*N*	*%1*	*%2*	*N*	*%1*	*%2*	*N*	*%1*	*%2*
Bx Risk												
At Risk	4	0.4	44.4	5	1.3	55.6	0	0	0	0	0	0
Not at Risk	941	99.6	62.5	389	98.7	25.8	126	100	8.4	49	100	3.2
Attend Risk												
At Risk	105	11.1	54.1	62	15.7	32	19	15.1	9.8	8	16.3	4.1
Not at Risk	840	88.9	63.6	332	84.3	25.2	107	84.9	8.1	41	83.7	3.1
LA Risk**												
At Risk	*62***	*6.6***	*38.0***	**73****	**18.5****	**44.8****	16	12.7	9.8	**12****	**24.5****	**7.4****
Not at	883	93.4	65.4	321	81.5	23.8	110	87.3	8.1	37	75.5	2.7
MA Risk**												
At Risk	*83***	*8.8***	*41.7***	**85****	**21.6****	**42.7****	19	15.1	9.5	**12***	**24.5***	**6.0***
Not at	862	91.2	65.6	309	78.4	23.5	107	84.9	8.1	37	75.5	2.8
Total	945		62.4	394		26	126		8.3	49		3.2

Notes: Bx Risk=Behavior Risk, Attend Risk = Attendance Risk; LA Risk=Language Arts Grade Risk; MA

Table 4.10
Levene's Test for MANOVAs

	Males		*Females*	
	Levene's Statistic	*Significance*	*Levene's Statistic*	*Significance*
Cumulative Risk	26.11	.000	34.58	.000
Absences	11.11	.000	2.58	.052
LA Grade	7.81	.000	0.57	.636
Math Grade	0.97	.426	1.63	.180

Note:

Table 4.11
MANOVA for differences in outcome variables between clusters.

	F ($df_{between}$, df_{within})		*p*		Sign. post-hoc differences	
	Male	Female	Male	Female	Male	Female
Cumulative	19.45 (4, 1484)	18.65 (3, 1493)	.000	.000	E&all, Ab&all, AC&B	E&all
Absent	9.91 (4, 1484)	1.47 (3, 1493)	.000	.205	A&all	-
LA Grade	24.87 (4, 1484)	2.84 (3, 1493)	.000	.221	E&all, A&all	-
Math Grade	1.92 (4, 1484)	1.53 (3, 1493)	.105	.037	-	E&AC

Note: E=Engaged, AC=Affective/Cognitively Disengaged, B=Behaviorally Disengaged, A=Absent, D=Disengaged

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CHAPTER 5

DISCUSSION

School dropout is a phenomenon that has been the focus of policymakers for decades based on the high costs, both financially and to society in general, associated with school non-completion (Reschly & Christenson, 2012). Examining school continuation and dropout from a perspective of student engagement aligned with views espoused by the American Psychological Association's Interdivisional Task Force on School Dropout Prevention (Doll & Hess, 2001). School engagement also provides educators with a relatable construct to understand the process of dropping out. Further, the examination of student engagement allowed for a shift in perspective from immutable factors to those amenable to intervention, driving the development of interventions focusing on strengthening facets of student engagement to promote school completion (Appleton, Christenson, & Furlong, 2008; Appleton, Christenson, Kim, & Reschly, 2006; Reschly & Christenson, 2006).

A critical component of successful intervention is the identification of populations who might benefit from additional support and intervention. Measures, such as the Student Engagement Instrument (SEI), have been developed to provide schools and policymakers with methods to measure unobservable constructs, such as thoughts and feelings, and further aid in identifying those at risk and in most need for intervention (Appleton et al., 2006). Despite the recognition of the importance of early identification and intervention by early engagement theorists, much of the existing literature in this field has focused on identification of older children (Archambault & Dupéré, 2017; Carter, Reschly, Lovelace, Appleton, & Thompson,

2012). Yet another recent shift, observed as part of the student engagement literature, is the movement from variable-centered approaches focusing on variable characteristics to person-centered approaches that allow for a more nuanced and individualized examination of variables. The current study utilized a person-centered approach to examine patterns of student engagement in younger students and its relationship with later predictors of dropout.

The current study hypothesized third grade students would exhibit recognizably differentiated patterns of engagement, disaffection, life satisfaction, and absenteeism similar to person-centered studies involving older students (Lawson & Masyn, 2015a, 2015b; Salmela-aro, Moeller, Schneider, & Spicer, 2016; Wang & Peck, 2013). This hypothesis was supported; however, the number of discernible classes found in the current study varied by the gender of the student, which has not been examined in previous person-centered studies. One potential explanation for this discrepancy may have been related to the sample itself or the age of the participants; however, gender differences in school completion and dropout are well-documented (Appleton et al., 2006; Day & Newburger, 2002; Hughes, Cao, West, Allee Smith, & Cerda, 2017; Parr & Bonitz, 2015). Similarly, Annunziata, Hogue, Faw, and Liddle (2006) found gender moderated the relationship between family factors and emotional engagement. Therefore it makes sense differences in engagement might be observed based on gender. There is a plethora of research to support gender differences in a student's experience of school, such as relationships with teachers, as well as consequences and expectations of students (Mohamed, 2018; Nowicki & US Government Accountability Office, 2018; Saft & Pianta, 2001; Silva, Langhout, Kohfeldt, & Gurrola, 2015). Future research should continue to investigate these individual differences in engagement and its development.

In terms of the current study, males and females exhibited classes with similar characteristics with the addition of a class comprised of individuals with average levels of engagement, life satisfaction, and disaffection but with relatively extreme levels of absenteeism for males. A comparable group was not elicited from the females' data. Specifically, the classes identified in the current study included Engaged, Cognitively/Affectively Disengaged, Behaviorally Disengaged, and Disaffected for both males and females in addition to the Absent cluster for males only. The identification of cluster of students who reported relatively average levels of engagement, life satisfaction and disaffection, but who were chronically absent from school is a unique finding of the current study. To the author's knowledge, no previous study examining latent profiles of student engagement has included attendance as a variable when building models of engagement and disaffection (Fredricks et al, 2013; Lawson & Masyn, 2015a; Salmela-aro et al., 2016; Tuominen-Soini & Salmela-Aro, 2014; Wang & Peck, 2013; Watt, Carmichael, & Callingham, 2017). However, Hospel, Galand, and Janosz (2016) noted self-reported absenteeism could be distinguished from other categories of behavioral engagement, warranting the inclusion of it as a model variable. In addition, Hospel, Galand, and Janosz (2016) also demonstrated males reported higher levels of absenteeism, which is consistent with the current study.

The remaining profile patterns share a number of similarities with previous research examining older students. For example, Wang and Peck (2013) identified five distinct patterns of engagement and disaffection in a sample of students in grade nine, including a moderately engaged cluster, a highly engaged cluster, a minimally engaged cluster, a cognitively disengaged cluster, and an emotionally disengaged cluster. A notable difference, however, is that the current study identified a behaviorally disengaged profile and no such profile was identified by Wang

and Peck (2013). Such differences might be attributable to the age of the samples being investigated. For example, the behaviorally disengaged cluster found in the current study, could develop patterns of engagement and disaffection that are later captured in one of the other clusters, rather than in a distinct behaviorally disengaged cluster, such as those found in Wang and Peck (2013). Such a hypothesis is further supported by the findings reported by Fredricks, Ye, Wang, and Brauer (2019), who identified four distinguishable profiles of disengagement in a sample of fifth through ninth graders that included behavioral disengagement. The sample utilized by Fredricks et al. (2019) was primarily made up of younger students, such that 33% of the sample was in the fifth grade at the time of assessment and an additional 33% was in the seventh grade at the time of assessment. Further research into the profiles of younger students and how those develop over time throughout the academic career are warranted to further understand these findings.

The current study also differed from previous research in the findings that engagement and disaffection appeared to exist in an inverse relationship. This runs contrary to findings by Tuominen-Soini and Salmela-Aro (2014) and Pinzone, Reschly, and Appleton (2019) who found simultaneous elevations in engagement and disaffection in students. One potential explanation for this discrepancy might be that differentiation in disengagement and disaffection might not occur until a certain point in development. Tuominen-Soini and Salmela-Aro (2014) utilized a sample of high school students compared to the current study's use of third graders; however, Pinzone and colleagues utilized elementary students. Pinzone et al. (2019) found profiles of student engagement, disengagement, and disaffection varied over time, and that these variations were not accounted for by known variables. Such discrepancies with previous research and

ambiguity within the research underscore the critical need of further research investigating student engagement.

The current study also hypothesized that, consistent with previous research, demographic variables would be related cluster affiliation. This hypothesis is also supported by the current data. Although race/ethnicity was not found to be related to group affiliation, both male and female students who identified as white were overrepresented in the Engaged cluster and underrepresented in the Affective/Cognitively Disengaged cluster. Because of the emergent nature of person-centered research in student engagement, there is a paucity of research regarding profiles of engagement and how race/ethnicity interact. Benner and Graham (2009) suggested the level of student engagement experienced by African American and Latino students was related to the numerical representation of their ethnic group within the school. Specifically, the authors noted individuals who transitioned from a middle school in which their identified ethnicity was the majority to a high school in which their ethnicity was a minority, experienced a significant decrease in belongingness, a core tenant of affective engagement. Given the diversity in the current sample, racial/ethnic disparities in group affiliation in the current sample could be underestimated. Additional research involving elementary students and the impact of the demographic makeup of the environment is warranted.

A significant relationship between socio-economic status (SES) and cluster affiliation was found in expected directions. Specifically, individuals of higher SES were more likely to be affiliated with the Engaged cluster, while individuals receiving free- or reduced-price lunch were significantly less likely to be affiliated with this cluster. Both special education (SPED) status and English Language Learner (ELL) status were also significantly related to cluster affiliations. Students identified for SPED services were significantly overrepresented in the Disengaged

cluster and ELL students were overrepresented in the Cognitive/Affectively Disengaged cluster and both were underrepresented in the Engaged cluster. This study contradicts findings by Lawson & Masyn (2015), who revealed no such distinctions based on SES with high school students. However, based on hypothesized relations between cluster affiliation and outcome variables, such findings are consistent with previous research regarding dropout and demographic variables (Day & Newburger, 2002; Hughes, Cao, West, Allee Smith, & Cerda, 2017; Parr & Bonitz, 2015; Reschly & Christenson, 2006).

The relationship of cluster affiliation and outcome variables was also assessed. Outcome variables were determined based on previous research indicating a strong relationship between such variables in sixth grade and school discontinuation at a later time (Balfanz, Herzog, & Iver, 2007). The current study utilized the same indicators, but for seventh grade. Data from the current study also supported the hypothesis that cluster affiliation in third grade would be associated with variables in seventh grade which have been found to be highly predictive of dropout. Results of MANOVAs revealed cumulative risk differed significantly across clusters for both males and females. In addition to the cumulative risk factor, some individual risk factors significantly differed across clusters. Given the similarities in the proportions of males and females within their respective clusters, such findings suggest that, although males and females report similar levels of engagement, life-satisfaction, and disaffection, how these insights manifest into behavior and their impact on academic functioning may differ by gender. This potential differential sensitivity to adverse events has also been demonstrated in research investigating the influences of parenting behaviors and pain with which males were more likely to respond to emotional invalidation with an emotional invalidating response when they experienced chronic pain, than women were (Leong, Cano, & Johansen, 2011; Li et al., 2017). In

addition, such a distinction as that found in the current study might also contribute to our understanding regarding gender differences in dropout rates and educational attainment.

Limitations and Future Directions

The current study possesses a number of strengths and weaknesses. One such limitation is the inability of the current study to control for the school attended. Previous research revealed significant correlations between school climate and student engagement (National Research Council, 2004), therefore the school attended could present as a confounding variable. Future studies should replicate the current study controlling for school effects. The sample of the current study also provides an additional unique feature in that it is the youngest sample utilized to examine student engagement profiles to date. Researchers have consistently demonstrated the ability to predict school outcomes by examining a number of variables from as early as first grade (Alexander, Entwisle, & Horsey, 19997; Alexander, Entwisle, & Olson, 2007; Entwisle, Alexander, & Olson, 2005). Future research should continue to investigate younger students to better understand the development of student engagement across students' educational careers, as well as to better understand critical variables for intervention in younger populations.

The current study contained limited data regarding behavioral engagement, as it only examined student self-report. Future research would benefit from using multiple robust measures of behavioral engagement as predictor variables, such as self-report, teacher rating, and observations when possible. Outcome data regarding behavioral risk was also limited as very few participants in the current study were identified as presenting with behavioral risk. Data for the current study were collected halfway through the year, thus it is likely that some students who were not identified as incurring behavioral risk, might have developed such risk later in the school year. In addition, the use of data based on discipline outcomes could be skewed in a

number of ways. For example, students who receive discipline referrals, tend to receive multiple referrals so that overall referrals may be high, but these may be the result of relatively few students and have been found to be relatively unreliable due to issues of fidelity, bias, and the subjective nature of discipline referrals in many schools (Girvan, Gion, McIntosh, & Smolkowski, 2016; King & Reschly, 2014; Lane, Robertson Kalberg, Parks, & Carter, 2008). Disproportionality of discipline procedures across races and ethnicities has been well documents in the literature (Girvan et al., 2016). As such, future research would benefit from using multiple measures of behavioral risk, including early indicators such as behavioral screenings tools as they might reduce bias and are more consistent with Response to Intervention's (RTI) philosophy (King & Reschly, 2014).

In conclusion, the current study provides support that student engagement profiles are discernible as early as third grade and might be related to future outcome variables. The current study also provides initial evidence regarding the impact of gender on the experience of student engagement and how that interacts with outcome variables. Additional research is warranted to further understand these profiles, how they develop over time, and the variables that impact their development. Such investigations will benefit from considering interactions among variables, such as gender, race/ethnicity, disability status, and SES, as well as environmental factors, such as school demographic variables. Findings from the current study also underscore the importance of utilizing variables such as attendance in elementary school, as this may incur additional risk for dropping out.

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