

STUDENT ASSETS AND COMMITMENT TO LEARNING IN AN AFTERSCHOOL LEADERSHIP DEVELOPMENT PROGRAM Looking Beyond the Myths

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The present study is the first reported analysis of participant data from an afterschool leadership development program targeting the elementary to middle school transition for fifth-grade students. Data were collected from 2012 to 2015 from 261 adolescents who self-selected to participate in the afterschool program and provided parental consent/assent; 60% of the sample were female, 24% lived in rural areas, and 33% attended schools in low socioeconomic status (SES) areas. Participants completed the Developmental Assets Profile (Search Institute, 2005) and a demographic questionnaire. Outcomes of interest for the analysis included relationships between sample characteristics (SES; rural vs. nonrural), support and empowerment (external assets), and positive values and commitment to learning (internal assets). Cluster analyses identified 3 distinct groups of high-, average-, and low-asset students. ANOVA found that contrary to what was hypothesized, it is not only high-asset students who self-select to participate in a leadership development program. Moreover, students from high SES schools and urban areas were just as likely to be represented in low-asset subgroups as students from low SES and rural schools.

INTRODUCTION

From the age of 5 years and upwards, most children in developed countries spend the majority of their time at school or at school-related activities. The typical school day mimics the adult work day, with most school days ending mid to late afternoon. The gap of time

between the last bell and the moment of arriving home for the rest of the day is called, ubiquitously, “afterschool.” The first one to three hours of afterschool time are highly variable between children and adolescents based on a variety of factors; for example, (a) level of adult supervision, (b) amount of structure, (c) purpose of activity, and (d) type of content/

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activity (Durlak & Weissberg, 2007). Some afterschool programs focus primarily on providing general care—adult supervision while parents are still at work, space/equipment for play, healthy snacks, and perhaps protected time for homework. In this scenario, children may have little input into which afterschool setting they are placed, and adults primarily serve to ensure children's safety. As children age, however, they may have more input into where they go and how they spend time after school. Increasingly, after school programs become more structured to provide students with opportunities for growth or enrichment in various domains (e.g., academic, sports, fine arts, or other special interests) (Farb & Matjasko, 2012).

Past research has shown that students have a variety of reasons for joining afterschool programs (e.g., Dawes & Larson, 2011; Kuperminc et al., 2013). Research has also found that the relationship between program participation and positive outcomes can be of particular importance for low income students (e.g., Mahoney, Vandell, Simpkins, & Zarrett, 2009; Pedersen & Seidman, 2005) and rural students (e.g., Collins, Bronte-Tinkew, & Logan, 2008; Pruitt, 2009). What these findings do not address is whether these students' positive outcomes from program participation are somehow related to where they live and/or their socioeconomic status (SES). This assumption may perpetuate a myth that students from high(er) income and suburban/urban backgrounds may be overrepresented in factors known to predict positive developmental outcomes.

Purpose

The purpose of the study reported here is to investigate whether adolescents who self-select into an afterschool leadership program can be assessed as high and low developmental asset groups, as identified by the Search Institute (2005). Specifically, we focused on who joins afterschool leadership development pro-

grams and whether they display significant differences in their commitment to learning.

Regardless of the geographical location or program participant profile, research indicates that positive longitudinal outcomes can occur (academic, social and behavioral) for elementary students in an environment of high-quality afterschool programs (Vandell, Reisner & Pierce, 2007). However, it is unclear whether voluntary participation in these programs varies across student background. The present study is important because it (a) expands of the knowledge base about developmental assets with an age group often overlooked in a time of intense transition (e.g., Jackson, 2010; Kesici, 2007; Scales, 2005) and (b) provides direct programming insights to a partnership which has seen over 800 student participants.

Context

United Future Leaders (UFL) is an afterschool leadership development program that was initiated through a collaboration among a local school district, a corporate sponsor, a private philanthropic foundation and an adolescent-focused research and outreach center at a large public university. From this partnership a 2-year afterschool program was created to support early adolescents (ages 11–12) as they transition from elementary to middle school with experiential curriculum focused on building leadership skills that promote character, ethics, and civility. Program participants begin as fifth-grade students meeting once a week for 18 weeks over the course of the fall semester and the beginning of the spring semester (mid-March), with an additional 12 weeks of new curriculum in the sixth-grade year (the first year of middle school). The UFL program is perhaps unique in that students are not identified, nominated, or otherwise preselected by school or community members to be eligible to participate. All students enrolled in the fourth grade at participating schools are presented with UFL program information toward the end of the fourth-grade school year and invited to participate. Students who complete the regis-

tration process (which requires parent consent) thus self-select to participate in the program. In this way “invisible” students who might otherwise benefit from but might be overlooked for nomination can opt to participate in programming (e.g., Matteson, 2014). In the past 7 years UFL has grown from serving nearly 30 students at two elementary schools in one school district to a 2014–2015 student enrollment of 240 students attending 13 host campuses in three school districts.

Weekly UFL program delivery takes place at host elementary and middle school campuses immediately after the school day ends and lasts approximately 90 minutes. Although the focus of the program is building leadership competencies, the program specifically works to address and bridge expressed concerns of fifth-grade students preparing to matriculate to middle school. Upon starting middle school, students continue to receive curriculum throughout the fall semester of their sixth-grade year. At the end of their UFL participation, students are honored for their 18-month commitment at a celebration banquet and invited to join UFL Ambassadors (a service-oriented leadership program) thereby staying active as they transition to high school and graduation. Students may continue to volunteer with the UFL or Ambassador program after high school graduation.

Similar to other school-based programs, UFL activities center on various aspects of leadership development (civility, ethics, physical safety, emotional security, belonging, mission and purpose, competence, and service). Weekly lessons are interactive, student centered, and led by an interdisciplinary team of university students and professional center staff. This team prioritizes building relationships with and between the UFL participants to help create a sense of belonging for students as they transition to and adjust throughout middle school (Ellerbrock, Kiefer, & Alley, 2014; Kennedy-Lewis, 2013; Kiefer & Ellerbrock, 2012; Kingery, Erdley, & Marshall, 2011). The study reported here is the first analysis of UFL participant data indicating how support

and empowerment (external assets) and positive values (internal asset) are related to the outcome variable of commitment to learning (Search Institute, 2005).

Commitment to learning is of particular interest because it relates to both to the UFL curriculum and the school curriculum. A high commitment to learning is normally considered a key resiliency asset (e.g., Scales, 2005). Positive values, support, and empowerment are also key variables of interest because of their close conceptual connections to the learning environment (Durlak, Weissberg, & Pachan, 2010; Edwards, Mumford, & Serra-Roldan, 2007). The present study is the first assessment of trends in who self-selects to join this leadership development program. This information is important for program evaluation purposes but should also be considered in relation to curriculum development and broader questions concerning youth leadership development and afterschool programs.

Leadership Development

Leadership development has been found to influence identity, and past research has shown that there is a need to develop strategies to build self-efficacy for leadership when developing student leadership identity (Komives, Longenecker, Owen, Mainella, & Osteen, 2006). Many school-based mentoring programs contain leadership development aspects, yet, recent work has called into question the effectiveness and measureable outcomes related to such programming (e.g., McQuillin, Smith & Strait, 2011; Wheeler, Keller & Dubois, 2010). What research suggests is that academic achievement is related to developmental assets and the promotion of overall well-being in middle childhood (Scales, 2014; Scales, Benson, Roehlkepartain, Sesma, & van Dulmen, 2006).

Theoretical Framework

This study was guided by the Ecological Model (Bronfenbrenner, 1979; Bronfenbren-

ner, 2005) and the Positive Youth Development (PYD) model (Lerner, Phelps, Forman & Bowers, 2009). The Ecological Model has been used to understand school and community partnerships (e.g., Leonard, 2011) and naturally occurring transitions through the progression of grade levels in schools (e.g., Schulting, Malone & Dodge, 2005). The Ecological Model also has been used with constructs such as support (e.g., Griffiths, Sawrikar, & Muir, 2009; Rudasill, Reio, Stipanovic, & Taylor, 2010), empowerment (e.g., Kohfeldt, Chhun, Grace, & Langhout, 2011), positive values (e.g., Edwards, Mumford, Shillingford & Serra-Rodan, 2007) and commitment to learning (e.g., Lessard, Poirier & Fortin, 2010; Pruitt, 2009).

PYD is a strengths-based model with development occurring through the interplay of the individual with their real-world setting (Lerner et al., 2009). When a student's personal strengths align with ecological contexts and available resources positive development can occur (Lerner, 2004). Strengths and resources available to the student are often referred to as assets. The development and self-recognition of assets for youth participants has made PYD popular in youth focused prevention programming (Ferrer-Wreder, 2014). Conventional practice adheres to the belief that the more assets a student has the better prepared/armed they are to deal with adverse circumstances and/or situations (Benson, 2006; Lerner, 2004). The guiding framework (theoretical/conceptual basis) for UFL programming is also based on a PYD model.

As previously mentioned this study is the first analysis of UFL participant data analyzing how the external assets of support and empowerment relate to the internal assets of positive values and commitment to learning. As data had not previously been analyzed on these assets as they related to the UFL program it was important for the authors to consider a variety of issues, particularly given that the lack of program level data analysis left anecdotal program success open to interpretation. Questions such as what students were self-

selecting to participate in programming (e.g., only those students who were "predisposed" to leadership) and the role that school environment played in programming outcomes (e.g., urban versus rural, low SES vs. high SES) became pivotal. Additional applications of the theoretical models to programming and further questioning assumptions (publicly based and both center and program level) aided in the creation of the study hypotheses.

METHODS

Hypotheses

This study evaluated the following research hypotheses:

1. Subgroups of adolescents can be identified by their scores on external assets (i.e. support and empowerment) and internal assets (positive values).
2. Subgroups of adolescents identified by their assets scores significantly differ in their commitment to learning.
3. Only high asset fifth-grade students self-select into a leadership program voluntarily.
4. Students from low SES schools are overrepresented in low asset subgroups.
5. Students from high SES will be highly represented in the high asset subgroup.
6. Students from rural communities will be overrepresented in low asset subgroups.

Participants and Procedures

Data for this study was collected from fifth-grade students ($N = 261$) who self-selected into the UFL program. Parent consent and student assent forms were collected. Data collection took place prior to the first UFL program delivery day. Students represented participants from seven campuses and two school districts, one rural and one urban. All participants attended schools where fifth grade is considered the oldest elementary school class. Thus,

students were expected to transfer to junior highs/middle schools (sixth–eighth grades) where they would be the youngest students on campus upon completing fifth grade. Students who attended schools where fifth grade was housed on the middle school/junior high campus were excluded from this study as the researchers felt that the difference between being the oldest student in a school setting and the youngest student in a school had both conceptual and possible developmental implications that could confound the analysis.

Measures

The Developmental Assets Profile (DAP) (Search Institute, 2005). In addition to a demographic section, the instrument yields quantitative scores on internal, external and context areas of developmental assets for youth aged 11 to 16. The DAP is comprised of 58 items answered on the following scale: *not at all or rarely, somewhat or sometimes, very or often, extremely or almost always*. Field testing with a diverse sample of more than 1,300 U.S. sixth–12th graders showed that the scales have good internal consistencies, with Cronbach's alphas averaging .81 for the asset categories scales and .88 for the context scales. In addition, the scales have good stability reliabilities, and demonstrate good convergent, discriminant, and predictive validity (Search Institute). While the DAP has been found to be a valid measure for sixth through 12th grade (Search Institute, 2013) limited information is available concerning the use of the original DAP measure with fifth-grade populations. Students were untimed in completing the survey and trained research assistants were available to assist in reading questions out loud to individual students, translating from English to Spanish, or answering concerns students may have had in interpreting a question and/or clarifying wording.

For the current study, four assets categories were used: support and empowerment (external assets) and positive values and commitment to learning (internal assets). The support

scale includes diverse asset-based strengths involving parent-adolescent communication, family support, as well as caring, encouragement and support extending outside the family to the neighborhood, school and community. The empowerment scale evaluates whether the adolescent feels safe across many contexts, valued and respected by others. The positive values scale includes personal virtues such as honesty, integrity, responsibility and restraint, as well as caring about others and working for equality and social justice. Finally, the commitment to learning scale covers both the motivation and rewards related to learning and active engagement in learning. In general, the more assets a student reports having the more likely they are to report thriving behavior. Conversely the less assets a student reports having the more likely they are to make unhealthy or harmful choices (Search Institute, 2009a, 2009b).

A proxy measure for SES was developed based on participating schools' Title I status. Title I eligibility is publicly available information and provides a fuller picture of both the school and possible family financial environment. Given the widespread agreement that poverty measures in the United States poorly reflect actual quality of life and resources available for the purpose of this study Title I school status rather than individual family status considered a better measure of resource environments (Alkire & Foster, 2011; Blank, 2008; Cashell, 2007; Norris, Zajicek & Murphy-Erby, 2010). All schools reported in our study as low SES were eligible for Title I funding. Similar to findings of Saporto and Dohoni (2006–2007), some of the schools in our study that were identified as low income followed a pattern in which wealthier students in the district withdrew from their assigned neighborhood school to attend private or magnet/charter schools. Thus, some of the urban schools appear to have an overrepresentation of low-income students for the area of town where they are located. However, these numbers are considered reflective of the school and family population served and are an important

piece to consider within the context of the Ecological Model (e.g., Bronfenbrenner, 1979). Overall 85 (32.5%) participants were classified into low SES school environments and 176 (67.4%) into high SES school environments (see Table 4 for the ratio of urban verses rural schools classified as high or low SES).

Analysis

Preliminary analysis included descriptive statistics for the study constructs and demographic variables (means, standard deviations and ranges). Zero-order correlations among the study variables were conducted as well. Multivariate outliers were identified prior to starting the analysis and were removed from further analyses. Multicollinearity diagnostics for the selected clustering variables (i.e., support, empowerment and positive values) were conducted as well.

To address Hypothesis 1 (whether subgroups of adolescents can be formed based on combinations of external and internal assets scores) a cluster analysis was employed based on a two-stage clustering procedure using support, empowerment and positive values as clustering variables. A hierarchical cluster analysis was first performed, followed by a k-means clustering method (described in Results). The goal of cluster analysis is to classify individuals based on the characteristics they possess and organize them into relatively homogeneous groups (Lange, Iverson, Senior & Chelune, 2002). Therefore, cluster analysis focuses specifically on individuals and their development, with emphasis on intraindividual and interindividual differences on development (von Eye & Bogat, 2006).

Cluster analysis is considered a person-oriented approach, as opposed to a variable-oriented approach. Person-oriented research is based on the proposition that distinct subgroups within a population may exist. Thus, functioning and development can be unique to individuals or groups of individuals (von Eye & Bogat, 2006). In contrast, variable-oriented

research assumes that a population is fairly homogeneous and that differences are due to random error (von Eye & Bogat, 2006).

One of the advantages of using cluster analysis is that it allows researchers to identify meaningful subgroups of individuals and follow them through time to study processes of change. For example, groups of individuals can be followed to see if they respond differently to specific interventions. This way, interventions can be matched to the right set of individuals allowing to maximize positive outcomes (Lange et al., 2002).

To test Hypothesis 2 (whether subgroups significantly differ in their levels of commitment to learning), a one-way between subjects ANOVA was conducted. Hypotheses 3 to 6 were addressed by evaluating groups' demographic characteristics using cross-tabulations and chi-square tests.

RESULTS

Preliminary Analysis

Table 1 presents means and standard deviations for the study variables and Table 2 shows their bivariate correlations. In terms of gender, 60% of the sample were females and 40% males. Twenty-four percent of adolescents lived in rural areas and 76% in urban areas. Thirty-three percent of the sample was from low SES schools and 67% from schools classified as high SES. Regarding ethnicity, 54% of the adolescents self-identified as White, 39% Hispanic, 11% Black, 3% American Indian, 1% Asian, 1% Pacific Islander, and 7% identified as "other." Seventeen percent of the sample reported more than one race/ethnicity. Reliability analysis revealed acceptable to adequate internal consistency coefficients for the DAP scales: $\alpha = 0.61$ for support, $\alpha = 0.68$ for empowerment, $\alpha = 0.78$ for positive values and $\alpha = 0.71$ for commitment to learning. Multicollinearity diagnostics between clustering variables showed no multicollinearity problems.

TABLE 1
Means, Standard Deviations, and Range for Study Variables ($N = 261$)

	<i>Mean</i>	<i>SD</i>	<i>Range</i>
Age	9.97	0.51	8 – 11
Support	26.88	3.49	9 – 30
Empowerment	25.20	4.60	7 – 30
Positive values	25.03	3.79	11 – 30
Commitment to learning	25.87	4.15	3 – 30

TABLE 2
Bivariate Correlations Among Study's Variables

	1	2	3	4	5
1. Age	1				
2. Support	.024	1			
3. Empowerment	.018	.584**	1		
4. Positive values	.045	.460**	.582**	1	
5. Commitment to learning	.019	.474**	.535**	.550**	1

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

Main Hypothesis Testing

Hypothesis 1. To classify adolescents into subgroups of similar characteristics in terms of their assets scores (i.e., support, empowerment and positive values), a cluster analysis was employed based on a two-stage clustering procedure. A hierarchical cluster analysis was first performed, followed by a *k*-means clustering method. Before performing the cluster analysis, clustering variables were standardized to *z* scores.

First, two hierarchical cluster analyses were conducted: one using average linkage method (between-group) and another using Ward's method. For both methods, squared Euclidean distance was used as the proximity measure. After examining both dendrograms, the one corresponding to Ward's method revealed a more even distribution of the clusters. Thus, we followed Ward's method solution to determine the number of clusters. The dendrogram suggested a three-cluster solution. Examination of group membership in the three-cluster

solution revealed the presence of two relatively large clusters ($n = 120$ and $n = 109$) and a smaller cluster ($n = 32$). All three clusters included adequate group membership with $n > 5\%$.

Cluster centroids (using *z* scores) are presented in Figure 1. As seen in Figure 1, Cluster 1 ($n = 32$) is characterized by adolescents very low in support ($M = -1.95$; $SD = 0.97$), empowerment ($M = -1.54$; $SD = 1.19$) and positive values ($M = -1.11$; $SD = 1.08$). This cluster was labeled "low asset group." Cluster 2 ($n = 120$) is characterized by adolescents with average scores on support ($M = -0.11$; $SD = 0.61$), empowerment ($M = -0.25$; $SD = 0.71$) and positive values ($M = -0.31$; $SD = 0.89$). This cluster was labeled "average asset group." Cluster 3 ($n = 109$) is characterized by adolescents with high scores on support ($M = 0.70$; $SD = 0.30$), empowerment ($M = 0.74$; $SD = 0.33$) and positive values ($M = 0.68$; $SD = 0.51$). Thus, this cluster was labeled "high asset group." Analysis of variance results indicate that there was a significant difference

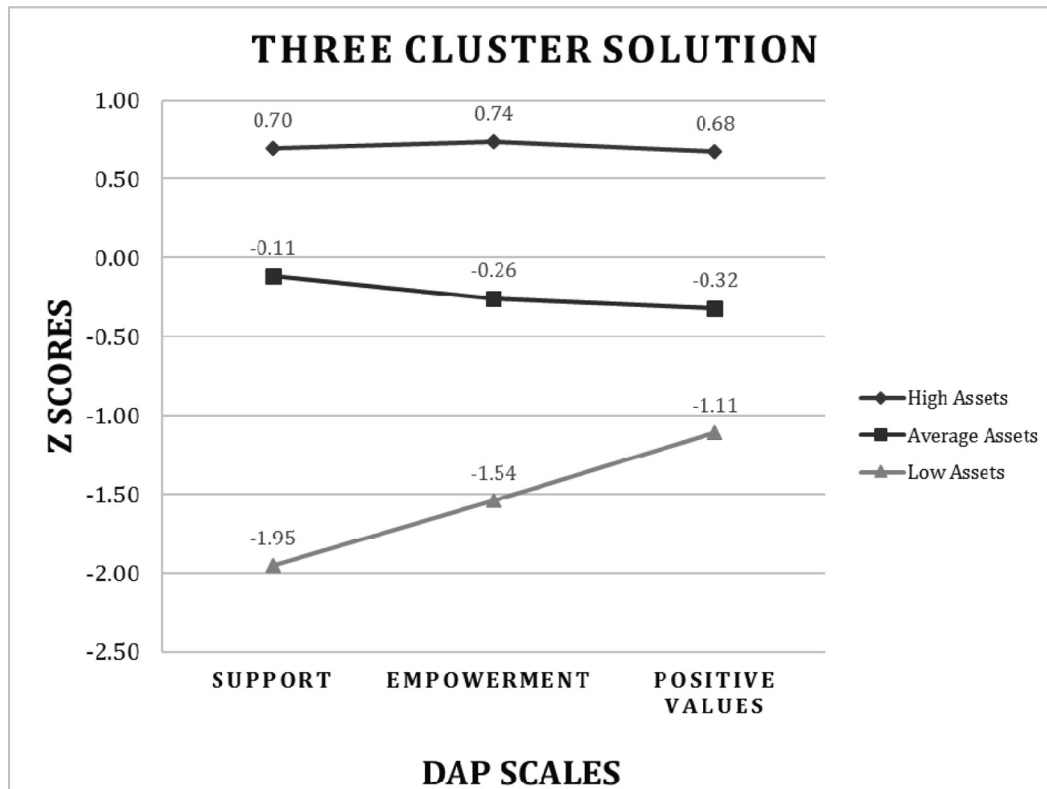


FIGURE 1
Cluster Centroids From the Three-Cluster Solution From Hierarchical Cluster Analysis

between the clusters in terms of their levels of support ($F(2, 258) = 274.91, p < .001$), empowerment ($F(2, 258) = 158.16, p < .001$) and positive values ($F(2, 258) = 82.59, p < .001$).

A k-means cluster analysis was then applied to the data based on the results of the hierarchical analysis. The means of the three clusters across the standardized measures of external and internal assets generated by both the hierarchical and k-means cluster analyses are presented in Table 3. As seen in the table, both solutions (i.e., hierarchical cluster analysis and k-means cluster analysis) show similar patterns in the clusters.

Hypothesis 2. To test Hypothesis 2 (whether subgroups significantly differ in their levels of commitment to learning), a one-way between subjects ANOVA was conducted with

the three subgroups (i.e. clusters) as the independent variables and commitment to learning as the dependent variable. Results indicate that there was a significant difference between the subgroups in terms of their levels of commitment to learning ($F(2, 258) = 39.94, p < .001$). Post hoc comparisons using Bonferroni correction indicated that the mean score for Subgroup 1 “low asset group” ($M = 21.28, SD = 5.83$) was significantly different from the mean score for Subgroup 2 “average asset group” ($M = 25.44, SD = 3.62$) and Subgroup 3 “high asset group” ($M = 27.70, SD = 2.73$). Also, the mean score for Subgroup 2 (average asset group) was significantly different from the mean score for Subgroup 3 (high asset group).

Hypothesis 3. Hypothesis 3 stated that only high asset students will self-select into a leadership program voluntarily. This hypothe-

TABLE 3
Standardized Variables' Means for the Hierarchical and *k*-Means Cluster Solutions

Standardized Scores	Hierarchical Analysis			K-means Analysis		
	Profile 1	Profile 2	Profile 3	Profile 1	Profile 2	Profile 3
Z support	-1.95	-0.11	0.70	-2.00	-0.20	0.56
Z empowerment	-1.54	-0.26	0.74	-1.77	-0.40	0.67
Z positive values	-1.11	-0.32	0.68	-1.29	-0.48	0.63
<i>N</i>	32	120	109	28	99	134

sis was not supported because the cluster solution shows three distinct groups: high, average and low asset students.

Hypothesis 4 and 5. Hypothesis 4 stated that students from low SES schools will be overrepresented in low asset subgroups. This hypothesis was not supported; among the low asset subgroup, 62% of participants were from high SES and 38% from low SES.

Hypothesis 5 stated that students from high SES will be highly represented in the high asset subgroup. This hypothesis was partially disconfirmed; among the high asset subgroup, 63% belonged to high SES and 37% to low SES. Furthermore, results from the chi-square test indicate that there is no statistical significant relationship between SES and asset subgroups ($\chi^2 = 2.60, p = .272$).

Hypothesis 6. Hypothesis 6 stated that students from rural communities will be overrepresented in low asset subgroups. This hypothesis was not supported; among the low asset subgroup, the majority of students, 78%, were from an urban setting, compared to 22% who were from rural settings. Results from the chi-square test indicate that there is no statistical significant relationship between rural verses urban settings and asset subgroups ($\chi^2 = 0.84, p = .66$). See Table 4 for demographic characteristics by school.

DISCUSSION

Past criticisms of the UFL program were based on assumptions that only students who were

already high scoring in the DAP measures (Search Institute, 2005) would self-select into a leadership development program and thus the program was successful based largely on the presumption that the participants were the "cream of the crop". It was further postulated that those students who participated in the program with lower DAP scores would be from low-income and/or rural program delivery sites. Given the effects that stereotypes have been found to have on elementary school students (Wasserberg, 2014) and on actual program delivery (Bulanda & McCrea, 2013) our initial analysis of programming data debunking these beliefs is important. Results from our study indicated that a broad base of student backgrounds are represented and can benefit from involvement in an afterschool leadership development program. The data presented in this study provide important alternative implications for both practitioners and researchers external to this particular after school leadership development program to consider.

Finally, this study adds insights to the discussion of school environments and student success (Covell, 2010; Kesici, 2007; Viadero, 2008)—in our case, student commitment to learning, positive values, support and empowerment. Given the role that past reports have shown concerning developmental assets and the shifts (e.g., academic, environmental, social, biological) which can occur between elementary and middle school/junior high (Jackson, 2010; Scales, 2005) this is a point of particular worth. Because quality afterschool programs (Vandell, Reisner &

TABLE 4
Demographic Characteristics by School

<i>School</i>	<i>SES (High vs. Low)</i>	<i>Rural/Urban</i>	<i>Number of Students and Percentage of Total Sample by Group</i>
A	High	Urban	Low assets: 12 (4.6%) Average assets: 33 (12.6%) High assets: 25 (9.6%)
B	High	Urban	Low assets: 1 (0.4%) Average assets: 8 (3.1%) High assets: 2 (0.8%)
C	Low	Urban	Low assets: 1 (0.4%) Average assets: 0 High assets: 1 (0.4%)
D	High	Urban	Low assets: 2 (0.8%) Average assets: 19 (7.3%) High assets: 21 (8%)
E	Low	Urban	Low assets: 4 (1.5%) Average assets: 7 (2.7%) High assets: 10 (3.8%)
F	High	Urban	Low assets: 5 (1.9%) Average assets: 27 (10.3%) High assets: 21 (8%)
G	Low	Rural	Low assets: 7 (2.7%) Average assets: 26 (7.2%) High assets: 29 (11.1%)

Pierce, 2007) and participation in these programs (Roth, Malone & Brooks-Gunn, 2010) have been suggested to be related to developmental outcomes, it is important for programs to consider baseline data prior to programming for purposes of evaluation, curriculum development and funding (Collins et al., 2008). As mentioned above, this is the first in a series of analyses on UFL participant data. Future iterations of research from this dataset will explore longitudinal changes in DAP measures while taking into account programming in the context of broader school environmental influences (e.g., rural or urban setting, longitudinal analysis of assets after the shift to middle school/junior high, school SES) and student demographics (e.g., sex).

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