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# In the Zone: An Investigation of the XY-Zone Program on Developmental Assets of At-Risk Male Youth

Elizabeth Kjellstrand Hartwig

**Abstract:** The XYZone program is a leadership and peer support program that guides adolescent males as they journey into manhood. This mixed methods study examined the influence of the XYZone program on developmental assets and academic markers of males in grades nine through 12 who were identified as youth at risk of dropping out of school. Results revealed significant positive increases in developmental asset total scores, two asset categories, and two asset contexts. Findings also indicated that youth enrolled in the XYZone program improved in academics, behavior, and attendance. Qualitative findings identified four overall positive themes about the XYZone program. The XYZone program demonstrates promise as an intervention to increase developmental assets of at-risk male youth.

Young men in high school struggle daily to negotiate competing definitions of success and masculinity as they mature and progress through school. For students from low-income families, additional barriers complicate their aspirations for success, including limited access to resources and an increased risk of dropping out of school (McDaniel & Yarbrough, 2016). Despite a steadily increasing graduation rate, schools continue to see high numbers of students who are disengaged, underserved, and at risk of dropping out. Specifically, every year 1.2 million students drop out of school (Miller, 2011), which is more than 7,000 students dropping out of school every day. The status dropout rate, meaning the percentage of 16- to 24-year-olds who are not enrolled in school and have not earned a high school credential, was reported as 6.4% in 2014 (National Center for Education Statistics [NCES], 2016). The odds of dropping out increase for African American and for Hispanic students, with a status dropout rate of 7.4% and 10.6%, respectively, compared to 5.2% for White students (NCES, 2016). On average, high school students from low-income families drop out of school at six times the rate of peers from higher-income families (Alliance for Excellent Education, 2011).

While alarming, these statistics do not adequately capture the harsh reality facing high school dropouts and the communities that support them. When students drop out, they face a lifetime of limited opportunities. For example, research shows that dropouts are more likely to end up living in poverty, suffer poor health, be dependent upon social services, or enter the criminal justice system (Alliance for Excellent Education, 2011). Dropping out has the potential to destabilize the lives of young people. It is estimated that high school dropouts will cost taxpayers more than \$292,000 in lost tax revenues and incarceration costs (Sum, Khatiwada, McLaughlin, & Palma, 2009).

Across all racial and ethnic groups, young males are graduating at lower rates than their female peers: 68% compared to 75%, respectively (Alliance for Excellent Education, 2011). In their review of the literature on barriers to success for young men of color, Lee and Ransom (2011) assert that

both African American and Hispanic students overwhelmingly view academic achievement as not masculine. Their analysis also shows that young men of color attribute their difficulty in school to factors such as poverty, lack of support from family and community, and lack of access to resources and educational necessities, including teacher expectations, counseling engagement, and adequate preparation and support (Lee & Ransom, 2011). Lys (2009) suggests that young men are especially vulnerable to negative influences and behaviors as they transition from middle to high school and from adolescence to manhood.

While young men are faced with numerous risk factors, schools and communities can provide youth with developmental support to promote personal and school achievement. Research shows that a myriad of developmental influences can contribute to school success, including family support, positive peer influence, participation in after-school programs, relationships with caring adults, service-learning, school engagement, and social competencies (Bagwell, Schmidt, Newcomb, & Bukowski, 2001; Billig, 2004; Fletcher, Newsome, Nickerson, & Bazley, 2001; Gutman, Sameroff, & Eccles, 2002; Heinze, Jozefowicz, & Toro, 2010; Mahoney, Cairns, & Farmer, 2003; Malecki & Elliot, 2002; National Institute of Child Health and Human Development [NICHD], 2004; Shiner, 2000). Greenberg et al. (2003) asserted that the most effective prevention programs for youth are those that promote the developmental assets of students and improve the school-community environment. The Search Institute created the developmental assets framework based on more than 20 years of research on positive youth development (Mannes, Roehlkepartain, & Benson, 2005). Developmental assets are defined as building blocks of healthy youth development (Search Institute, 2007). Studies have shown that youth who have more developmental assets are less likely to engage in risky behaviors and more likely to engage in positive social behaviors (Scales, Benson, Leffert, & Bleth, 2000; Taylor et al., 2003). Thus youth development programs should strive to increase developmental assets, which can contribute to personal and school success for youth.

## Developmental Assets and Dropout Prevention *XYZone Program*

The XYZone program was developed to promote male involvement in dropout prevention efforts in Austin, TX. Originally known as the East Austin Male Involvement Project, the program officially began in 1999 with Communities In Schools (CIS), a dropout prevention program, acting as the primary service provider (Aguiniga, Streeter, & Horowitz, 2007). XYZone is an extracurricular youth development program comprised of *males* in grades 9–12 who are at risk of dropping out of school. The mission of the XYZone is to support and guide adolescent males as they transition into manhood, helping them to succeed in school and prepare for life by fostering positive relationships and personal responsibility. XYZone program goals include the following: (a) students will stay in school and improve grades, attendance, or behaviors; (b) students will be empowered to focus on their futures, prepare for higher education and/or long-term employment, and break the cycle of poverty; (c) students will become leaders, advocating for nonviolence, respect towards women, and peaceful communities; and (d) students will transform their lives by instilling the five “pillars,” also known as the 5 Rs: Respect, Responsibility, Relationships, Role Modeling, and Reaching Out. Program services for XYZone include weekly or biweekly groups, field trips, a service-learning project, a campus-based engagement project, and a male youth camp.

### *Purpose of the Study*

The purpose of this study was to enhance the evidence base for dropout prevention by providing mixed methods results of the impact of the XYZone program on at-risk male youth. This investigation explored the influence of the XYZone program on developmental assets and academic markers of males in grades 9–12 who were identified as youth at risk of dropping out of school. Developmental assets were chosen as a dependent variable since the focus of the XYZone program was to increase leadership skills, character development, and connections to external resources, all of which can be measured by the Developmental Assets Profile (DAP; Search Institute, 2014). The research questions for this study were:

1. Does the XYZone program increase DAP total scores for participants?
2. Does the XYZone program increase the eight developmental assets of participants?
3. Does the XYZone program increase the five asset contexts of participants?
4. Does the XYZone program help participants improve in academics, behavior, and attendance?
5. What are the subjective experiences of participants in the XYZone program?

This study can contribute to dropout prevention research by presenting quantitative data on how the XYZone program influences DAP total scores, asset categories, asset contexts, and academic markers. Results from the qualitative

analysis include youth voices of their subjective experiences in the XYZone program.

## Method

### *Participants*

Participants for this study were males in grades 9–12 who were enrolled in the XYZone program through a local CIS affiliate program in the southwestern United States. The participants attended one of the 15 high schools in the area served by CIS. All students who enrolled in the XYZone program were referred by a teacher, parent, or self-referral for challenges in academics, behavior, and/or attendance, and met one or more of the risk factors defined by Texas Education Agency (TEA, 2010). XYZone Coordinators, who were CIS site coordinators who facilitated the XYZone program, specifically targeted students with little social or academic support whose potential for thriving in school was limited by a lack of basic needs, peer pressure, gang involvement, substance abuse, or family disruption/dysfunction. Students were required to obtain consent from a parent or guardian prior to enrollment.

Twenty boys from each of 15 high schools were targeted for the XYZone program. A total of 290 participants were enrolled in XYZone in Fall 2015 and completed the pretest and 310 participants were enrolled in Spring 2016 and completed the posttest. Some participants who completed the pretest did not complete the posttest due to moving away from the school, attendance on the day of the posttest, or not taking the time to complete the posttest due to other school commitments (e.g., class, school activities). Some students who completed the posttest did not complete the pretest for the same reasons listed above or because they enrolled later in the school year. Thus the total number of participants who completed both the pretest and posttest was 248. All 310 students who were enrolled in XYZone in Spring 2016 completed the qualitative survey. Table 1 presents the student demographics.

### *Measures*

**CIS database.** Demographic information was collected through a case management database program used by the local CIS affiliate program. The CIS database program collects student and family demographics, referral information, individual goals for students, services provided, and progress toward each goal.

**Developmental Assets Profile.** The Developmental Assets Profile (Search Institute, 2014) was used as the pretest and posttest measure. The DAP is a 58-item measure that assesses young people’s strengths and supports through both internal and external assets. Some examples of statements from the survey include: “I enjoy learning;” “I am developing a sense of purpose in my life;” and “I have friends who set good examples for me.” Participants who complete the DAP are asked to rate each item with one of four options: rarely (0), sometimes (1), often (2), or almost always (3). The DAP produces three different types of scores: total score, asset category scores, and asset context scores. The total asset score is the sum of scores from the internal and external asset



Table 1

*Student Demographics*

Variable	Frequency	%
Age		
14	15	6.0
15	48	19.4
16	67	27.0
17	72	29.0
18	39	15.7
19	5	2.0
Not reported	2	0.8
Ethnicity		
African American	2	0.8
American Indian	1	0.4
Asian	33	13.3
Caucasian	10	4.0
Hispanic	177	71.4
Other	25	10.1
Grade		
9 <sup>th</sup>	47	19.0
10 <sup>th</sup>	52	21.0
11 <sup>th</sup>	93	37.5
12 <sup>th</sup>	53	21.4
Not reported	3	1.2

scales and has a range of 0 to 60. The interpretive ranges for total asset scores are as follows: *Low*, 0 to 29; *Fair*, 30 to 40; *Good*, 41 to 50; and *Excellent*, 51 to 60.

The eight asset categories are comprised of four external asset categories, which describe assets that are influenced by other people or systems in the child's life, such as caregivers, the school, and community; and four internal assets categories, which describe the strengths that the child has within him/herself. The eight asset categories are described below (Search Institute, 2014):

**External Assets**

1. Support—Measures whether children believe they have caring adults in their lives, such as parents, neighbors, or teachers.
2. Empowerment—Measures how safe children feel at school and home and their perception of feeling valued and appreciated by others.

3. Boundaries and Expectations—Measures how children feel about abiding by boundaries and expectations that are set at home, school, and community.
4. Constructive Use of Time—Measures whether children are involved in extracurricular activities.

**Internal Assets**

5. Commitment to Learning—Measures whether children care about school, completing homework, and learning new things.
6. Positive Values—Measures whether children value taking responsibility for their actions, being honest, helping others, and having respect for others and their community.
7. Social Competencies—Measures whether children are willing to express feelings, establish relationships with others, and find positive ways to deal with hardships.
8. Positive Identity—Measures children's self-worth.

The asset category scores range from 0 to 30.

The asset context scores provide an alternate way of interpreting the DAP according to five context areas: Personal, Social, Family, School, and Community. The Personal context scale is comprised of assets related to individual characteristics. The Social context scale represents assets related to relationships with others, such as peers and adults. The Family context scale is comprised of assets related to home and family. The School context scale reflects assets about the participant's attitude toward school, relationships with teachers, and the school environment. The Community context scale includes assets related to empowerment, positive use of time in the community, and community support. The asset context scores range from 0 to 30.

The Search Institute (2005) provided interpretive ranges for asset category and context scores. These interpretive ranges include: *Low*, 0 to 14, depleted level of assets; *Fair*, 15 to 20, borderline assets; *Good*, 21 to 25, moderate assets; and *Excellent*, 26 to 30, abundant assets. In the original DAP field test, internal consistencies were relatively high, averaging .81 for the eight asset categories, .95 for internal assets, .93 for external assets, and .97 for total assets. Test-retest reliability was moderate, averaging  $r = .79$  for the eight asset categories,  $r = .86$  for internal assets,  $r = .84$  for external assets, and  $r = .87$  for total assets.

**XY-Zone qualitative survey.** In order to answer research Question 5, a researcher-developed qualitative survey was used at the conclusion of the XY-Zone program to explore the participants' experiences in the XY-Zone program. The qualitative survey included:

1. Describe the XY-Zone program.
2. What did you like about the XY-Zone program?
3. What did you not like about the XY-Zone program?

4. What did you learn about yourself by being a part of the XY-Zone program?
5. What did you learn about your peers by being a part of the XY-Zone program?
6. What are your strengths?
7. Who provides you with support?
8. Do you think CIS should continue to provide XY-Zone services? If so, why?
9. What is something you think CIS should change about the XY-Zone program?
10. Is there anything else you would like to add about your experience in the XY-Zone program?

The purpose of the qualitative survey was to provide researchers with a richer description of the subjective experiences of XY-Zone participants that may not be captured on the DAP.

### *Procedures and Analyses*

The study protocol and consent forms were approved by a university Institutional Review Board in early Fall 2015. XY-Zone Coordinators reviewed a consent/assent form, written in both English and Spanish, with each student referred to the XY-Zone program. Participants and their parents or guardians signed the consent/assent form prior to participation in the program or the study. Participants completed the DAP pretest measure in Fall 2015 at the beginning of XY-Zone services and then completed the DAP posttest measure, as well as the qualitative survey, at the conclusion of the XY-Zone program in Spring 2016. The participants completed the DAP measure on a computer in the CIS office, the school computer lab, or a quiet room in the school. The students took between 10–30 min to complete the DAP and the qualitative survey.

After the DAP pretest and posttest surveys were completed online by students at all 15 schools, the Search Institute scored the measures. The Search Institute provided a spreadsheet to the researcher, which included student ID, sex, age, grade, ethnicity, test date, and scores for each asset category, each asset context, and total asset score. CIS provided the researcher with a spreadsheet, which included student ID, improvement in academics, behavior, and attendance. The spreadsheets were uploaded to IBM SPSS Statistics for Macintosh, Version 22, for data analysis. For research Question 1, the researcher conducted a paired samples *t*-test to determine mean differences in DAP total scores. The researcher also ran a correlation analysis to determine the strength of the relationships between pretest and posttest scores. In order to evaluate research Questions 2 and 3, the researcher ran a paired samples *t*-test for each asset category and asset context. The researcher used the Bonferroni correction to reduce the probability of a Type I error in conducting multiple paired *t*-tests.

For research Question 4, the researcher conducted a frequencies analysis to evaluate improvement in academics, behavior, and attendance. This analysis was based on a subsample of 273 XY-Zone students for which CIS had available school-related data. Improvement in each of the three areas, academics, behavior, and attendance, was

evaluated only for students who were assessed for that need. A student may have been referred for only one area, two areas, or all three areas. Academic referral reasons include students failing or being at risk of failing a class and/or classes and students failing a section of the State of Texas Assessments of Academic Readiness (STAAR) exam; behavior referral reasons include struggles with self-esteem, social skills, behavior referrals at school, maladaptive behavior at home, or behavior related to mental health, such as depression or anxiety; and attendance referral reasons include a number of tardies or absences in the first 60 days of school or in the previous school year. It is important to note that progress in one of these areas signifies that a student has improved such that grades have increased to passing, behavior referrals have decreased and adaptive behavior has increased based on classroom teacher reports, and tardies and absences have decreased.

Survey Monkey was used to collect data for the qualitative analysis. After all participants completed the qualitative survey, the researcher downloaded the data from Survey Monkey. The data were then uploaded to NVivo (QSR International, 2014), a qualitative data analysis program. A descriptive phenomenological method was used for qualitative data analysis. Giorgi's (2012) phenomenological method includes the following steps:

1. Read all the data to get a sense of the whole.
2. Reread the data and identify meaning units (i.e., coding data).
3. Transform the data into expressions that are relevant to the psychological import of the subjects (i.e., the development of subthemes).
4. Review expressions and begin to develop the essential structure of the experience (i.e., the clarification of subthemes).
5. Use the essential structure to clarify and interpret the raw data of the research (i.e., the development of overall themes).

The researcher followed this five-step process for each question. For Step 2, the researcher identified frequently used key words or phrases using the NVivo software. For Step 3, these words and phrases were reviewed and coded according to themes. Responses for each question were coded, even if they did not contain frequently used words or phrases. Some responses were coded with more than one theme. As an example for Question 7, "Who provides you with support?", the response "My family and my XY-Zone brothers provide me with support" would be coded as "family" and "XY-Zone peers." For Step 4 of the Giorgi method, the researcher used a standard of 10% of all 310 responses (i.e., 31 responses) to establish a subtheme for each question, meaning that themes with fewer responses did not comprise a theme. Vaismoradi, Jones, Turunen, and Snelgrove (2016) assert "the more the same code occurs in a text, the more likely it can be considered to be a theme, but the constitution of a theme through the frequency of repetitions has to be decided by researchers' judgment" p. 105). The 10% standard was used because the researcher

believed that a cluster of 31 or more responses about a similar code or unit constituted a meaningful expression of youth experience in the XY-Zone program. Subthemes were constructed and identified for each question. For Step 5, subthemes were grouped into overall themes for all 10 questions. The coded data, subthemes, and overall themes were reviewed by two trained investigators, who provided suggestions for coding changes of certain responses. The reviewers had recommendations for coding for eight individual responses, but did not recommend any changes to subthemes or overall themes.

## Results

In order to evaluate research Question 1, the researcher conducted a paired samples *t*-test to compare differences in DAP total scores in pretest to posttest conditions. There was a significant difference in total scores for pretest ( $M = 40.56$ ,  $SD = 9.96$ ) and posttest ( $M = 42.31$ ,  $SD = 11.04$ ) conditions;  $t(247) = -3.25$ ,  $p = .001$ . The pretest and posttest scores were strongly and positively correlated ( $r = .68$ ,  $p < .001$ ). These results indicate that the XY-Zone program had a significant and positive influence on total DAP scores for participants.

In order to evaluate research Question 2, the evaluator ran a series of paired samples *t*-tests to explore differences in paired samples means for each asset category. To reduce the probability of a Type I error, the analyses were conducted using a Bonferroni-adjusted alpha level of .006 (.05/8). Table 2 presents the results.

Results revealed that there was a significant positive difference between pretest and posttest mean scores in two of the eight categories: Constructive Use of Time and Positive Values. Findings also indicated that five asset categories, Support, Empowerment, Boundaries, Positive Values, and Social Competencies, changed from the *Fair* interpretive range (15 to 20; borderline assets) to the *Good* interpretive range (21 to 25; moderate assets).

Another series of paired samples *t*-tests were run on the same sample to explore research Question 3, the influence of the XY-Zone program on the five asset contexts. To reduce the probability of a Type I error, the analyses were conducted using a Bonferroni-adjusted alpha level of .01 (.05/5). Table 3 presents the results of this analysis.

Results revealed there was a significant positive difference in pretest and posttest scores in two of the five asset contexts: Personal and Community. Findings also indicated that two asset contexts, Personal and Social, changed from the *Fair* interpretive range (15 to 20; borderline assets) to the *Good* interpretive range (21 to 25; moderate assets).

A frequency analysis was run to investigate research Question 4, improvement in academics, behavior, and attendance for XY-Zone participants. Table 4 presents the results of this analysis.

A descriptive phenomenological analysis was run to investigate research Question 5, the subjective experiences of 310 XY-Zone participants. Subthemes for each survey question are presented in Table 5.

## Discussion

### Quantitative Discussion

The quantitative analysis demonstrated positive outcomes of the XY-Zone program. The finding for research Question 1 indicated that there was a significant and positive difference in DAP total scores for pretest and posttest conditions with a strong linear correlation. This result indicates that the XY-Zone program had a significant influence on overall developmental asset scores for XY-Zone males. This global effect was then explored in terms of asset categories and asset contexts.

Research Question 2 results revealed that participants scored significantly higher on the DAP in two of the eight asset categories after participation in the XY-Zone program. These asset categories are Constructive Use of Time and Positive Values. The other six asset categories showed an increase in means but did not produce a statistically significant increase. This may indicate that the XY-Zone promoted improvement in these asset categories, but did not have a statistically significant influence on the categories. The results for significant asset categories were explored with a discussion of how the XY-Zone program components (i.e., groups, activities, and field trips) and the pillars of the program, the “5 Rs” (i.e., Respect, Responsibility, Relationships, Role Modeling, and Reaching Out) may have influenced participant scores.

The Constructive Use of Time category measures whether children are involved in extracurricular activities. This asset category had the highest difference mean of 1.69. The XY-Zone program is an extracurricular activity because it is a program offered to students outside of classes. The XY-Zone program is comprised of groups, field trips, a boys’ camp, and a service-learning project. Youth most likely scored significantly higher in this asset category due to their involvement in a variety of XY-Zone program activities. It is possible that some XY-Zone students were involved in other extracurricular activities, but generally students who were targeted for this program would not have been as likely to participate in other extracurricular activities due to the program referral reasons (i.e., academics, behavior, and attendance). The Positive Values category measures whether children value taking responsibility for their actions, helping others, and having respect for others. This category revealed a significant difference in pretest and posttest means, with a mean difference score of 1.27. The XY-Zone program promotes the elements of this asset category through three pillars of the 5 Rs: Respect, Responsibility, and Reaching Out. Demonstrating respect, responsibility, and helping others also emerged as overall themes in the qualitative analysis. The data indicate that the XY-Zone program made a significant impact on scores in this asset category.

Results for research Question 3 revealed there was a significant positive difference in mean scores in two of the five asset contexts: Personal and Community. As asset category results confirm, students scored higher in asset categories related to the Personal context (e.g., Positive Values) and Community context (e.g., Constructive Use

Table 2

*Differences in Paired Samples Means for Asset Categories*

Asset Categories	Pretest M	Posttest M	M Difference	t	df	Sig. (2-tailed)
Support	20.50	21.53	.65	1.97	247	.051
Empowerment	20.94	21.30	.37	1.13	247	.261
Boundaries	20.46	21.04	.58	1.71	247	.088
Constructive Use of Time	17.33	19.03	1.69	4.16	247	.000*
Commitment to Learning	19.45	20.37	.92	2.65	247	.008
Positive Values	20.82	22.09	1.27	4.00	247	.000*
Social Competencies	20.47	21.35	.88	2.71	247	.007
Positive Identity	21.28	21.98	.70	2.00	247	.047

\*Indicates significance at .006.

Table 3

*Differences in Paired Samples Means for Asset Contexts*

Asset Contexts	Pretest M	Posttest M	M Difference	t	df	Sig. (2-tailed)
Personal	20.65	21.72	1.07	3.71	247	.000*
Social	20.75	21.50	.75	2.42	247	.016
Family	21.90	22.36	.47	1.45	247	.149
School	19.91	20.60	.69	2.13	247	.034
Community	18.48	19.74	1.25	3.78	247	.000*

\*Indicates significance at .01.

Table 4

*Improvement in Academics, Behavior, and Attendance*

School-Related Variables	n	% Improvement	% No Improvement
Academics	213	84.0	16.0
Behavior	180	97.2	2.8
Attendance	77	88.3	11.7

Table 5

*Qualitative Subthemes*

Question and Subthemes	# Responses	% Responses	Student Quotes
Q1. Describe XY-Zone			“The XY-Zone program is where it helps students that are struggling in anything and also helps build character for them to carry out into society. It creates a feeling of brotherhood throughout all the activities that we do and helps us feel at home. When we need help we know that there is the program that can help us with it.”
Helps students	100	32.3	
Fun	76	24.5	
Relationships, brotherhood	52	16.8	
Learn new things	47	15.2	
Q2. Like about XY-Zone			“They helped me achieve my goals this year and helped me with school work when I needed it. Keeps me busy and helps me a lot to stay out trouble.”
Field trips	123	39.7	
Relationships, friendships	93	30.0	
Helping students and others	73	23.5	
Groups, activities	70	22.6	
Talk and interact with others	36	11.6	
Q3. Not like about XY-Zone			“There is honestly nothing about the one XY-Zone that I dislike. The experience for me is one I will never forget and would also love to continue to be a part of.”
Nothing	184	59.4	
Miscellaneous feedback: more field trips and groups, more snacks, peers acting disrespectful	65	21.0	
Q4. Learn about self			“I learned that it’s okay to open up to people because they are going to have my back and give me advice any time I need it. And also just to always remember where I came from and always give back or help the next one in line.”
Self-esteem, capable	100	32.3	
How to work with others	49	15.8	
Leadership	43	13.9	
Making friends, social skills	39	12.6	
Q5. Learn about peers			“I’ve learned that there is a leader in every one of my peers. It just takes them coming out of their comfort zone for it to show.”
Provide each other with support	66	21.3	
Positive attributes	64	20.6	
Similarities	53	17.1	
Differences	39	12.6	

Table 5 (Continued)

Question and Subthemes	# Responses	% Responses	Student Quotes
Q6. Strengths			“I believe that my strengths are that I am a leader, in some ways, that I’m a loving person and a caring one as well. Also that I’m a brother type person, if you need me I will be there and if you are hurt or need a friend to talk to, that I will be there through it all.”
Academics—classes, grades	64	20.6	
Communication skills	60	19.4	
Leadership skills	40	12.9	
Helping others	38	12.3	
Sports	34	11.0	
Q7. Who provides support			“The staff from Community In Schools has offered the support I’ve been long waiting for. It’s a place I can call home, and feel comfortable.”
Family—parents, siblings, other family	203	65.5	
Friends, peers, XY-Zone brothers	101	32.6	
XY-Zone coordinators	93	30.0	
Teachers/XY-Zone teachers	47	15.2	
Q8. Should XY-Zone continue			“I know for a fact that Communities In School should continue to give to XY-Zone because I have seen bad kids that had a bad reputation go in to XY-Zone, and it turns their life around. I have experienced this program so much that I can say that XY-Zone is a program that will help all those who are willing to be a part of something great.”
Yes	298	96.1	
Q9. What should change			“Meeting more often and having more fun field trips because as boys who often might not have a good home life we need something positive and fun to remember.”
Nothing	168	54.2	
More groups and activities	31	10.0	
Q10. Anything else to add			“I can say that it is unforgettable, and that I hope it will never stop because it is one of the programs that are keeping students from quitting high school. This program was really fun for me because we had done activities that helped in school, and I can relate to my own life. Also, I had enjoyed camp for all four years, and that is one of the reasons why I enjoy XY-Zone because everyone from all 15 schools come to one place, and have a great time.”
XY-Zone was a positive experience	64	20.6	
How program has helped	38	12.3	



of Time, Positive Values). Many qualitative subthemes, presented in Table 5, also relate to Personal and Community asset contexts, such as subthemes about positive personal qualities, leadership, and helping others. The Family asset context showed the lowest change in means: .47 ( $p = .147$ ). Qualitative results shed light on this finding. In response to qualitative survey Question 7 (i.e., “Who provides support?”), students reported that they were supported by family in 203 responses, which makes up 65% of the responses. This indicates that students felt sufficient support from their family members, and thus the scores did not increase significantly in this context.

The positive findings for the total scores, asset categories, and asset contexts are consistent with studies that have found that youth who participate in extracurricular activities experience more positive outcomes (Denault & Poulin, 2009; Rose-Krasnor, Busseri, Willoughby, & Chalmers, 2006). Forneris, Camiré, and Williamson (2015) emphasize that involvement in extracurricular activities can provide youth with “greater exposure to challenging activities, more opportunities to learn life skills, and enhance their social capital because these activities facilitate the development of relationships with peers and supportive adults” (p. 6). These findings were also consistent with Norton and Watt’s (2014) findings, in which youth facing multiple risk factors reported significantly higher developmental assets after participation in a wilderness-based youth development program. The commonalities in these programs and the XY-Zone program include the emphasis on positive youth development, extracurricular involvement, and relationship-building with peers and caring adults.

According to Neild, Balfanz, and Herzog (2007), the strongest student indicators of dropping out of school are attendance, behavior, and course failure, or the ABCs. Results for research Question 4 demonstrate improvement in all three of these academic markers. Findings revealed improvement in grades or standardized academic achievement tests, meaning that students passed classes and achievement tests they had previously failed and had higher grades, as a result of participation in the program. This fits with qualitative subthemes listed in Table 5 related to having a strength in academics, enjoying the process of learning new things, and having support and academic check-ins from XY-Zone Coordinators. This finding is similar to research by Scales, Benson, Roehlkepartain, Sesma, and Dulmen (2006), who found that increases in developmental assets were associated with increases in GPA.

Results also indicated a high percentage of improvement in behavior, meaning that the number of behavior referrals decreased and adaptive classroom behavior reported by teachers increased. This finding may be explained by the significant increase in the Constructive Use of Time and the Positive Values asset categories, which allowed students to be involved in an extracurricular program, develop relationships with peers, and build social skills with peers and adults. Findings also indicated improvement in attendance, meaning that tardies and absences

decreased. Student engagement in the program and feeling more connected to peers, XY-Zone Coordinators, and the school may have influenced this outcome. Overall the outcomes for XY-Zone students in the areas of academics, behavior, and attendance show positive improvement in these school-related variables.

### *Qualitative Discussion*

The findings from research Question 5, the qualitative analysis, revealed overall positive responses about the XY-Zone program. Based on the subthemes presented in Table 5, the researcher identified four overall themes from qualitative responses. These overall themes were comprised of subthemes that accounted for 10% of all responses. The four themes include the value of the XY-Zone program, social competencies, support from caring adults, and positive values. The value of the XY-Zone program theme, which accounted for 25% of all student responses on the qualitative questionnaire, was comprised of responses about how the program helped students, the affirmation to continue the XY-Zone program, and students not wanting to change anything about the program. The second theme, social competencies, made up of 22% of student responses, included responses about creating friendships, “brotherhood,” getting support from peers, noticing strengths in peers, and communicating with peers. Since building relationships was one of the goals of the XY-Zone program, this theme supports that program goal. The third theme, support from caring adults, was represented by 15% of student responses. The support theme encompassed responses about support students received from caring adults, such as family members, teachers, and XY-Zone Coordinators. Finally, the fourth overall theme, positive values, was comprised of responses about leadership, respect, responsibility, and helping others, and was represented by 10% of student responses. This theme is related to the Positive Values asset category, which was a significant asset category in the quantitative analysis.

While qualitative responses were primarily positive, qualitative survey Question 3 (i.e., “Not like about the XY-Zone”) produced some constructive feedback from students. Students reported that they would have liked to participate in more field trips and groups and to have had more snacks. Students also noted that they did not appreciate certain students in the program acting “immature” or “disrespectful” at times in the program. These issues point to some limitations in community-based youth leadership programs, such as funding for field trips and snacks and the potential negative academic consequences of taking students out of class for more groups and field trips. The issue of peers acting disrespectful at times can be a typical issue for adolescents who are still developing social skills. This feedback from XY-Zone participants provides the local CIS affiliate, and other community-based youth development programs, with more insight into what youth like and do not like about the XY-Zone program.

## Limitations

Limitations of this study include the investigation of mainly positive markers using the DAP, the limited sample, and the time frame. The DAP was chosen to measure the influence of the XY-Zone program on developmental asset scores. It is possible that other measures, such as the Beck Youth Inventories, Second Edition (BYI-2; Beck, Beck, Jolly, & Steer, 2005), which measures emotional and social impairment, would explore the influence of the XY-Zone program on mental health measures. Using the BYI-2 as an additional measure might give a more comprehensive assessment of the influence of the XY-Zone program on at-risk youth. Future research could also use multivariate analyses to explore asset categories and asset contexts with covariates, such as dropout risk level, attendance, behavior referrals, grades, grade level, and number of years in the XY-Zone program. Additional analyses could provide new insights into what variables are the strongest predictors of total asset scores.

The sample for this study was limited to youth in schools served by the local CIS affiliate in the southwestern United States. Evaluating the XY-Zone program in agencies that implement the program with fidelity across the United States could provide more generalizable results. Finally, the time frame for this study was during the fall and spring of one academic school year. Collecting results over a longer period of time, such as over two or more years, could demonstrate the potential long-term impact of the XY-Zone program.

## Conclusion

This study examined the influence of the XY-Zone program on the developmental assets and academic markers of at-risk male youth. The quantitative findings indicate that the XY-Zone program increases DAP total scores, certain asset categories and contexts, and academic variables. Qualitative results revealed subthemes and overall themes related to the value of the XY-Zone program: social competencies, support from caring adults, and positive values. Future research using additional measures, multivariate analyses, a sample from a larger demographic area, and a longer time frame could provide additional information regarding the influence of the XY-Zone program on at-risk youth. The results of this study offer promising evidence of how the XY-Zone program can contribute to building developmental assets and promoting academic achievement in male youth. The XY-Zone program thus merits consideration as a youth development program that agencies can use to positively affect youth assets and achievement.

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# Learning Behavior and Motivation of At-Risk College Students: The Case of a Self-Regulatory Learning Class

Jerry Chih-Yuan Sun, Youn Joo Oh, Helena Seli, and Matthew Jung

**Abstract:** The purpose of this study was to explore the motivational characteristics and learning behaviors affecting at-risk college students. To explore how motivation and learning behaviors are related to academic achievement, the relationships between (a) self-efficacy; (b) learning and study strategy indicators; and (c) academic outcomes were assessed. The trajectories of self-efficacy changes were also examined. Data were collected in three sets from freshmen in a self-regulatory learning class at a university in the Southwestern United States. Confirmatory factor analysis and structural equation modeling were conducted to examine the relationships among the observed variables. Changes in self-efficacy scores were examined during the semester. The results revealed a positive change in self-efficacy. Certain learning strategies and motivational characteristics, including attitude, interest, and attention, significantly predicted academic outcomes for the at-risk college freshman population studied. Implications and recommendations for future studies are discussed.

The transition from high school to college is difficult for many students, particularly at-risk freshmen. According to a report on national college dropout and graduation rates conducted by American College Testing (2014), the dropout rate between the freshman and the sophomore year in public four-year colleges or universities in the United States was about 29% in 2012, compared to about 26% in 2008. Harvard University's Pathways to Prosperity Project Report also indicated that "only 56 percent of those enrolling in a four-year college attain a bachelor's degree after six years, and less than 30 percent of those who enroll in community college, succeed in obtaining an associate's degree within three years" (Symonds, Schwartz, & Ferguson, 2011, p. 6). According to the Organisation for Economic Co-operation and Development (2016, p. 175), in 2014, only 49% of undergraduate students in the United States obtained their bachelor's degrees on time; approximately half of the students surveyed were not able to complete their bachelor's educational level on time. Therefore, the purpose of this study was to examine the motivational characteristics and learning behaviors of at-risk freshmen at a four-year university as well as to identify the class-level components of an effective self-regulatory learning course designed for this population in a university setting. The students who were required to enroll in the course entered college with lower high school GPAs and SAT scores than the university desired and were thus considered at risk. The researchers proposed a series of hypotheses about the relationships among (a) self-efficacy, (b) learning and motivation indicators, and (c) academic outcomes for this population in general. A conceptual model of this study is shown in Figure 1. The overarching research question addressed in this study is: How do the self-efficacy and the learning and study strategies of at-risk college students influence their academic achievement?

This question is addressed through the following subquestions:

1. What is the relationship between the self-efficacy and the learning and study strategies as predictors, and academic achievement as an outcome, of at-risk college students?
2. Is there an increase in students' self-efficacy as a result of their participation in a self-regulatory learning class?
3. Which particular learning and study strategies best predict the academic achievement of at-risk students?

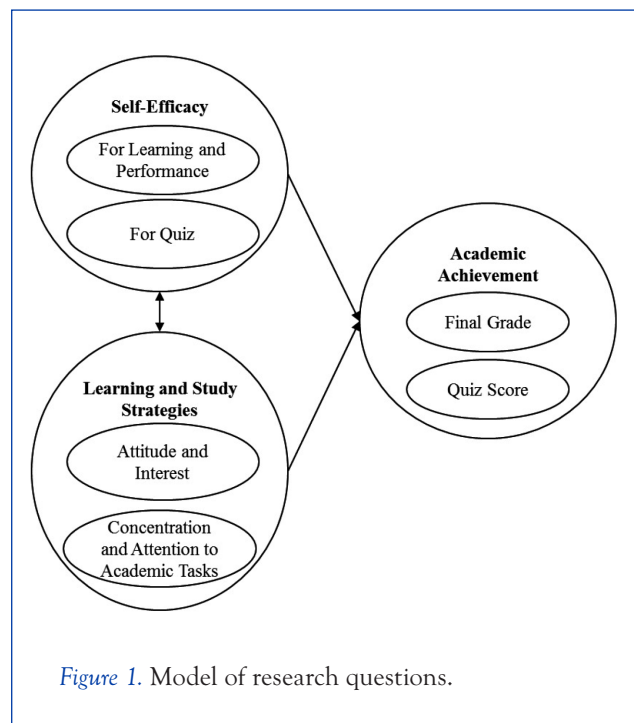


Figure 1. Model of research questions.

## Literature Review

The theoretical framework for the current study includes research on the influences of self-efficacy, motivation, and learning and study strategies on students' academic achievement. Of specific interest for the current study were the effects of these factors on at-risk freshmen. There are several ways of determining whether students are at risk. In exploring such factors within an at-risk college freshman population, the characteristics and implications of at-risk categorization are also reviewed.

### At-Risk College Students

Early researchers have examined at-risk K-12 students (Lemon & Watson, 2011; MacMath, Roberts, Wallace, & Xiaohong, 2010); however, there is no clear definition of at-risk college populations (Thompson & Geren, 2002). Gray (2013) indicated that universities define the students who are not able to achieve success in school due to factors such as socioeconomic status, family status, and academic failure as at-risk students. In Potts and Schultz's (2008) study, low Scholastic Aptitude Test (SAT) or American College Testing (ACT) scores, a low class ranking, or a low high school GPA was used to classify incoming freshman as at risk.

Results of the early studies (Jolly, 2008; Melendez, 2007) showed that certain student populations, such as athletes, have greater risks of failure than the typical college student because of the time demands of athletics (i.e., drill and practice time). These heavy demands can overwhelm student athletes with stress and leave them susceptible to depression (Jolly, 2008), further compromising their academic success.

Academic failure may also occur because student athletes lack effective study skills or self-regulation strategies (Thompson & Geren, 2002). Tang and Wong (2014) pointed out that one of the struggles that freshmen face is related to the issue of *executive functions* (self-management), as freshmen tend to lack such self-management skills when confronted with difficulties in a new environment. Therefore, this study examined a self-regulation course that focused on developing learning strategies for a targeted population that included a majority of students.

### Academic Self-Efficacy of At-Risk Students

The current study focused on students' self-efficacy as a predictor of academic success. Bandura (1997) defined self-efficacy as an individual's judgment of his or her capability to execute and perform tasks successfully in a specific domain. Academic self-efficacy is the general conceptualization of self-efficacy in an educational setting that is not limited to a particular academic subject (Majer, 2009). Huang (2014) believed that the most likely psychological problems that freshmen might encounter occur when they are forced to undertake compulsory courses and when acquiring poor test scores caused by lack of basic knowledge. Results of prior research showed that academic self-efficacy (self-efficacy in general academic subjects) is positively correlated with academic performance (Chemers,

Hu, & Garcia, 2001; Gore, 2006; Jungert & Andersson, 2013; Mäkinen & Olkinuora, 2004; Mills, Pajares, & Herron, 2007; Vrugt, Hoogstraten, & Langereis, 1997). However, Schunk and Pajares (2002) stated that low levels of self-efficacy are correlated with adverse outcomes, such as doubting one's capabilities, dwelling on inadequacies, and avoiding challenging tasks, all of which are related to academic success. Conversely, college students who have a high level of academic self-efficacy are academically successful because they implement effective learning strategies (Caprara et al., 2008; Pajares & Valiante, 2002).

In an empirical study, Chemers et al. (2001) found that academic self-efficacy was correlated with academic performance in first-year college and university students. That is, students who entered college with high levels of academic self-efficacy performed significantly better in college compared with students who had less academic self-efficacy. The results of their 2001 study showed that students who believed that they could succeed did perform at higher levels. In their study, the authors explained that this could result from students' persistence and effort at implementing learning strategies. Students with low levels of academic self-efficacy may avoid challenging tasks because of their lack of academic confidence. Such students seldom give themselves the opportunity to validate learning strategies or develop motivational learning strategies. The implications of the study were that academic self-efficacy should be developed and maintained in at-risk students. Also, these efforts should start as early as the preschool years and continue through postsecondary education.

One of the main goals of the current study was to examine the association between academic self-efficacy and academic achievement of students in a self-regulatory course and, specifically, to determine whether students' academic self-efficacy changed as a result of their participation in the course. There is a lack of studies related to first-year, at-risk college students' academic self-efficacy in a college course (Chemers et al., 2001; Vrugt et al., 1997). As Bandura (1997) conceptualized, students derive self-efficacy from four sources: (a) previous experiences with success (mastery) or failure; (b) vicarious experiences of observing others; (c) social persuasion from others; and (d) emotional and physiological states (e.g., anxiety, fatigue, stress). The most significant source of self-efficacy is a student's experiences of success in a learning setting. Therefore, examining the academic self-efficacy of at-risk students in what is often their first course in college is important for determining both the immediate academic impact of self-efficacy and its effect on students' learning strategies.

### Motivational Learning Strategies of At-Risk Students

Proctor, Prevatt, Adams, Reaser, and Petscher (2006) examined the differences between the use of learning strategies by at-risk college students and by college students who were not at risk. The Learning and Study Strategies Inventory (LASSI; Weinstein, Palmer, & Schulte, 1987) was administered to all student groups to determine their scores on different motivational subscales. The LASSI

includes 10 constructs: anxiety, attitude, concentration, information processing, motivation, selecting main ideas, self-testing, study aids, test-taking strategies, and time management. The results of the study showed that at-risk college students scored lower on the self-reported use of learning variables (i.e., attention, concentration, and motivation) compared with students who were not at risk. Weinstein et al.'s (1987) study supported the hypothesis that learning strategies are correlated with academic achievement. Thus, the researchers proposed that at-risk students be identified by their incoming GPAs as well as their LASSI scale scores.

According to Plant, Ericsson, Hill, and Asberg (2005), the time and effort students devote to their studies do not necessarily predict college course performance; however, the effectiveness of the time spent studying is predictive of college course performance. Robbins, Lauver, Langley, Le, and Davis (2004) examined the relationship between learning strategies and academic performance in college students. They found that self-efficacy was the best predictor of GPA. However, Pajares (2003) added that a strong sense of self-efficacy may also promote greater interest and attention in academic settings. Likewise, a student's level of interest or attitude toward school-related tasks might predict his or her ability to be attentive in the classroom, thus enabling better work habits (Weinstein & Palmer, 2002).

Schunk, Meece, and Pintrich (2013) defined interest as a student's attraction to any given subject. Samuelsson (2008) examined the relationships between various teaching methods and factors related to motivation. Compared with students who use positive learning strategies, those who are reluctant to use learning strategies (Lee, Teo, & Bergin, 2009; Onatsu-Arvilommi, Nurmi, & Aunola, 2002; Zuckerman, Kieffer, & Knee, 1998) tend to have lower academic achievement and less problem-solving ability. In Samuelsson's (2008) study of 119 students who were enrolled in a mathematics course, the participants' self-regulated learning skills were assessed using the Program for International Student Assessment (PISA) scored on a 10-point Likert scale (*don't agree* = 1 to *totally agree* = 10). Sample items included the following: (a) I enjoy reading about mathematics, (b) I look forward to my mathematics lessons, (c) I do mathematics because I enjoy it, and (d) I am interested in the things I learn in mathematics. The results indicated improved academic achievement in quantitative concepts among students with higher scores for interest or affective motivational factors. The study concluded that the participants demonstrated significantly higher levels of interest as a result of teaching methods, which indicates the importance of improving students' self-regulated learning skills.

Attention is considered one of the abilities needed for a student to complete learning tasks. Weinstein and Palmer (2002) defined concentration as a student's ability to be attentive during academic tasks. Likewise, the ability to focus on a particular goal allows students to inhibit distractions, thereby increasing their likelihood of learning and implementing effective strategies (Weinstein & Palmer, 2002). Specifically, the ability to concentrate on a

particular goal or activity allows students to avoid distractions, thereby increasing their likelihood of learning and implementing effective strategies (Weinstein & Palmer, 2002). Early researchers (Alexander & Murphy, 1998) indicated that students were more likely to be focused on learning and remembering when they were interested in the content that was being taught. According to Razza, Martin, and Brooks-Gunn (2010), attention is defined as a set of psychological and behavioral responses that are affected by the environment, which is then consciously controlled by the individual. Attention can be described as both selective and sustained; the former focuses on a specific object and tunes out other objects, and the latter maintains focus over time (Derryberry & Rothbart, 1997; Fan et al., 2009). Goldberg, Maurer, and Lewis (2001) state that selective attention improves sharply from middle childhood to adulthood as individuals become more able to inhibit impulses and keep their minds on competing objects. Previous research (Alexander & Murphy, 1998) has noted that students are more likely to be attentive to learning and remembering when the content they are learning is connected with their interests.

Tuckman (2003) has examined the utility of teaching university students learning strategies for improved performance, but Tuckman did not perform analyses focusing on at-risk students, and changes in students' self-efficacy were also not examined. The majority of the participants in Tuckman's (2003) study were students who were considered at risk. The implications of this study may add to the existing body of research on developing programs that specifically target potentially at-risk freshman students and provide them with self-regulation courses. These programs may lead to an increase in retention rates and an overall increase in academic performance for the targeted students (Jenkins & Guthrie, 1976; Thompson & Geren, 2002). Therefore, this study aimed to identify particular learning and study strategies that were associated with academic achievement, which was measured by the at-risk freshmen students' course quiz scores and final course grades. We hypothesized that instruction on effective learning strategies incorporated into a college success course aimed at enhancing self-regulatory behavior would enable students to study effectively and achieve greater success, thereby increasing their self-efficacy.

## Methods

### Participants

The majority of the students were athletes considered at risk because they entered college with lower high school GPA and SAT scores than the college desired. Of the 177 students who participated in the study, 50.6% ( $n = 89$ ) were female. The students' mean age was 18.35 ( $SD = .74$ ). All of the students in this study were freshmen, and more than 95% of the students in this course were required to take it because of their at-risk status. Self-reported data were collected from freshmen who participated in a college success course that taught self-regulatory learning over three semesters. Course materials and some assignments



were delivered through the university's course management system, BlackBoard®. The course was taught by the same instructor at a university in the southwestern United States. This mandatory class, delivered via a 1.5-hour lecture and a 1.5-hour laboratory over a 15-week period, applied cognitive psychology along with motivation theory and research to improve students' learning in different academic disciplines. Instruction was based on the textbook *Motivation and Learning Strategies for College Success* (Dembo & Seli, 2008, 2012) and included the topics of academic self-management, learning and memory, motivation, goal setting, management of emotion and effort, time management, the physical and social environment, and preparation of textbooks, lectures, and exams.

### Instrumentation

The instruments used in this study were adapted from existing validated scales: the Self-Efficacy for Learning and Performance scale from the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1991) and the 10 subscales from LASSI (Weinstein et al., 1987). All of these were five-point Likert-type scales.

The MSLQ was developed by the National Center for Research on Improving Postsecondary Teaching and Learning at the University of Michigan in 1986 (Pintrich et al., 1991), including six subscales: Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, Control Beliefs, Self-Efficacy for Learning and Performance, and Test Anxiety. The subscale self-efficacy for learning and performance in this instrument was used to measure college students' levels of self-efficacy for learning. The internal consistency coefficient (Cronbach's  $\alpha$ ) in the current study was .89 for the Self-Efficacy for Learning and Performance, which met the standard of .70 (Nunnally & Bernstein, 1994).

The 10 constructs from the LASSI (Weinstein et al., 1987) were examined for college freshman students in a self-regulatory course. The LASSI is an 80-item assessment that includes 10 subscales: anxiety, attitude, concentration, information processing, motivation, selection of main ideas, self-testing, study aids, test-taking strategies, and time management. Sample items include: "I feel confused and undecided as to what my educational goals should be" and "I translate what I am studying into my own words." Weinstein and Palmer (2002) proposed that the strategic learning constructs contribute significantly to success in higher education and that these strategies can be taught in educational learning environments, such as self-regulatory courses. For the purpose of this study, the researchers examined the relationships between the 10 constructs listed and academic achievement, as measured by the students' course quiz scores and final course grades.

For data analysis, we used the LASSI percentiles rather than the actual scores because the lowest scores of the 10 subscales were not consistent, ranging from low scores of 10 to 18 to the highest scores of 38 to 40, providing different weights for each subscale. Thus, we converted

the actual scores to their percentiles with the lowest as 1 and the highest as 99 for all subscales, with equal weight. The subscales and their reliabilities in the current study were as follows: Information Processing ( $\alpha = .82$ ), Selecting Main Ideas ( $\alpha = .91$ ), and Test Strategies ( $\alpha = .79$ ); Attitude ( $\alpha = .78$ ), Anxiety ( $\alpha = .88$ ), and Motivation ( $\alpha = .87$ ); and Self-Testing ( $\alpha = .85$ ), Concentration ( $\alpha = .88$ ), Time Management ( $\alpha = .89$ ), and Study Aids ( $\alpha = .74$ ). The overall scale reliability was calculated to be .96. All of the Cronbach's  $\alpha$  values met the standard of .70 (Nunnally & Bernstein, 1994). To measure student self-efficacy in quizzes, a 10-point scale was used. Quiz scores were also given on a 10-point scale.

### Procedures

In the first week of classes, the students took the LASSI inventory (Weinstein et al., 1987) to assess their use of learning and study strategies and MSLQ (Pintrich et al., 1991) to assess their self-efficacy in learning and performance. Eight quizzes were given during this course to examine the students' understanding of motivation and self-regulatory learning strategies. After the students read the prompts, but before they started the quiz, they recorded their efficacy scores for the quiz on a scale of 1 to 10 (1 = lowest to 10 = highest). Each quiz was worth 10 points. The students' LASSI percentiles on 10 subscales and their self-reported self-efficacies for quizzes were recorded for data analysis. In addition, survey data were collected at the end of each semester to measure the students' Self-Efficacy in Learning and Performance (Pintrich et al., 1991). The students' final course grades and actual quiz scores were retrieved from the university's course management system. The research procedure is shown in Figure 2.

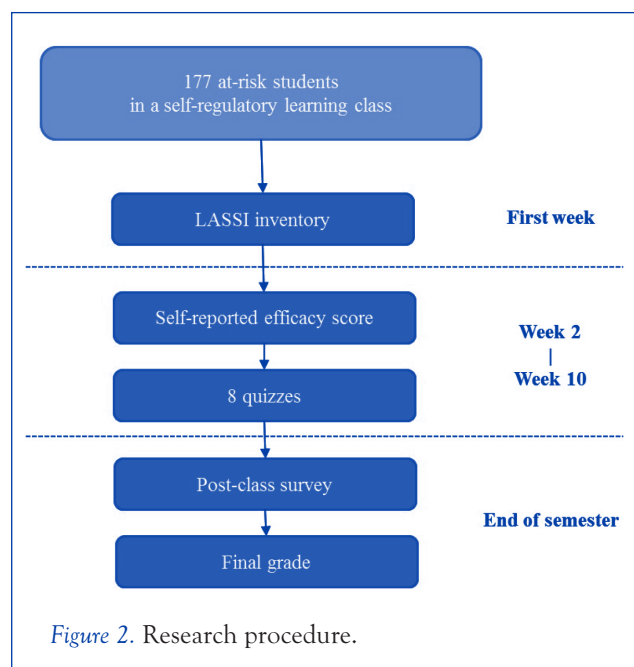


Figure 2. Research procedure.

### Data Analysis

SPSS 16 and AMOS 17 were used to conduct the data analyses. For descriptive statistics, the means, standard deviations, and minimum and maximum values of all variables were calculated. The Pearson product correlations among variables, a confirmatory factor analysis, and a structural regression model were established. A theoretical model that specified the relationships between the three latent variables (self-efficacy, learning and study strategies, and academic achievement) and their indicators was created. This model was tested using confirmatory factor analysis and a structural regression model approach that predicted the academic achievement of college freshmen in a self-regulatory learning class. The indicators for self-efficacy as a latent variable were the scaled score for Self-Efficacy in Performance and Learning and the quiz efficacy scores. The indicators for learning and study strategies included the students' attitude and interest levels and the students' concentration and attention to academic tasks. These indicators were chosen because these two subscales had significant correlations with self-efficacy scores and achievement scores. The academic achievement indicators included actual quiz scores and final course grades, as retrieved from the university's course management system. A trajectory analysis and an RM-ANOVA were conducted to compare the changes in the quiz self-efficacy scores and the actual quiz scores simultaneously. Lastly, a regression

analysis was conducted to examine how learning and study strategies may predict students' academic achievement.

### Results

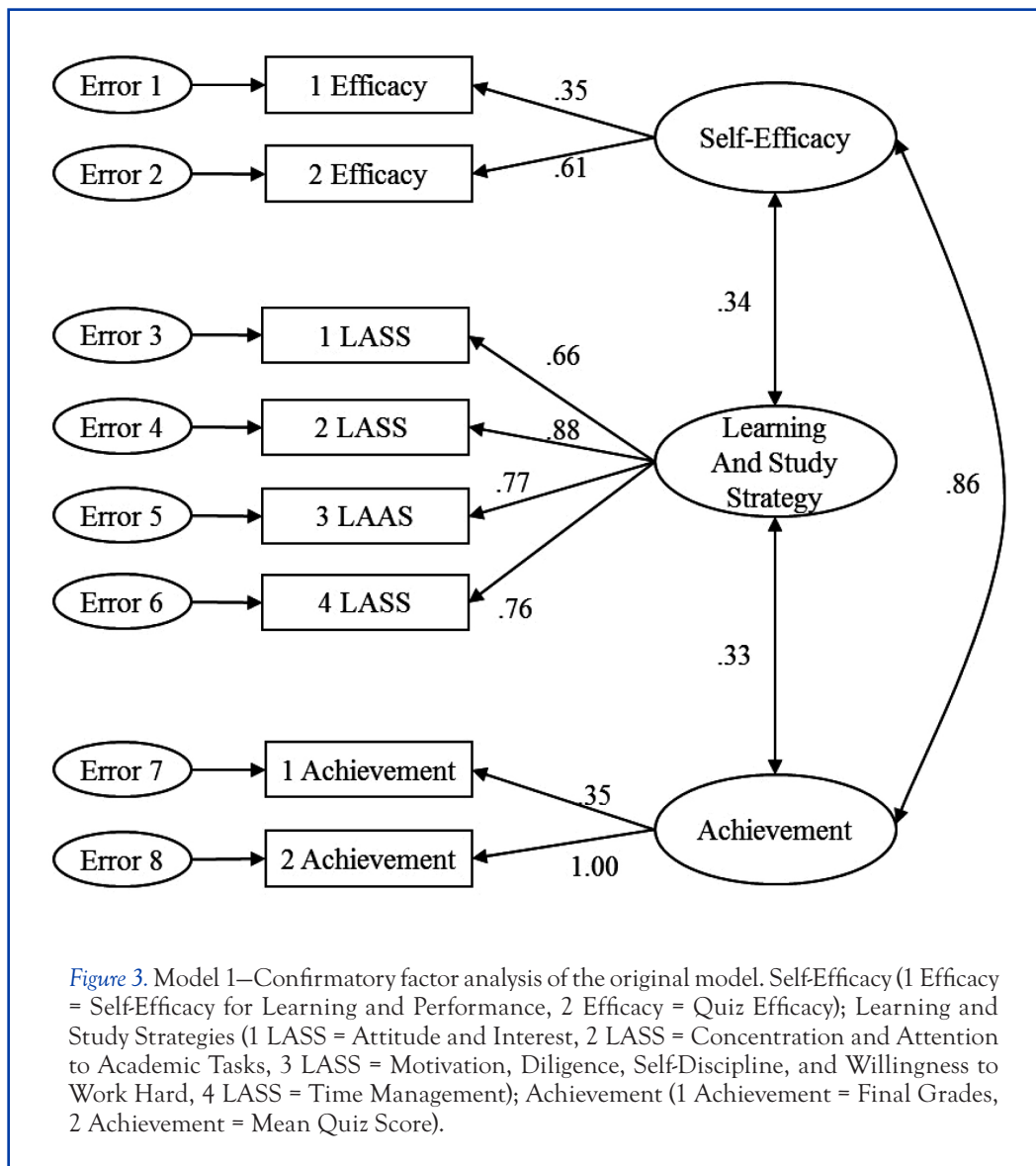
#### Preliminary Analysis

The means, standard deviations, minimums, and maximums for the measured variables are summarized in Table 1. To test the assumption that learning and study strategies predict academic achievement, preliminary analyses with correlations were conducted among all 10 LASSI variables, final grades, and quiz scores. The following variables produced correlations with achievement: (a) attention and concentration; (b) attitude and interest; (c) motivation, diligence, self-discipline, and willingness to work hard; and (d) time management. Their correlations with final grades were ( $r = .24$ ), ( $r = .19$ ), ( $r = .16$ ), and ( $r = .19$ ), and their correlations with quiz scores were ( $r = .32$ ), ( $r = .27$ ), ( $r = .27$ ), and ( $r = .25$ ), respectively. These variables were used as indicators for the latent variable of learning and study strategies. However, the probability level that emerged from this model was .002, and the fit indices were  $\chi^2 = 38.66$ ,  $\chi^2/df = 2.27$ , CFI = .94, TLI = .88 and RMSEA = .09, which did not indicate that the model fit the data as presented in Figure 3. As a result, the theoretical model was modified by removing the motivation, diligence, self-discipline, willingness to work hard, and time management indicators.

Table 1

*Results of Variables Measured in Preliminary Analysis*

	N	Minimum	Maximum	M	SD
Age	104	17.00	21.00	18.18	.75
Self-Efficacy for Learning and Performance	176	2.50	5.25	4.39	.55
Self-Efficacy for Quiz	153	.00	10.00	7.41	1.45
Attitude and Interest	159	1.00	99.00	41.93	30.58
Concentration and Attention to Academic Tasks	159	1.00	99.00	47.66	29.07
Final Grade	169	3.00	12.00	9.88	1.72
Quiz Score	153	4.78	10.00	8.07	1.11



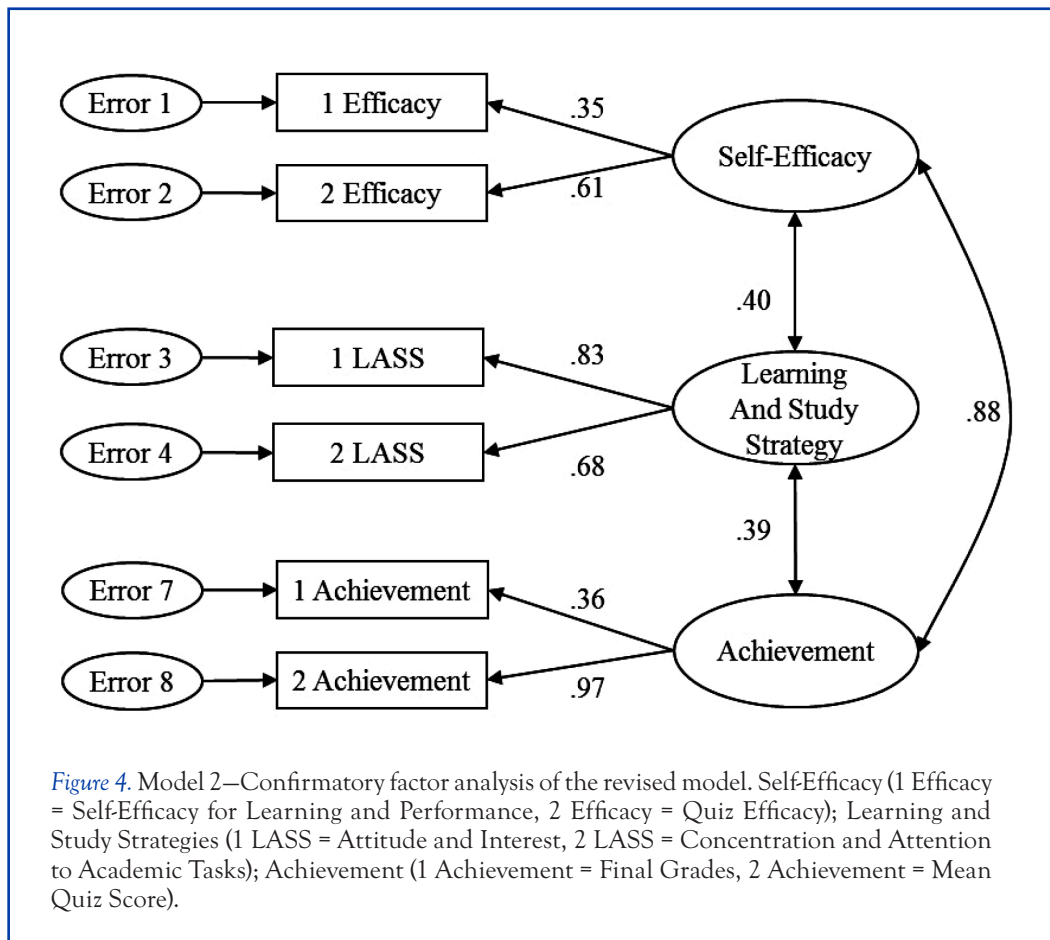
As Table 2 shows, self-efficacy for performance and learning was significantly and positively related to quiz efficacy scores ( $r = .22$ ), attitude and interest ( $r = .17$ ), final course grades ( $r = .17$ ), and actual quiz scores ( $r = .31$ ). In other words, atrisk college freshmen with higher levels of confidence in their performance and learning had more positive attitudes toward learning and reported higher levels of interest in the course. They also earned higher quiz efficacy scores and higher actual quiz scores, and they performed better in class, as measured by the final course grade, compared with the students who had lower levels of confidence in their learning and performance. Attitude and interest were highly correlated with concentration and attention to academic tasks ( $r = .57$ ), final grades ( $r = .24$ ), and quiz scores ( $r = .32$ ).

**Atrisk college students' self-efficacy and their learning and study strategies can be used to predict academic achievement.** A confirmatory factor analysis and a structural regression analysis were performed to answer this question. According to a preliminary analysis of the correlations between latent variables, including self-efficacy, learning and study strategies, and academic achievement, the probability level of the chi-squared test was .239, indicating that the model fit the data. The fit indices were  $\chi^2 = 7.98$ ,  $\chi^2/df = 1.30$ , CFI = .99, TLI = .95 and RMSEA = .04. Without any modification to the model, structural regression analysis was conducted. Figure 4 presents the standardized estimate of the confirmatory factor analysis results with the three latent variables and their indicators.

Table 2

Pearson Product Correlations Among Measured Variables

Gender	---						
Self-Efficacy for Learning and Performance	.04	---					
Self-Efficacy for Quiz	-.04	.22**	---				
Attitude and Interest	-.03	.17*	.21*	---			
Concentration and Attention to Academic Tasks	-.05	.14	.12	.57**	---		
Final Grade	-.04	.17*	.12	.24**	.19*	---	
Quiz Score	-.26**	.31**	.53**	.32**	.27**	.37**	---

\* $p < .05$ . \*\* $p < .01$ .



The probability level of the chi-squared test was .24, which is higher than the .05 significance level. The fit indices,  $\chi^2 = 7.98$ ,  $\chi^2/df = 1.30$ , CFI = .99, TLI = .95 and RMSEA = .04, indicate that the theoretical model in Figure 5 provided an excellent fit for the data. The values in the diagram reveal that self-efficacy and learning and study strategies accounted for 74% of the variance in the academic achievement of at-risk freshmen in a self-regulatory learning class. This indicates that at-risk freshmen achieved more when they had (a) high self-efficacy for learning and performance and for the weekly quizzes, (b) attitudes and interests with a focus on higher-level goal setting and persistence in day-to-day activities to achieve goals, and (c) adequate focus to allow them to study and listen in class without being distracted.

**At-risk college students' self-efficacy showed significant improvements.** A repeated measures ANOVA (RM-ANOVA) was conducted to analyze the scores and the self-efficacy of the eight quizzes. Mauchly's test of sphericity was statistically significant in the RM-ANOVA model ( $w = .36$ ,  $p < .001$ ). Because the sphericity assumption was invalid, the Greenhouse-Geisser correction ( $\epsilon = .85$ ) for the F value was applied. The result indicated that there were statistically significant differences between the eight quiz scores ( $F = 3.04$ ,  $p < .001$ ; see Table 3). For the quiz efficacy scores, Mauchly's test of sphericity was statistically significant ( $w = .69$ ,  $p < .001$ ), so the Greenhouse-Geisser correction for the F value was reported. The RM-ANOVA result revealed that the values for the students' eight efficacy scores were not statistically significantly different ( $F = 1.49$ ,  $p = .17$ ). However, a t-test between the eight efficacy values in the pairwise comparison showed that there were statistically significant differences between the third and sixth, fourth and sixth, and sixth and seventh quizzes (see Table 4). In

summary, as student quiz self-efficacy scores increased, quiz scores increased. At the end of the course, including the seventh and eighth quizzes, quiz self-efficacy and actual quiz scores slightly decreased. Over the three semesters of the course, the self-reported self-efficacy scores and quiz scores gradually increased (see Figure 6).

**At-risk college students' attention and concentration has a significant predictive power on their academic achievement.** As the preliminary analysis section indicated, learning and study strategies such as attention and concentration, and attitude and interest were significantly related to academic achievement for at-risk freshman students. Final grades were correlated with these objectives, with scores of ( $r = .24$ ) and ( $r = .19$ ), respectively. Quiz scores were correlated with these objectives, with scores of ( $r = .32$ ) and ( $r = .27$ ), respectively. Next, we applied a multiple regression, using attention and concentration and attitude and interest as explanatory variables to predict students' final grades and quiz scores individually. The results are exhibited in Table 5. The results of the regression model of final grades showed no collinearity between attention and concentration and attitude and interest. The  $R^2$  of the model was .25 ( $p < .01$ ), indicating that *attention and concentration* and *attitude and interest* can be used to predict 25% of the total variance of final grades. The regression coefficient (B) of attention and concentration was 0.01 ( $p = .04$ ), suggesting that when excluding the influence of attitude and interest, each unit of increase in attention and concentration will lead to a 0.01 unit of increase of the final grades. The regression coefficient (B) of attitude and interest was 0.01 ( $p = .41$ ), showing that attitude and interest does not have a significant predictive power on final grades.

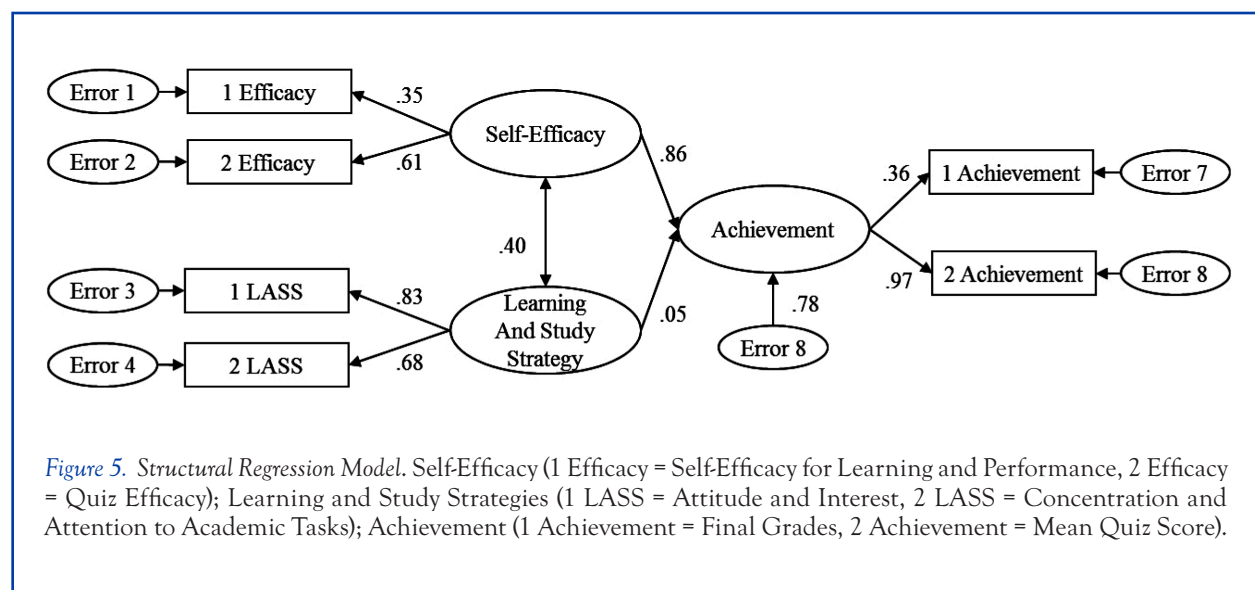


Table 3

## RM-ANOVA of the Eight Quiz Scores

Source	SS	df	MS	F	Post hoc
Between	104.89	5.49	19.12	3.04**	Quiz 2 > Quiz 3**
Within					Quiz 5 > Quiz 1*
Block	990.60	105.00	9.43		Quiz 5 > Quiz 3***
Error	3,620.26	575.91	6.29		Quiz 5 > Quiz 4*
					Quiz 5 > Quiz 8*
					Quiz 6 > Quiz 1*
					Quiz 6 > Quiz 3**
					Quiz 6 > Quiz 4**
					Quiz 6 > Quiz 8*
Total	4,715.76	686.40			

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

Table 4

## RM-ANOVA of the Self-Efficacy Values of the Eight Quizzes

Source	SS	df	MS	F	Post hoc
Between	51.59	6.32	8.16	1.49	Quiz 6 > Quiz 3*
Within					Quiz 6 > Quiz 4*
Block	2,804.09	152.00	18.45		Quiz 6 > Quiz 7*
Error	5,250.91	960.58	5.47		
Total	8,106.59	1,118.90			

\* $p < .05$

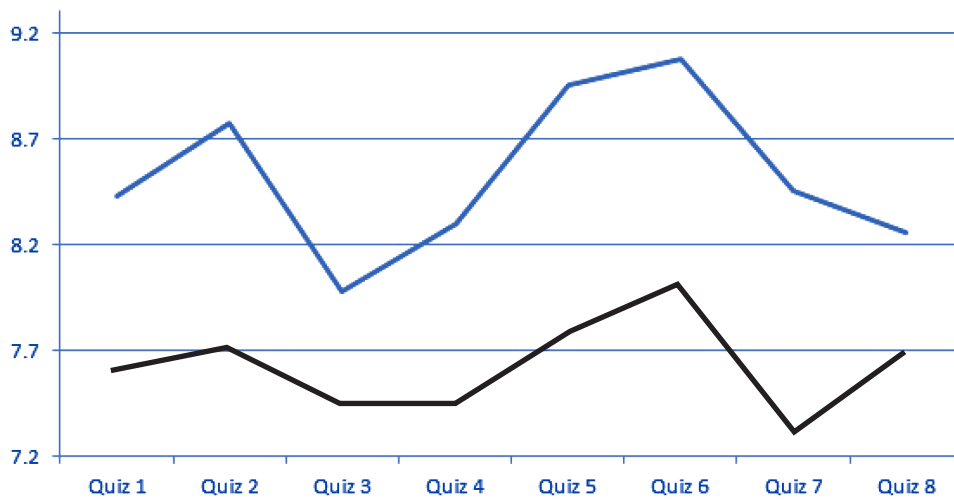


Figure 6. Trajectories of the changes in self-efficacy and achievement. Black line (self-efficacy = self-reported quiz self-efficacy); blue line (achievement = quiz score).

Table 5

Summary of Multiple Regression Analyses for Variables Predicting Final Grades and Quiz Scores

Variable	Final Grades			Quiz Scores		
	B	SE B	$\beta$	B	SE B	$\beta$
Attention and concentration	0.01	0.01	0.20*	0.01	0.003	.24*
Attitude and interest	0.01	0.01	0.08	0.01	0.004	.14
$R^2$		0.25			0.34	
F		5.32**			8.93***	

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

The results of the regression model of quiz scores showed no collinearity between *attention and concentration* and *attitude and interest*. The  $R^2$  of the model was .37 ( $p < .001$ ), indicating that *attention and concentration* and *attitude and interest* can be used to predict 37% of the total variance of quiz scores. The regression coefficient (B) of *attention and concentration* was 0.01 ( $p = .02$ ), suggesting that when controlling for the influence of *attitude and interest*, each unit of increase in *attention and concentration* leads to a 0.01 unit of increase in the quiz scores. The regression coefficient (B) of *attitude and interest* was 0.01 ( $p = .16$ ), showing that the variable of *attitude and interest* does not have a significant predictive power on quiz scores.

## Discussions and Conclusions

The results of the present study demonstrated that at-risk freshmen achieved more when they had (a) high self-efficacy for learning and performance and for the weekly quizzes, (b) attitudes and interests with a focus on higher-level goal setting and persistence in day-to-day activities to achieve goals, and (c) the focus to study and listen in class without being distracted. This finding is consistent with previous research, confirming that for both at-risk and traditional college students, self-efficacy is positively correlated with academic performance (Chemers et al., 2001; Gore, 2006; Mills et al., 2007; Vrugt et al., 1997). From the perspective of Bandura (2001), students' prior experiences of success or failure significantly influence their self-efficacy. In a freshman self-regulatory class, it is important to promote students' academic achievement by providing them opportunities to build their self-efficacy. This is especially important for at-risk students. The promotion of at-risk students' self-efficacy should be an ongoing task. It is suggested to implement a long-term self-regulatory class to cultivate self-efficacy, thereby gradually enhancing academic achievement.

The results of the correlation analysis showed that the variable of attitude and interest was significantly correlated with student self-efficacy, supporting the conclusions of previous research (Pajares, 2003). Contrary to expectations, the at-risk students' levels of concentration and attention to academic tasks were not correlated with either of the self-efficacy variables. However, all three major variables of interest (self-efficacy for learning and performance, attitude and interest, and concentration and attention) were significantly correlated with the students' academic achievement. Similarly, a structural regression analysis showed that students with higher levels of self-efficacy and more learning and study strategies tended to have better academic achievement.

Students' self-efficacy and quiz scores increased over time as a result of their participation in the self-regulatory class. This is consistent with prior research showing that academic self-efficacy is correlated with academic performance (Chemers et al., 2001) and indicating that it is important to develop and maintain at-risk students' academic self-efficacy starting as early as the preschool years and continuing through postsecondary education.

Among the 10 LASSI constructs, *interest and attitude* and *concentration and attention* are important learning strategies related to the academic achievement of at-risk students. Furthermore, the regression analysis results showed that *attention and concentration* has a significant predictive power upon final grades and quiz scores. Hence, for at-risk students, attention is a predictor of their academic performance. The results of this study imply that courses for at-risk freshmen should be designed to promote students' enhanced levels of interest in learning by teaching students how to set attainable academic goals and subgoals and promote enhanced concentration by designing interesting courses and teaching strategies that focus on day-to-day goal accomplishments. It is critical to examine instructional methods, teachers' use of diverse topics, course materials, and content delivery platforms for at-risk students, including the use of Web-based learning and rich-text media for increased motivation and engagement (Ellis, Ginns, & Piggott, 2009; Sun & Rueda, 2012; Walsh, Sun, & Riconscente, 2011). Further research on course implementation that examines specific factors associated with increased self-efficacy and achievement is necessary, as is the use of a non-self-reported scale tool to examine the behavioral dimension of learning motivation. The fidelity of course implementation may be an important factor for student motivation and achievement. It will also be useful to examine how at-risk students transfer knowledge gained in self-regulatory classes to other classes via both qualitative and quantitative approaches.

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# Responsibilities and Training of Paraprofessionals in Alternative Schools: Implications for Practice

Syrinithnia Mann and Jerry Whitworth

**Abstract:** For many years a leading approach to teaching at-risk students and reducing school dropout has been the use of alternative schools. There are unique challenges to providing educational services in alternative schools and teachers in those schools need specialized knowledge and skills to address these challenges. The same can be inferred for paraprofessionals working in alternative schools. In general, the use of paraprofessional support for students in alternative schools has increased over the years. Oftentimes these students exhibit academic and behavioral challenges, and yet much of the research indicates that paraprofessionals working with students with academic and behavioral challenges have little training to do so. The purpose of this study was to examine the roles, responsibilities, and professional development needs of paraprofessionals working with secondary students at alternative schools as perceived by administrators, teachers, and paraprofessionals in those schools.

Appropriate educational services for at-risk students has been a critical issue in U.S. schools for decades (Elrod, Blackburn, Mann, & Thomas, 1999; Matyo-Cepero, 2013; Rumberger & Gottfried, 2016). It is an issue that has been exacerbated even further by the increase in high-stakes testing, school choice, and the implementation of laws such as No Child Left Behind and Race to the Top (Lagan-Riordan et al., 2011; Ramezani, 2010). Noting that a student can be at risk for many reasons, Dalessio (2012) states, "This does not mean that the students who live with these factors will fail, only that the students may face challenges that other students do not" (p. 2).

One of these challenges is that of staying in school and graduating. Barton (2005) found that students dropping out of school exhibited risk factors such as low grades, excessive absences, behavior problems, and retention at much higher rates than other students. The costs and consequences of school dropout can be severe, for the student and for society. Students who drop out of school have a higher incidence of depression, substance abuse, and incarceration (Mason, 2013; Matyo-Cepero, 2013; Rumberger & Palardy, 2005; Trolan, 2014). A number of authors have also noted that students who do not graduate from high school are less likely to be employed and more likely to earn lower salaries than high school graduates (Kane, Roy, & Medina, 2013; Roome, 2016; Salinger, 2016; Thompson, 2010).

A very common and consistent approach to increasing the graduation rates of at-risk students is the use of alternative schools (Carr, 2014; Lagan-Riordan et al., 2011; Munoz, 2002; Wilkerson, Afacan, Perzigian, Justin, & Lequia, 2016). The federal definition of an alternative school is "a public elementary/secondary school that addresses needs of students that cannot be typically met in a regular school, provides nontraditional education, serves as an adjunct to regular school, or falls outside the categories of regular, special education or vocational education" (Sable, Plotts, & Mitchell, 2010, p. C-1).

However, the alternative education field lacks a common definition and is divided between the differing philosophies of alternative programs (Bascia & Maton, 2016; Foley & Pang, 2006; Henrich, 2005; Lehr & Lange,

2003; Kellmayer, 1995; Lehr, Soon Tan, & Ysseldkye, 2009; Quinn, Poirier, Faller, Gable, & Tonelson, 2006; Wasburn-Moses, 2011). Raywid (1994) was the first to provide a specific typology for alternative schools and noted that there are many types ranging from academic schools of choice to disciplinary schools where students are placed. Building on this typology, Kellmayer (1995) gave a detailed description of how to establish and implement an alternative school. Alternative education encompasses public alternative schools, charter schools for at-risk youth, programs within the juvenile detention centers, community-based schools, programs operated by local school districts, and alternative schools with evening and weekend formats (Bascia & Maton, 2016; Henrich, 2005; Kellmayer, 1995; Quinn et al., 2006).

According to Raywid (1994) there are three types of alternative schools: (a) Type I - Popular Innovations, (b) Type II - Last Chance Programs, and (c) Type III - Remedial Focus. Characteristics of alternative schools vary depending on the differing philosophies of education and whether enrollment is voluntary or involuntary. If the school's philosophy of education is that the student needs to be changed, then the alternative program focuses on reforming the student. Henrich (2005) and Quinn et al. (2006) expanded on Raywid's typology to identify additional characteristics differentiating alternative schools, such as focus, curriculum, and structure.

Voluntary or involuntary student enrollment also has a direct influence on program approaches (Lehr & Lange, 2003). While voluntary placement schools tend to offer more flexible scheduling and utilize more innovative teaching and instructional strategies, involuntary or mandatory placement schools tend to have a more disciplinary approach with a short-term placement focusing on skill building (Foley & Pang, 2006; Hoge, Liaupsin, Umbreit, & Ferro, 2014; Lehr & Lange, 2003; Quinn et al., 2006; Raywid, 1994; Van Acker, 2007).

Raywid (1999) and Wasburn-Moses (2011) presented other factors that contribute to the variance in alternative school programs. Alternative school programs can function differently depending on whether the alternative

school is in an urban or suburban area. Raywid (1994) reported that urban alternative schools focus on programs for minority and poor students who were not successful at traditional schools, whereas suburban alternative schools focus on innovative programs to pursue new ways to teach. Wasburn-Moses (2011) observed that definitions can vary based on “location (e.g., separate classroom or facility), descriptions of curriculum (e.g., student centered or nontraditional), and desired outcomes (e.g., dropout prevention, facilitating receipt of diploma)” (p. 247).

Alternative schools have positive and negative effects. A positive effect is more educational opportunities and a flexibility in structure that is not available in some traditional schools (Foley & Pang, 2006; Hoge et al., 2014). Alternative schools often have a small student enrollment with a strong connection between students and teachers (Quinn et al., 2006; Van Acker, 2007; Wasburn-Moses, 2011) and create personalized environments in which the students feel respected and fairly treated. Many alternative schools have also been successful at reducing dropout rates, truancy, and disruptive behavior (Wasburn-Moses, 2011).

As Foley and Pang (2006) noted, alternative schools continue to be characterized as lacking institutional legitimacy and having image problems. The institutional legitimacy concern may be due to limited accessibility to appropriate resources such as libraries and science laboratories and the lack of licensed and qualified staff (Lehr et al., 2009). Image problems seem to plague alternative schools because the three different types of alternative schools often get combined into a single composite (Van Acker, 2007) termed as dumping grounds for disruptive students (Lehr et al., 2009) or schools for losers (Raywid, 1994; Wasburn-Moses, 2011). Alternative schools have also been viewed negatively because they can unintentionally segregate students from the general education setting (Van Acker, 2007; Wasburn-Moses, 2011).

Many students attending alternative schools share behavioral, social, and emotional traits. Students are often characterized as suffering academically, possessing antisocial attitudes and behaviors, and having problematic relationships (Carlson, 2012; Ramezani, 2010; Wilkerson et al., 2016). In the 80s and 90s student enrollment at alternative schools increased for students who were at risk, students with disabilities, and students unsuccessful at traditional schools due to academic or behavior issues (Foley & Pang, 2006; Hoge et al., 2014; Lehr & Lange, 2003; Quinn et al., 2006; Van Acker, 2007). Students who have been suspended or expelled, have chronic truancy, exhibit physical aggression, are credit deficient, and/or who are pregnant or a parenting teen are likely to attend alternative schools (Knuston, 1999; Ray, 2010). Limited parental involvement is also a characteristic of students attending alternative schools (Foley & Pang, 2006).

In recent years, students with disabilities attending alternative schools have increased in number (Lehr & Lange, 2003; Lehr et al., 2009; Mitchell, Booker, &

Strain, 2011; Wasburn-Moses, 2011). For some students, school staff in the students' interim alternative education setting (IAES) placement must still implement the IEP from the original school. Although school officials assign students with disabilities to alternative schools, the legal mandate of Least Restrictive Environment (LRE) still exists (Wilkerson et al., 2016). To insure that these legal mandates are implemented, well-trained, highly qualified teachers and paraprofessionals are critical to alternative educational programs and to the education of students in those programs (Brock & Carter, 2015; Gibson, Paatsch, Toe, Wells & Rawolle, 2015).

There are many studies focusing on training and professional development of teachers at alternative schools (Benedict, Brownwall, Park, Bettini, & Lauterbach, 2014; Foley & Pang, 2006; Hemmer, Madsen, & Tores, 2013; Lehr & Lange, 2003; Quinn et al., 2006; Ricard, Lerma, & Heard, 2013). Yet, despite the increased utilization of paraprofessionals at alternative schools, there is a gap in the literature with regards to their professional development needs (Benedict et al., 2014). Carter, O'Rourke, Sisco, and Pelsue (2009) reported little research has been done on paraprofessionals' responsibilities at alternative schools and noted that research is needed to “explore the skills and competencies needed by paraprofessionals within these settings” (p. 357). Maggin, Wehby, Moore-Partin, Robertson, and Oliver (2009) asked, “How are paraeducators expected to provide quality instruction or support without sufficient training or supervision?” (p. 8).

Jones and Bender (1993); Giangreco, Edleman, Broer and Doyle (2001); and Giangreco (2013) reviewed the literature on the utilization, perceptions, training, and efficacy of paraprofessionals from 1957 to 2013. They reported the need for future research in the areas of specific job-related training for paraprofessionals, paraprofessional support at the secondary level, and collaboration among paraprofessionals and teachers to clarify paraprofessionals' roles in alternative school settings.

## Methodology

The purpose of this study was to examine classroom management responsibilities and professional development needs of paraprofessionals working with secondary students with disabilities in inclusive settings at alternative schools designated as Disciplinary Alternative Education Programs (DAEPs). The Safe Schools Act of 1995 mandated that Texas public school districts have DAEPs which serve as alternative education settings for students temporarily removed from their regular instructional setting for disciplinary reasons (Texas Education Agency, 2007; 2015). The researchers were seeking information to assist campus administrators in designing professional development for paraprofessionals based on the needs of the students, the program, and the expressed needs and preferences of paraprofessionals.



### Research Questions

The primary research question of the study was: How can secondary campus administrators address the professional development needs pertaining to classroom management of paraprofessionals working with students with disabilities in inclusive settings at alternative schools?

There were two supporting research questions, noted below:

1. What responsibilities and duties do administrators and teachers at alternative schools report are important for paraprofessionals working with students with disabilities in inclusive settings?
2. How do paraprofessionals at alternative schools rate their skills and confidence level to perform assigned duties?

### Sampling

A purposive sampling, which is a nonrandom sampling approach, was used. Purposive sampling was most appropriate because it allowed the researchers to deliberately set the criteria for site and participant selection (Gall, Gall, & Borg, 2010; Gay, Mills, & Airasian, 2012). The criteria set for alternative schools and participants were believed to be representative of the population for the purpose of the study. The researchers invited school staff at six alternative schools in Central Texas to participate. The selection process for alternative schools was similar to a process used by Hoge et al. (2014). To qualify for the study, the alternative school had to be a designated site for the DAEP for the local educational agency (LEA).

The participants for the study were paraprofessionals, teachers, and principals/administrators who provide instruction and/or supervise students with and without disabilities. The participants were divided into three subgroups: Paraprofessionals, Teachers, and Principals/Administrators. For each subgroup, the following numbers of participants were invited to volunteer: Paraprofessionals, 25; Teachers, 98; and Principals/Administrators, 9, for a total of 132 participants. Of the total 132 school staff invited to participate, 56 submitted usable surveys resulting in a total response rate of 42%.

### Instruments

The researchers used surveys as the data collection instrument for two primary reasons. Surveys offered the possibility of anonymity and the researchers were able to design questions relative to the study (French, 1998; Gay et al., 2012). The survey used for this study was an adaptation of the needs assessment inventory used by French (1997, 2001, 2003b) who stressed the importance of a team approach when managing and working with paraprofessionals. According to French (2001), several things must be considered when assigning duties and responsibilities to paraprofessionals: the needs of the students, the needs of the program, and the skill level of the paraprofessionals.

This approach formed the framework of the instrument used in this study.

The researchers began with French's (2001) questionnaire, which consisted of 28 items, many with multiple parts. The items were drawn from three sources: (a) practices identified in the literature, (b) findings of a pilot study French conducted, and (c) various state or regional training needs (Passaro, Pickett, Latham, & HongBo, 1991). Fourteen national experts reviewed French's original questionnaire and established content validity. A group of 23 special education teachers then pilot-tested the instrument and gave written comments on items in regard to clarity, terminology, and structure, with the final instrument reflecting recommendations of both groups.

For the current study, the researchers created a matrix of the original 28 multipart items of French's instrument, matching items to one or more of the research questions. Items were adjusted to insure alignment with the questions. A panel of experts then reviewed instrument items, comparing each item to relevant tasks and responsibilities identified in the literature (Carter et al., 2009; French, 2003a; Giangreco, 2003; Ray, 2010). Based upon this review, items were either reworded or eliminated or new items were created, resulting in 11 additional items. The researchers asked a panel of teachers and administrators to review the revised instrument and to give specific feedback on survey items. This review resulted in adjustments in wording and format to specific items and to the overall structure of the survey.

To determine reliability of the instrument, a pilot group of teachers and administrators completed the survey. Two weeks later the same group completed the instrument a second time. The researchers then examined each item to establish the degree to which respondents made the same responses on both the first and second administrations of the survey. Results indicated very little variation between the two sets of responses.

The researchers asked the Teacher and Principal/Administrator subgroups to indicate their perceptions regarding the relative importance of tasks and responsibilities for paraprofessionals working with students with disabilities in inclusive settings. The Paraprofessional subgroup rated their skill and confidence level to perform the tasks. Similar to a study conducted by French (1998), the items on the two subgroup surveys are parallel with slight wording variations to reflect differences in perspectives between the groups.

### Results and Discussion

All three subgroups completed the domain sections consisting of tasks/duties administrators and teachers feel are important for paraprofessionals working in inclusive settings and paraprofessionals' skill level/confidence in performing those duties. The researchers organized the analysis according to the research questions and domains for each subgroup.

### *Duties and Responsibilities of Paraprofessionals*

The first question examined addressed the responsibilities and duties which administrators and teachers at alternative schools perceive as important for paraprofessionals at alternative schools. As seen in Table 1, the responsibilities and duties in all seven of the domains were reported as being of moderate importance or above (i.e., ratings of 3, 4, or 5) by the majority of the administrators as evident by the overall domain means being 3.0 or higher. Administrators reported the Ethics Domain, with a mean of 4.7(.26), as having the highest average of tasks and duties rated as important for paraprofessionals, followed by the Behavior Management Domain with an overall mean of 4.4(.59).

The Supervision of Groups of Students Domain and Team Participation/Membership Domain were tied with overall means of 4.1. The Delivery of Instruction Domain and the Clerical Work Domain overall means were 3.9(.29) and 3.6(1.4) respectively, followed by the Activity Preparation/Follow-up Domain with the lowest overall mean of 3.0(.67).

Table 2 displays the teachers' perceived importance of responsibilities and duties. Teachers reported the responsibilities and duties in all seven domains as being of moderate importance or above (i.e., ratings of 3, 4, or 5) by the majority of the teachers as evident by the overall domain means being 3.0 or higher. Teachers reported the Ethics Domain, which had an overall mean of 4.9(.18), as having the most task items rated as very important, followed by the Behavior Management Domain with an overall mean of 4.5(.41). The other domains with overall means of 4.0 or higher were Team Participation/Membership and Delivery of Instruction. Based on the overall domain means for Supervision of Groups of Students, Activity Preparation/Follow-up, and Clerical Work, the majority of teachers did not rate many of the items in these domains as being above moderate importance.

### *Skill and Confidence Levels of Paraprofessionals*

The second question examined addressed paraprofessionals' perception of their skill and confidence level in regard to their performance of assigned tasks. As indicated in Table 3, the majority of paraprofessionals reported they were well prepared and confident to perform their assigned duties as shown by the overall domain means being above the moderate level (i.e., ratings of 4 or 5) for each of the seven domains. The three domains with the highest overall ratings were: Supervision of Groups of Students ( $M = 4.9$ ,  $SD = .19$ ); Ethics ( $M = 4.7$ ,  $SD = .31$ ); and Behavior Management ( $M = 4.5$ ,  $SD = .39$ ). The Ethics Domain was the only domain where all the paraprofessionals reported at least moderate levels (i.e., ratings of 3, 4, or 5) of preparedness and confidence for each item task.

### *Summary of Results*

Overall, campus administrators and teachers were in agreement that the majority of tasks in each of the domains were of moderate importance or above; and the majority of paraprofessionals reported having above moderate skills and confidence to perform the tasks. The data indicated that the domains in which paraprofessionals' responsibilities mainly involved providing support directly to students were rated as being of most importance by administrators and teachers (see Table 4 for domain rankings for subgroups).

These results support the existing literature which indicates that support provided by paraprofessionals is shifting away from being teacher directed to being more student directed (Carter, Sisco, Melekoglu, & Kurkowski, 2007; Carter et al., 2009; Cook & Friend, 2010; French, 1998; 2001; Giangreco et al., 2001; Giangreco, Suter, & Doyle, 2010; Jones & Bender, 1993; Riggs & Mueller, 2001). French (2003b) reported that paraprofessionals "frequently provide instructional services alongside the student rather than alongside the teacher" (p. 1). Carter et al. (2009) reported that 97% of paraprofessionals stated they provided one-on-one instruction and instructional support in small groups most frequently.

Although the overall results of the present study do support a shift toward paraprofessionals' responsibilities being more instructional, there appears to be some discrepancies among the subgroups. For example, Clerical Work and Activity Preparation were the domains with the lowest overall means for administrators and teachers. But, for paraprofessionals the Clerical Work Domain had an overall mean higher than the Delivery of Instruction Domain.

The Ethics Domain emerged as being the domain with the most task items rated as very important for paraprofessionals by principals and teachers and the second highest domain in which paraprofessionals reported being highly skilled and very confident at performing. This was of particular surprise because, with the exception of the ethical practices of hiring and supervising paraprofessionals as outlined by IDEA and NCLB (Ashbaker & Morgan, 2006; de Cohen, 2006; French, 2001; Giangreco, 2013; Giangreco et al., 2010; Lehr et al., 2009; Pickett, Likins, & Wallace, 2003; Trautman, 2004; Wasburn-Moses, 2011), research on the training provided to paraprofessionals pertaining to ethical duties and responsibilities seems to be limited.

However, in a study by Carter et al. (2009) paraprofessionals reported they received training on ethical practices for confidential communication about students. It can be concluded from the present study that paraprofessionals are provided professional development regarding ethics as paraprofessionals reported being highly skilled with the responsibility of maintaining confidentiality regarding student information.

Table 1

*Overall Domain Means: Principals/Administrators*

Domain	N	Minimum	Maximum	Mean(SD)
Delivery of Instruction	7	3.40	4.20	3.9(.29)
Activity Preparation/Follow-up	7	2.11	3.78	3.0(.67)
Supervision of Groups of Students	7	3.29	4.83	4.1(.59)
Behavior Management	5	3.50	5.00	4.4(.59)
Ethics	5	4.40	5.00	4.7(.26)
Team Participation/Membership	5	3.00	5.00	4.1(.80)
Clerical Work	5	1.00	4.56	3.6(1.4)

Table 2

*Overall Domain Means: Teachers*

Domain	N	Minimum	Maximum	Mean(SD)
Delivery of Instruction	37	2.80	5.00	4.1(.47)
Activity Preparation/Follow-up	36	1.89	5.00	3.4(.96)
Supervision of Groups of Students	37	1.71	5.00	3.7(.79)
Behavior Management	37	3.50	5.00	4.5(.41)
Ethics	35	4.40	5.00	4.9(.18)
Team Participation/Membership	34	2.60	5.00	4.2(.68)
Clerical Work	35	1.44	5.00	3.4(1.0)

Table 3

*Overall Domain Means: Paraprofessionals*

Domain	N	Minimum	Maximum	Mean(SD)
Delivery of Instruction	12	2.90	5.00	4.3(.71)
Activity Preparation/Follow-up	12	3.00	5.00	4.3(.61)
Supervision of Groups of Students	12	4.43	5.00	4.9(.19)
Behavior Management	12	4.00	5.00	4.5(.39)
Ethics	12	4.00	5.00	4.7(.31)
Team Participation/Membership	12	3.00	5.00	4.4(.54)
Clerical Work	12	3.50	5.00	4.4(.56)

Table 4

*Domain Rankings for Subgroups*

Administrators/Principals	Teachers	Paraprofessionals
Ethics	Ethics	Supervision of Groups of Students
Behavior Management	Behavior Management	Ethics
Supervision of Groups of Students	Team Preparation/Membership	Behavior Management
Team Preparation/Membership	Delivery of Instruction	Team Preparation/Membership
Delivery of Instruction	Supervision of Groups of Students	Clerical Work
Clerical Work	Activity Preparation/Follow-up	Activity Preparation/Follow-up
Activity Preparation/Follow-up	Clerical Work	Delivery of Instruction

Behavior Management and Supervision of Groups of Students were in the top domains of importance for all three subgroups. This result tends to corroborate the prevalent literature that paraprofessionals are increasingly being given the task of managing the behaviors of and supervising students with the most challenging behaviors (Breton, 2010; Giangreco, 2013; Lehr et al., 2009; Wallace, Shin, Bartholomay, & Stahl, 2001). However, the majority of paraprofessionals in the present study reported being highly skilled and confident in managing the challenging behaviors of students. This result contradicts the findings of Giangreco (2013) who reported paraprofessionals are the least qualified or have little training to effectively manage students who exhibit challenging behaviors.

Although paraprofessionals reported being well prepared and highly confident with behavior management, professional development is still needed in the area of providing behavioral support according to students' IEPs. Two specific task items in the Behavior Management Domain that administrators and teachers reported as being very important for paraprofessionals were to give positive support as directed by plans/IEPs and to assist other students in coping with behaviors of specific students. However, less than a third of paraprofessionals reported being well prepared and highly skilled at performing these tasks.

Supervision of Groups of Students was the domain in which the majority of paraprofessionals reported being well prepared and highly confident to perform. It should be noted that all the paraprofessionals gave themselves the highest rating on the task items requiring supervision in nonacademic areas (e.g., supervise during arrival and departure, lunch, passing periods). This result could be viewed as a contradiction to the prevalent literature which indicates a shift towards more instructional responsibilities.

The contributing factor to the high ratings of supervision in nonacademic areas cannot be determined in this study. However, if paraprofessionals rated this area highly because of being assigned to supervise students in nonacademic settings for the majority of their workday, this would contradict the prevalent literature. But, it would be consistent with the findings of Wallace et al. (2001) that paraprofessionals spent the majority of their day monitoring students in nonacademic settings (e.g., lunchrooms, study halls, playgrounds).

Delivery of Instruction was the domain with the noticeable difference among the subgroups. For the administrators and teachers, delivery of instruction was about midpoint of the other domains with responsibilities they considered very important for paraprofessionals. Surprisingly, of all the domains, paraprofessionals reported being the least prepared and confident at performing these duties. These results support the contentions of Cook and Friend (2010) and Giangreco (2013) that, despite the shift of paraprofessionals towards more responsibility for instruction, paraprofessionals continue to lack the training and the credentials to perform effectively in instructional roles. Based on the contentions of these writers, it can be concluded that the paraprofessionals in the present study lack the necessary training to perform their instructional responsibilities confidently.

In addition, the lack of role clarification regarding instructional responsibilities in the inclusive setting may have also contributed to the paraprofessionals in the present study reporting not being well prepared to perform instructional duties. Role delineation of paraprofessionals regarding the increasing responsibility given to them for delivering instruction has been the focus of several studies. For example, Giangreco et al. (2010) referred to defining appropriate roles for paraprofessionals as "an elusive and

unresolved issue” (p. 52). Carter et al. (2007) suggested that direct support of students “will require clear delineation of paraprofessional roles within the inclusive classroom coupled with well-designed training” (p. 224).

Multiple researchers agree that the instructional process in alternative program classrooms is transforming into a collaborative partnership between teachers and paraprofessionals (Breton, 2010; French, 2003a; Giangreco, 2003; Giangreco et al., 2010; Liston, Nevin, Malian, 2009; Malian, 2011; Riggs and Mueller, 2001). This is supported by the results of the present study. Principals and teachers reported the majority of the duties in the Team Preparation/Follow-Up Domain as being very important. However, there appeared to be a conflict of perceptions with administrators on the importance of paraprofessionals attending parent conferences and other student-focused meetings, such as IEPs for students with identified disabilities, versus preparing the paperwork and maintaining the files for the meetings.

Almost a third of principals in the present study rated paraprofessionals’ attendance at meetings as not important or only somewhat important. But, over half of the principals reported preparing paperwork and maintaining IEP files for the meetings as very important. Based on this evidence, the researchers conclude that in order for paraprofessionals to be more effective at preparing and maintaining the files for these meetings, their attendance at these meetings is just as important.

### Implications and Recommendations for Practice

A number of implications and recommendations for practice that may be beneficial to alternative school campus administrators and other professionals can be made from this study.

1. **Implication:** There is a noticeable difference between the subgroups regarding Clerical Work and Delivery of Instruction responsibilities. For principals and teachers, Clerical Work and Activity Preparation domains were reported as having the items of least importance and ranked below delivery of instruction. Yet, paraprofessionals reported being more prepared and confident performing clerical duties than instructional duties.  
**Recommendation:** Provide professional development on curriculum and instructional strategies to increase paraprofessionals’ effectiveness and confidence when providing instructional support to students.
2. **Implication:** Paraprofessionals reported being well prepared and highly confident regarding their ethical responsibilities. However, about a fourth of paraprofessionals were not skilled or confident regarding procedures for reporting suspected child abuse.  
**Recommendation:** Professional development regarding ethical responsibilities needs to be

focused more towards district and campus policy regarding procedures for reporting suspected child abuse and neglect.

3. **Implication:** At alternative schools, behavior management and supervision of students are among the top responsibilities of paraprofessionals. Paraprofessionals reported being well prepared to handle the responsibilities of supervision in nonacademic settings. Regarding behavior management, paraprofessionals were least prepared and confident at providing support as directed by students’ IEPs.  
**Recommendation:** Professional development should be geared towards modeling what supervision of students looks like in academic settings and on implementing behavior management plans and providing behavior support in accordance with the procedures outlined in IEPs.
4. **Implication:** Role clarification is needed to effectively support all students, including those with disabilities.  
**Recommendation:** Principals need to work with general education and special education teachers to clarify their responsibilities for providing instruction in classrooms; then they need to establish appropriate responsibilities for paraprofessionals. Also, campus and district administrators need to work with state administrators to develop standardized competencies for assessing paraprofessionals’ performance in inclusive settings.
5. **Implication:** There is a disconnect between principals’ perceptions as to the importance of paraprofessionals actually attending parent conferences and other student-focused meetings versus only preparing the necessary paperwork for these meetings.  
**Recommendation:** Paraprofessionals should attend the parent/student conferences of students for which they provide services. Instruction on effectively communicating appropriate information about students’ performance and abilities should be the focus of professional development.

### Limitations

Limitations of this study may be the use of surveys as the only means of data collection. Although there are many advantages to using surveys, there are a few disadvantages that may affect the validity. For example, because a survey is a self-report measure, the participants might not answer truthfully. Also, participants may answer incorrectly because of not having a clear understanding of what is being asked. The lack of a standard definition for alternative schools and consistency across DAEPs may also be limitations to this study. To address this, the researchers set clear criteria for DAEP site selection. In addition, the small sample size of this study may generate generalization concerns. However, the researchers selected six different campuses from different LEAs to address this concern.



### Recommendations for Future Research

Future researchers need to explore efficient and effective ways to provide professional development to paraprofessionals at disciplinary alternative schools. Some suggestions include consultation model, team-based trainings, Web-based trainings, and university partnerships. Experimental or quasi-experimental research needs to be conducted at alternative schools to determine the best ways to equip paraprofessionals to provide instructional support in classrooms. Also, although the supervision of paraprofessionals at alternative schools was beyond the scope of the present study, future research is recommended in this area. Doing so may lead to district and state administrators developing basic core standards to better prepare paraprofessionals to effectively provide services to students in alternative programs.

Campus administrators should conduct a needs assessment to determine the needs of the students and the program, then use the data to identify and prioritize training needs. In the present study, researchers determined that paraprofessionals needed professional development in the area of providing instructional support to students, with OJT being the preferred delivery method. This study is not an all-inclusive guide for providing professional development for paraprofessionals in disciplinary alternative schools; it is a resource that can be used to augment the process.

As with traditional campuses, principals and administrators at alternative schools have a responsibility to ensure staff members are qualified to perform their assigned tasks (Ashbaker & Morgan, 2006). This will require that paraprofessionals receive appropriate professional development to improve their knowledge and skills. The quality of that professional development can ultimately impact the quality of service they provide to students in alternative programs.

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# Perceptions of Implementing Positive Behavior Interventions and Supports in High-Need School Contexts Through the Voice of Local Stakeholders

Sara C. McDaniel, Sunyoung Kim, and Kelly W. Guyotte

**Abstract:** Positive behavior interventions and supports (PBIS) is an evidence-based framework for preventing and treating challenging behavior in schools and improving overall school climate. The efficacy of this positive, proactive framework has been well established across varying school settings, yet little is known about schoolwide PBIS implementation and sustainability in high-need school contexts. This qualitative study investigated perceptions of the barriers and facilitators to implementing and sustaining PBIS in high-need schools from the perspectives of four stakeholders. A semistructured focus group was conducted with stakeholders from high-need schools with experience in implementing PBIS. Four key categories were identified: (a) perceptions of PBIS outcomes, (b) challenges, (c) additional supports, and (d) suggestions for improving PBIS in high-need schools. Practical implications and next steps are discussed.

Positive behavior interventions and supports (PBIS) is a prevention framework for establishing positive school climate and student behaviors (Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008; Simonsen et al., 2012). The framework provides a proactive system for promoting students' success in schools by employing a multitiered continuum of support with evidence-based behavior interventions for all students (Fallon, O'Keeffe, Gage, & Sugai, 2015).

## Implementing and Sustaining Tier 1 PBIS in High-Need School Settings

The effectiveness of PBIS in a decrease of students' negative outcomes such as expulsions, office discipline referrals (ODRs), and suspensions has been reported in an extensive body of research (Bradshaw, Mitchell, & Leaf, 2010; Simonsen et al., 2012; Simonsen, Sugai, & Negron, 2008). Therefore, over the past decade a rapidly increasing number of schools in the United States have adopted PBIS. As of 2014, approximately 20,000 schools across states have reported that they have received training and assistance from The Technical Assistance Center on Positive Behavioral Interventions and Supports and have implemented PBIS (Horner, 2014; see also [www.pbis.org](http://www.pbis.org)).

The schoolwide approach is implemented in three tiers, including universal schoolwide, targeted, and intensive individual interventions. Tier 1, the universal schoolwide level, is to support all students schoolwide and prevent the development of problem behaviors. For the approximately 15% of students for whom universal intervention is not beneficial, targeted interventions at Tier 2 are provided with small groups or individual interventions. Tier 3 interventions focus on students with chronic and serious behavior problems, providing intensive, individualized interventions such as a behavior intervention plan or a wraparound approach (Horner & Sugai, 2015; Kerr & Nelson, 2009).

Among the three tiers of PBIS, the universal intervention has produced the broadest impact on school contexts and students as it requires a significant number of staff and targets all student populations (Lohrmann,

Forman, Martin, & Palmieri, 2008). Because it focuses on supporting all students, the universal intervention is mainly intended to prevent problem behaviors across the school by establishing and instructing schoolwide behavior expectations (Lohrmann et al., 2008; Horner & Sugai, 2015). To implement the universal level (schoolwide PBIS; SWPBIS) of PBIS with high fidelity, there are several general features involving the following.

- SWPBIS is implemented by an established PBIS team within the school.
- The team typically consists of eight to 12 staff, administrators, teachers, representative parents, and students whose roles are related to planning and implementation of SWPBIS and data-based decision making.
- Among the team, one or two members (typically the school psychologist or counselor) serves as the team coach to provide on-site support to their team;
- The team establishes three to five positively stated schoolwide expectations, as well as a concrete reward system for students.
- The entire school presents a cohesive approach to providing a positive school climate and a consistently implemented consequence system while the administration and PBIS team collect and analyze behavior data on a regular basis as part of a data-based, problem-solving approach to reduce discipline incidences and improve school climate.

A recent study by Farkas and colleagues (2012) supported the effectiveness of Tier 1 implementation. They implemented the Tier 1 intervention of PBIS, SWPBIS, in an alternative school setting to support students in grades 5–12 who have an emotional disturbance or otherwise are health impaired. As the Tier 1 intervention was schoolwide, all staff involved in the school (i.e., teachers, social workers, administrators, and psychologists) and all students participated in the program. Through the implementation with fidelity ensured, they found that Tier 1 intervention was effective to promote students' appropriate behaviors

and to decrease the number of ODRs. Additionally, the staff and students reported that implementation of Tier 1 intervention was socially and contextually valid and met the needs of their educational settings.

While there are a significant number of schools implementing SWPBIS across the country, there is a scarcity of research investigating not only the effectiveness of SWPBIS, but also its challenges and applicability in underserved, high-need educational contexts such as high-poverty school settings. Socioeconomic status is one of the many important cultural factors that influence one's quality of life. Students living in economically disadvantaged environments are at an inflated risk for failure in school (Piotrkowski, Botsko, & Matthews, 2001). These failures are frequently related to consistent behavior problems and poor academic performances (Turnbull et al., 2002), and schools in high-poverty areas also experience challenges in efficiently supporting the high number of students with problems (Lassen et al., 2006). Supporting children and school districts in such high-need areas is, thus, a critical task for practitioners and researchers.

A paucity of research exists examining the effectiveness of schoolwide PBIS in high-need schools to help overall school climate and students' social, emotional, and behavior development (Lassen, Steele, & Sailor, 2006; McCurdy, Mannella, & Eldridge, 2003). Lassen and his colleagues (2006) conducted PBIS involving multiple schools in urban areas that were characterized by many high-risk factors such as poverty. They incrementally provided tiered interventions to benefit all students over three years, and the results revealed that there were significant reductions in the number of ODRs and suspensions per student, indicating a decrease in students' problem behaviors. Implementation of PBIS and the decrease in such negative student outcomes might also suggest the improvement of the school climate and functioning, as the administrative time taken to process each ODR was promptly reduced and could be used more proactively through endeavors such as teacher training. Moreover, students' academic performance in math and reading on standardized tests was also improved with PBIS. These results suggest that PBIS is an effective framework for high-need schools in improving school climate, reducing discipline, and improving academics through increased time spent in instruction. Given the complexities of high-need schools (e.g., high student transiency rate, teacher turnover, limited budget, and home/community variables), additional information is needed to guide the planning, training, and coaching efforts needed to implement PBIS in high-need schools. Although the aforementioned research regarding PBIS in various settings illuminates important findings, a paucity of research regarding PBIS in high-need settings exists. Given such, further research is warranted that could address effectiveness of PBIS in high-need settings; adaptations needed to training, coaching, and implementation; and cultural responsiveness of PBIS in an effort to address the documented gap in the literature.

This study aimed to qualitatively explore the perceptions of schoolwide PBIS (SWPBIS) in high-need contexts from various types of education professionals involved with

implementation (i.e., teacher, assistant principal, school psychologist, and school counselor). The purpose of this study was to identify challenges, outcomes, and needs specific to implementing SWPBIS in high-need schools. As there are limited studies on examining challenges or feasibility of Tier 1 implementation across diverse educational contexts, the current research focusing on immediate stakeholders' perceptions of the implementations of SWPBIS in high-need contexts enhances the efficacy of PBIS and strengthens its extant validation. Specifically, by gaining an understanding of how to adapt planning, training, and ongoing coaching and by modifying schoolwide implementation in these unique school settings, SWPBIS can be implemented and sustained with efficacy, improving student and school outcomes. The following research questions guided this study:

1. How was effectiveness of SWPBIS implementation perceived by stakeholders in high-need schools from one school district?
2. How did stakeholders describe barriers to SWPBIS implementation in high-need schools?
3. What, if any, modifications to typical SWPBIS implementation may be necessary to address the complex contexts in high-need schools?

## Method

### *Case Study Design*

This study used a case study design. Yin (2014) explained that case study research seeks to understand the complexities of "how" or "why" some social phenomenon works" (p. 4) and, in particular, it explores an ongoing phenomenon "over which the researcher has little or no control" (p. 14). In this study, the schoolwide implementation of PBIS was a contemporary phenomenon as it was being used in the selected school district and the researchers were not directly impacting the implementation. Rather we were interested in understanding how it was being implemented and perceived.

The unit of analysis, or case, for this study was a school district in the Southeast region of the United States. The school district lacked a district-level PBIS initiative and district-level buy-in for PBIS implementation and individual schools within the district varied widely in PBIS efforts. Limited universal, Tier 1, SWPBIS training conducted by the state department had occurred statewide seven years prior to this study, and much of the district had drifted away from implementing critical PBIS components. Some schools identified the need for retraining as part of school improvement efforts, particularly for schools deemed "failing." Because the specific context of this district was of interest, this is an instrumental case study in which the "choice of the case is made to advance understanding" (Stake, 2005, p. 445) of SWPBIS in high-need schools.

### *Participants*

In this case study, participants were considered for participation in a focus group using purposive selection. In purposive selection, individuals are sought who can

provide information relevant to one's particular research interest (Maxwell, 2013; Patton, 1990), in our case those who have experiences with and knowledge of SWPBIS. Thus, selection was based on the following inclusionary criteria: (a) current or former employee who worked in/served a high-need school that had been trained to implement SWPBIS in the past two years; (b) stakeholder at the school who was involved in SWPBIS implementation; (c) participants across the K-12 grade level spectrum; and (d) varying school professionals, including administration, classroom teachers, and supporting services professionals (i.e., school counselors, school psychologists). Participants were confirmed to meet the inclusionary criteria during the recruitment phase. School representatives from these varying roles within the same school district were recruited due to their experience with SWPBIS from different perspectives with the district and in their schools. SWPBIS is a complex systems framework that requires participation from everyone in the school, particularly members of the school's SWPBIS leadership team. Focus group participants were recruited to represent these varying aspects of SWPBIS implementation in high-need schools. High-need schools were defined as (a) having above average rates of students qualifying for free and reduced lunch services, (b) having currently or previously been identified as a low-achieving or failing school, and (c) having majority minority student population. Researchers who trained and supported PBIS efforts at local schools identified participants through confirming inclusionary criteria and reaching out to recruit for participation. Four participants agreed to participate and were invited to engage in a focus group. The participating school district had a limited number of high-need schools that had been trained in and were implementing SWPBIS. Thus, recruitment for participation focused on representation of different roles within the schools that met the criteria for recruitment.

While the number of participants included is small, their experiences represent a variety of roles and grade levels. The four participants represented the varying school levels and roles within schools and included one elementary teacher, one elementary counselor, one middle school assistant principal, and one school psychologist who served a cluster of schools in a high-need area of the district across all grade levels. All of the participants worked in the school district described above. Their names have been replaced with pseudonyms for the purpose of confidentiality.

Dr. Fredrick represented the middle school that had a recently recorded Schoolwide Evaluation Tool (SET) score of 54% implementation fidelity, 500 students, and 77% of the student body qualifying for free and reduced lunch (indicating "high-poverty" status). Ms. Bragg and Mrs. Fine represented the elementary school that included PBIS remediation in their school improvement grant to turn around their "failing" school and had 450 students, a recent SET score of 74%, and 96% of the student body qualifying for free and reduced lunch. This elementary school had developed a new PBIS framework three years prior to this focus group discussion and had been receiving regular technical assistance for supporting these PBIS efforts. Mrs. Hinton represented the high school with approximately 700 students, a recent SET score of 35%, and 87% of the student body qualifying for free and reduced lunch. Mrs. Hinton, as the school psychologist, was responsible for other schools within the district but spoke from her experience with this high school. All of these schools ranged in racial makeup from 95% to 100% African American student populations. The district overall included approximately 10,000 students, with approximately 41% African American and 65% of the student body who qualified for free and reduced lunch. See Table 1 for participant demographics.

Participants all worked in schools deemed "high need" with the following characteristics: (a) currently or

Table 1

*Participant Demographics*

	Gender	Highest Degree	Years of Experience	Position	School Level
Ms. Bragg	F	Bachelor's	37	Counselor	Elementary
Mrs. Fine	F	Bachelor's	24	Teacher	Elementary
Dr. Fredrick	F	Doctorate	17	Assistant Principal	Secondary
Mrs. Hinton	F	EdS	14	School Psychologist	Elementary and Secondary

recently failing school and (b) more than 75% free and reduced lunch status among students. The medium-sized school district educated students of varying backgrounds with diversely rated school performance across the district, correlated generally to regions of the districts with poor-performing and high-performing schools. The local communities in which the targeted schools were housed were also traditionally poor, underserved, and with high rates of transiency due to low-income housing issues.

### Procedure

For the focus group discussion, the researchers developed 16 questions in the following four categories: (a) general PBIS implementation, (b) outcomes, (c) adaptations to Tier 1 implementation, and (d) leadership. The list of questions addressed gaps in the literature identified by the researchers: practical experiences in training, supporting culturally and contextually responsive PBIS, and including implementation

in high-need schools. There were five questions related to the general PBIS implementation category, five in the category of PBIS outcomes, three questions in the category pertaining to adapting Tier 1 PBIS, and three regarding leadership and Tier 1 implementation. See Table 2 for focus group questions by category. The recorded focus group discussion took place with the one researcher and the four participants using the focus group guide and an audio recording device. The audio recording began once the participants completed consent procedures and continued until the end of the discussion. Overall, the focus group was semistructured (Roulston, 2010) as the researcher facilitated the discussion by asking the predetermined questions, allowing participants to answer and discuss the topic, and probing for follow-up statements from the group. After the focus group, a research assistant transcribed the discussion. The focus group audio and transcriptions comprise the data for this case study.

Table 2

*Focus Group Questions*

General	<ol style="list-style-type: none"> <li>1. What was your expectation in implementing PBIS?</li> <li>2. Do you think student behaviors changed due to PBIS?</li> <li>3. Is there anything you did not like?</li> <li>4. Are you satisfied with the outcomes?</li> <li>5. Do you recommend PBIS to other educators?</li> </ol>
Outcomes	<ol style="list-style-type: none"> <li>1. How did you establish challenging, achievable expectations for all students that are considerate of contextual and cultural learning histories?</li> <li>2. How did your school identify educationally positive student social expectations and behaviors that have similar meaning, understanding, and acceptability across all students, all faculty and family members, and all school settings?</li> <li>3. How well were the expectations and shared values communicated with parents and students?</li> <li>4. How did you promote parents and family participation?</li> <li>5. What recommendations do you have to elicit more positive outcomes for those students?</li> </ol>
Adaptation	<ol style="list-style-type: none"> <li>1. What kinds of adaptation were needed to fit the contextual need?</li> <li>2. For the better contextual fit, what kinds of adaptations would be needed in the future?</li> <li>3. How fairly was discipline applied to all students?</li> </ol>
Leadership	<ol style="list-style-type: none"> <li>1. How was the membership of the school leadership team representative of the cultural groups of the school and community?</li> <li>2. How did the membership of the school leadership team reflect cultural and contextual community and school needs?</li> <li>3. How did the school district support your PBIS initiative?</li> </ol>



## Data Analysis

Data were analyzed inductively using techniques of grounded theory. The analytic process began during transcription and proceeded through open coding (Corbin & Strauss, 2008). Open coding is an iterative process of inquiring into the raw data as it is broken down and assigned short descriptive labels (Charmaz, 2014). As a means of investigator triangulation (Golafshani, 2003), the researchers separately read and coded the transcript and constructed an initial list of emerging categories. For example, one researcher described four initial primary categories (i.e., outcomes, challenges, additional support needed, and suggestions for improving PBIS); and the second researcher described six categories (i.e., perceptions of efficacy, influence of poverty, lack of fidelity, discrepancy of shared values, cultural influence, and suggestions).

Next, the researchers reviewed these emerging categories using the constant comparison method (Glaser & Strauss, 1967) comparing data as they considered the categories and moved toward broader themes. The final themes were: (a) perceptions, (b) challenges, (c) supports required in high-need schools, and (d) suggestions for improving PBIS in high-need schools. For the themes that emerged, it was determined that each would be subdivided into smaller subthemes that fit within the broader context. These subthemes represent the more nuanced distinctions within each broader theme and were determined through both researchers' cooperative work. For example, through our coding and comparative process, "challenges" emerged as a theme. Everything related to the challenges for implementing PBIS was coded under the theme and then identified into six subthemes upon which both researchers agreed: (a) state, district, and administrator support; (b) teacher training and buy-in; (c) complex high-need student issues; (d) lack of parent and community involvement and shared value; (e) challenges in secondary schools; and (f) culture of poverty. The researchers then worked collaboratively to summarize findings for each theme and identified quotations from the transcript that matched and underscored the resulting summaries using analytic processes to identify themes.

## Results

A total of four primary themes developed through the analytic process and each theme contains emerging subthemes. Results included summaries of the comments made in relation to each theme along with supporting quotations from participants.

### *Perceptions of PBIS Outcomes*

Participants indicated that results from implementing PBIS in high-need schools vary depending on fidelity, grade level, buy-in, and leadership support. They stated that high-need schools require alternatives to exclusionary discipline and that they thought PBIS is effective at improving rates of ODRs, suspension, and special education referrals. When PBIS is in place, they believe it can also improve academic performance. Ms. Hinton said,

I think the results, you know, were varied by implementation levels of grade levels, implementation levels of teachers whether they really bought into it, owned it, felt like it was a way to really change the culture of the schools to improve the overall climate for the children and the teachers.

Dr. Fredrick said, "Schools who are really trying to be very positive and consistent, and all of those things that we know work for behavior, for reinforcing appropriate behavior, there's more success when they're doing that regularly."

### *Challenges*

Throughout the focus group discussion, several barriers to implementing PBIS in high-need schools were highlighted by participants. Within this theme, the following emerged: (a) state, district, and administrator buy-in; (b) teacher training and teacher buy-in; (c) complex, high-need student issues; (d) lack of parent and community involvement and shared value for positive behavior support; (e) challenges in secondary schools; and (f) challenges due to a culture of poverty.

**State, district, and administrator support.** Support from state, district, and school leaders is critical to implementing and sustaining PBIS, particularly for high-need schools. Participants from high-need schools perceived resource allocation and distribution as not being matched to student needs in all educational support areas, including PBIS, from the state and district level administration. Support for PBIS at the state level should include (a) prioritizing PBIS as a critical initiative, integrated with additional student supports; (b) providing resources, training, and awareness; and (c) monitoring implementation and adherence to evidence-based PBIS practices. Additionally, it is essential that districts provide similar support to all schools within a district with regard to PBIS implementation. It is possible that high-need schools may require additional resources such as personnel, training, coaching, and budget for PBIS. Therefore, the district should closely monitor PBIS implementation and aptly channel resources and support to match the need of each school.

It was noted that the participants' district does not have dedicated PBIS coaches. Consequently, the PBIS responsibilities, particularly those of the PBIS leadership team, end up with overloaded school personnel such as counselors, school psychologists (who serve several schools), special educators, and administrators.

Administrator support at the school level of PBIS is particularly important to fidelity. When the administrator is not supportive or there are changes in leadership, priorities shift away from PBIS. Buy-in and momentum for PBIS drift and administrators spend more time with reactive, punitive disciplinary procedures. Participants noted that they experienced changes in leadership that drastically affected PBIS implementation. Specifically, in each case discussed, when the principal left, the new principal who came in did not have an understanding



of PBIS, and particularly the PBIS framework that had been previously implemented at the school. In both cases discussed, PBIS efforts drifted with school climate and student outcomes suffering.

The new administrator should seek to bring teachers together and gain an understanding of PBIS and the individualized framework that exists. Ms. Bragg said, "Suspension's probably not changing that child's behavior . . . leadership is huge until you get the behaviors under control. It's hard to move past the behaviors to the academics, and our priorities I think need to change a little bit." Dr. Fredrick said, "When you have a change in leadership there's a different focus of priorities and what's important and what you value."

**Teacher training and buy-in.** Teachers need initial and ongoing training on the historical foundation and critical components of PBIS in addition to the specific PBIS framework at their school. Some teachers in high-need schools may require additional support when there are issues with buy-in and implementation. Many times, teachers feel underprepared to handle challenging behavior and complex student issues and they do not have the knowledge and skill to implement positive, proactive strategies. Teachers tend to default to negative, punitive reactions and get in power struggles with students. Participants explained that this type of school climate makes teachers feel so frustrated and overwhelmed that sometimes suspending students provides them with a break from students with challenging behaviors. Explicit training sets the tone and increases consistency and buy-in across the school. Since many high-need schools experience teacher transiency, it can be difficult to get new teachers on board with PBIS each year. However, teachers and school staff who are new to the school building should be trained on the PBIS framework and what is expected of them in implementing PBIS. Brief booster trainings can be held during planning days prior to the start of the new school year to prevent implementation issues for new teachers. Schools also need to plan for drift across the school year and to keep the PBIS system exciting. Ms. Bragg said, "We spend a lot of time and energy and effort, and then we just let it go. And we don't continue." Mrs. Fine said, "Teachers are tired and so our patience is less, and so we need some ways to kind of boost that." Mrs. Fine also said, "It's not because of a lack of trying; it's not because they don't want to; they're just at a loss." Dr. Fredrick said, "I am soft spoken . . . but then I've gotten to where I've started raising my voice at the kids. And I hate when I do that."

**Complex high-need student issues.** Students in high-need schools have several environmental, contextual issues that can serve as barriers to successful PBIS implementation, a positive school climate, and reduced disciplinary problems. Specifically, participants discussed that home, community, and school structures and expectations can vary, which is confusing to students who have to learn two or more sets of expectations and modify their behavior according to their setting. At high-need schools, students may experience poor school climate resulting from power struggles between adults and students, an emphasis on

reactive disciplinary procedures, and poor morale. When there is misalignment between behavior expectations across the home, community, and school settings, schools need to focus on explicitly teaching students new, appropriate skills; use consistent language when referring to expected behaviors; and provide effective and regular reinforcement when positive, expected behaviors occur. Dr. Fredrick said,

I think your average typical child is going to be able to say, 'Okay when I'm at school these are the expectations.' And they're going to adhere to that. And then when I'm at home it's a little bit different. And I think typical kids have that flexibility. And then it might be a little more challenging for some kids. It may take them a little bit longer. You might just have to say, 'Listen, when you're at school this is what we expect. I know Mom's rules are different.' And they may not know that they have other options of what they can do or what they can be. And that's where we have to come in and show them.

**Lack of parent and community involvement and shared value.** Participants highlighted that a lack of shared values between the school and the family exists in communities of high-need schools. Lack of parental involvement, poor communication channels, and differing educational approaches in high-need schools create barriers for improving student behavior at school. Some parental educational approaches at home are misaligned with positive, proactive teaching practices at school. The elementary school involved in this study had a parent liaison who was focused on informing parents of initiatives at the school such as PBIS. High-need schools should make focused efforts to involve parents in PBIS implementation, including inviting parent representatives to meet with the PBIS leadership team when appropriate. Schools may also choose to send PBIS materials home to educate parents and increase consistency of expected behaviors across home and school. Ms. Bragg said, "They [parents] really don't know what to do." Ms. Hinton said, "Then if we are trying to undo that and do something the total opposite at school, then if the parents aren't equipped with the same skill at home then the kids are experiencing both of these approaches."

**Challenges in secondary schools.** Participants discussed differences for implementing PBIS in secondary settings. They expressed that in middle and high schools, students continue to struggle with school behavior and, therefore, continue to require explicit instruction in behavior and that teachers need guidance specific to serving adolescents in secondary settings. Participants identified that low expectations for student behavior, limited options of reinforcers for secondary students, and changing (moving) classes are the factors that correlate with secondary students' problem behaviors and PBIS implementation. Dr. Fredrick said, "It's really hard to find a way to positively reinforce middle and high schoolers." Establishing supportive and close relationships and mentorship with students is important for their behavior development and improvement in adolescents. Additionally, creating a

schoolwide PBIS framework that is adapted to secondary students—their personal characteristics, setting requirements, and movement toward promoting independence and preparation for college and career—is critical to success for PBIS at the secondary level. Dr. Fredrick said,

I got to spend almost a full year at a middle school. And I saw no positive behavior supports at all in place really . . . there were lots of needy children who would end up in my office just because [they] needed somebody to listen to them or talk to them. It's such a difficult age and I just didn't see a whole lot there. We are losing our kids in middle school. We have got to build some relationships with our children so that we can teach them right or wrong whether they're angry with us or not.

**Culture of poverty.** Various environmental factors from poverty affect students' learning and behaviors. Factors highlighted in the discussion include fundamental requirements (i.e., lack of shelter, safety, nutrition, nurturing) and poor quality of life issues such as changes in caregivers, exposure to violence, bullying, and greater risk for disability resulting from exposure to environmental factors such as poor nutrition or fetal alcohol syndrome. Participants also reported student and school culture differences between high-need urban and rural schools. They discussed (a) varying amounts and quality of educational resources and activities, (b) different levels of learning, and (c) varying beliefs and attitudes toward school. Participants reported challenges for planning the best instruction that meets the students' and district's needs in such challenging, high-need environments. Dr. Fredrick said,

Somebody has to . . . have expectations of you, believe in you, and teach you when you need correction about things. . . . I think it is poverty . . . today they use the term hyper-poverty which is generational poverty that is ongoing. . . . It's hard to break some of those cycles.

Mrs. Fine said, "Typically with a lot of parents [from poverty] their default discipline approach is the negative . . . the punishing, spanking and all that." Ms. Bragg said, "You can teach a lot but you cannot go back and undo a lot of that [issues of poverty] damage that is done." Mrs. Fine said, "It's hard to teach in schools of poverty. It can be challenging."

#### *Additional Supports Identified*

**Tiers 2 and 3.** Participants discussed having a limited knowledge base for supports and interventions at Tiers 2 and 3, but all agreed that they would like to learn more strategies and how to more effectively implement supports and strategies at high-need schools for students requiring Tiers 2 and 3. They also highlighted issues with the amount of resources required to implement Tiers 2 and 3 effectively but recognized the importance of targeted and intensive interventions for students in high-need schools.

They indicated that it is possible that more students than the typical 10-20% of students at high-need schools may require Tiers 2 and 3 supports. Ms. Bragg said, "A lot of ours need something else," referring to Tier 2 and Tier 3 supports and interventions. She elaborated: "Because . . . we have a different population. People don't want to say it or believe it or think it, but we do have some issues with kids over here. . . . They're all not the same." Dr. Fredrick said,

If we can strengthen [Tier 1] I think that will relieve a lot of stress on our teams to take care of the ones who are still struggling . . . we definitely needed more support on what to do when they didn't fit into that [Tier 1].

**Classroom management.** In addition to feeling ill-equipped to provide Tier 2 and Tier 3 supports and interventions, participants discussed a knowledge gap with regard to classroom management strategies for students in high-need schools who exhibit challenging behaviors and experience academic failures. Many teachers struggle with classroom management and rely on ODRs as a reactive means to change behavior. Participants identified that, along with training and support for PBIS, teachers need assistance with positive classroom management strategies and indicated that support from seasoned administrators who can lead improvements in classroom management practices would be helpful. Mrs. Fine said,

We need help as teachers. To learn how to change it back toward what it [classroom management practices] needs to be . . . we get frustrated, and we resort to the one thing the kids are going to sort of pay attention to, which is to raise our voices. So, we need to be retrained and retooled to find those positive ways of doing it.

**Preschool and mental health.** The last theme of additional areas of support for educating students in high-need schools that was discussed in relation to PBIS was the need for high-quality, publicly funded preschool and school-based mental health services. Participants discussed the difficulty they experience in educating young children who come to school in kindergarten without any previous school experience. Additionally, they discussed the heavy burden experienced in high-need schools to provide wraparound social work and counseling services to students with mental health needs. Mrs. Fine said, "We definitely needed more support on what to do when they didn't fit into that." Ms. Bragg said, "We've got to have ongoing continuous support in those areas [preschool and mental health]. We needed the PBIS . . . but then we definitely needed more support on what to do when they didn't fit into that."

#### *Suggestions for Improving PBIS in High-Need Schools*

In addition to ideas mentioned above, the group of participants discussed suggestions to provide culturally

responsive PBIS in high-need schools at length. Participants discussed having high, yet realistic, expectations for students and having an understanding of the need for a contextual fit between teachers who may come from different socioeconomic backgrounds, different cultures, and different races from the students they educate. They again emphasized the need for consistency across the building to improve fidelity of implementation and to promote motivation for teachers and leadership. Further, participants identified a need for added training and support for teachers in high-need schools in order to incorporate culturally responsive practices in PBIS, classroom management, and wraparound services. Finally, the group discussed the need to integrate community partners and parent viewpoints into the universal PBIS framework. Mrs. Fine said, "It's got to be cultural responsive and relevant. You wouldn't find a catchall I wouldn't think. You're not going to be able to find a catchall to fit everybody. It's going to be individual." Dr. Fredrick stated,

It's going to vary school to school. So school to school needs to look different. Our challenge was to have a plan that meets the needs of a district where you've got more affluent schools, very poverty-stricken schools, where you've got preschool through high school. We wrote a general framework, and then it's up to the school to make decisions. . . . So what are the values for your school? And your demographic and your age groups? I think it's got to be relevant to the children you are working with.

Ms. Bragg said, "You invite people in from the different entities to come in. To talk about. To discuss . . . and see what we can take from it to make it work for my school." Dr. Fredrick elaborated:

We have to know from the community what it is that you expect of our children. What is it that we want for our children when they leave high school, when they leave elementary school, when they leave middle school? What should that ideal package look like. . . . I think that comes back to those social norms, those social rules, that hidden culture . . . because there needs to be some accountability and ownership with it.

## Discussion

The purpose of this study was to provide better understanding of education professionals' perceptions of schoolwide PBIS in high-need contexts. In many ways, the feedback received mirrors that of educator perceptions of PBIS that were not specifically working in high-need schools. Various education professionals who implemented Tier 1 PBIS components reported:

- their perceptions of PBIS outcomes;
- challenges (i.e., lack of state, district, and administrator level support; teacher training and buy-in;

issues in high-need students; lack of parent/community involvement; challenges in secondary settings; and poverty issues);

- the need for further support (i.e., Tiers 2 and 3; classroom management; and high quality, publicly funded, preschool mental health support); and
- recommendations for implementing culturally responsive schoolwide PBIS in high-need schools.

All educators emphasized the importance of further training and continuing support for implementation of effective culturally and contextually responsive PBIS with high fidelity. Ms. Bragg summarized the discussion,

If the leader, the principal, is not there, it's not going to work. If all the teachers are not buying into it, it's not going to work. And if you are doing it with the students and you're not being consistent, it's still not going to work. So, everything has to fit together, and everybody has to be on the same page to make it work.

Participants' positive perceptions of PBIS outcomes in the current study are consistent with previous research that examined the effectiveness of PBIS research (Bradshaw et al., 2010; Lassen et al., 2006). As in the findings of other research, the participants in the current study reported that PBIS implementation was specifically effective at reducing students' problem behaviors (i.e., the number of ODRs and suspensions), as well as improving students' education environment and academic outcomes. Their positive evaluations of PBIS added strength to the evidence base and efficacy of existing PBIS studies.

However, all the educators believed that there are several challenges in implementing PBIS in high-need schools. They felt that the support from the administrator level was not sufficient to arouse the motivation for all educational staff to participate. Trainings were not consistent and ongoing support and feedback were not provided. Therefore, failing to create teacher buy-in is not surprising (Kincaid, Childs, Blase, & Wallace, 2007). After the initial training, some teachers in high-need, complex school settings thought that they were left with increased burdens and responsibility for implementation of PBIS and for handling students' problem behavior with limited knowledge. These findings were also fairly consistent with previous research and support previous analyses of the barrier factors for PBIS implementations (Kincaid et al., 2007; Lohrmann et al., 2008). As Lohrmann et al. (2008) described, with such challenges, school staff would remain more skeptical or resistant about adopting and implementing PBIS, particularly at the universal intervention.

The significance of this study was highlighted by identifying the barriers and challenges in implementing PBIS in high-need contexts from perspectives of educators. The educators represented in this study commonly recognized the influence of poverty on students' academic performance, behavior development, attitudes in schools, and

increased likelihood of disability identification (O'Connor & Fernandez, 2006). The culture of poverty, as a significant environmental factor, also pervasively affected school climates and quality of instruction. Such negative impacts of poverty were often exacerbated by lack of parent/community involvement, parents' indifference, and different styles of addressing discipline. These complex factors of poverty seemed to strongly impact students' educations and to make teachers' roles more crucial for students who are struggling to be educated by school culture and expectations (Baker, 1999), but led to teachers feeling underprepared. To address these complex issues, it may be necessary to integrate additional supports at the universal level with wraparound services in high-need contexts. Future research should examine the feasibility and efficacy of adding universal interventions for high-need schools.

The participants pointed to the need for improvements that could make PBIS more culturally responsive and contextually sensitive. Their recommendations were commonly related to systematic assistance to schools and teachers to develop and implement a PBIS plan based on understanding the expectations and needs of each school context and student. They specified that integrating feedback from community partners and parents and providing flexible, age-appropriate, and feasible schoolwide expectations and reward systems should be prioritized. They also specified that constant training and on-site coaching supports for school-level implementation would facilitate successful implementation of PBIS (Kincaid et al., 2007). It may also be necessary to provide additional coaching support for PBIS implementation in high-need schools. Future research should examine necessary coaching "dosage" to yield implementation fidelity in high-need schools.

The results of this study should be interpreted with the understanding of methodological limitations. First, only four participants provided feedback in the focus group discussion. While this provides important initial voice from those who work in high-need schools, future research should include perceptions from more participants across varying high-need school settings such as urban and rural settings. Second, this study was conducted in the Southeast region of the United States and some issues discussed may be state or region specific. Future research should include educators' perceptions from regions that are nationally representative. Finally, the focus group conducted for this study included a semistructured procedure with predetermined questions aimed at gaining a basic understanding of PBIS implementation in high-need schools. Future research should further explore the themes that emerged from this preliminary study.

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# Predicting High School Freshmen Dropout Through Attentional Biases and Initial Grade Point Average

Gregory P. Hickman, Margaret F. Sabia, Randy Heinrich, LaCoñia Nelson, Frances Travis, and Tracy Veri

**Abstract:** The authors examined the predictive nature of attentional biases and initial grade point average of ninth graders dropping out of high school. Attentional biases are cognitive shifts in focus that are linked in both time and context toward stimuli perceived by an individual as threatening. Data were collected from 68 high school freshmen (45.6% male; 2.9% African-American, 77.9% Caucasian, 7.4% Hispanic, 4.4% Native American, 7.4% Other) who participated in a longitudinal study beginning in their freshman year of high school and ending when students either graduated from or dropped out of high school. We determined if youth who subsequently graduated or dropped out of high school showed attentional biases toward school-neutral and school-threatening cues. Study participants completed a computerized probe detection task design, which measured participants' reactivity to possible attentional biases. Using logistic regression, we found attentional biases toward school-related cues and ninth-grade initial grade point average were significant predictors ( $p < .05$ ) that increased the odds of students dropping out of high school. We discuss the implications of the findings for investigating attentional biases among school-based, non-clinical populations and use of attention biases screening to improve provision of interventions for students at risk of dropping out of school.

The United States is facing a school dropout crisis, with an estimated 2.2 million members of the 2013 high school graduating class not earning diplomas (U.S. Census Bureau, 2013). Moreover, the U.S. annual dropout rate ranges from approximately 7–30%, depending on the ethnic group studied (Bowers, Sprott, & Taff, 2013; Hickman & Heinrich, 2011; Hickman, Bartholomew, Mathwig, & Heinrich, 2008; Schoenberger, 2012). Although researchers use different methods to calculate high school dropout rates, it is estimated that one in four high school students drops out of school (Hickman & Heinrich, 2011).

Such findings from prior researchers support recent research by Rumberger (2013) that high school dropouts, compared to high school graduates, face extremely bleak economic and social prospects. By comparison, high school dropouts are less likely to find a job and earn a decent living wage, more likely to be below the poverty level, and more likely to suffer from a variety of adverse health outcomes. Rumberger further noted that dropouts are more likely to rely on public assistance, engage in crime, and generate other social costs supported by taxpayers. Despite extensive research efforts, dropout activity still presents a pressing social concern about these at-risk youths and the significant expense for adults without high school graduation credentials and society (Rumberger, 2013).

While legislators and stakeholders increasingly hold school educators accountable for improving graduation rates, there are a large number of additional known factors, referred to as the “usual suspects,” that are moderators of student success (Hickman et al., 2008). These other factors, such as family and community dynamics as well as student cognitive capacity, are often beyond the scope of school staffs' intervention efforts (Hickman & Heinrich, 2011; Rumberger, 2013). Given such, extensive research among educators has focused on contributing dropout factors they can control, namely academic issues such as grades, courses, core subjects standardized testing, attendance,

etc. (Frostad, Pijl, & Mjaavatn, 2015; Irby & Mawhinney, 2014; Madaus, Grigal, & Hughes, 2014; Mahoney, 2014; Maynard, Kjellstrand, & Thompson, 2013). Of particular interest to educators is the importance of a student's grade point average (Hickman & Heinrich, 2011). The authors note that student grade point average tends to be examined and used as benchmarks, criteria, and qualifications for student progress; school funding; admission to various educational, community, and behavioral programs; interventions and treatment; and admission to many postsecondary educational institutions.

Perhaps interest in grade point averages originated from historical research that linked student grades to motivation, self-efficacy, self-esteem, behavior referrals, school suspensions and expulsions, incarceration, attendance, truancy, grade retention, and dropping out of high school (Glueck & Glueck, 1950; Sampson & Laub, 1995). Though such current and historical research contributes to our understanding of the importance of student grade point average and dropping out of high school, such research tends to be cross-sectional, *ex post facto*, and retrospective in nature as opposed to longitudinally tracking cohorts of ninth-grade students' initial grade point average as a key baseline predictor of dropping out of high school.

In addition to overlooking the longitudinal predictive ability of ninth-grade students' initial grade point average, researchers have also overlooked the impact of *attentional biases* or internal cognitive processes on the child's ultimate decision to drop out. Attentional biases are cognitive shifts in focus that are linked in both time and context toward stimuli perceived by an individual as threatening (Bosmans, Koster, Vandevivere, Braet, & Raedt, 2013; Cisler, Bacon, & Williams, 2009; Gilbert, Martin, & Coulson, 2011). For example, a child diagnosed with an anxiety disorder will have a tendency to demonstrate an attentional bias or cognitive shift towards social cues (i.e., dating, friends, school) and physical cues (i.e., hospital, fight, bullying) he or she perceives as threatening (Lonigan

& Vasey, 2009). Lonigan and Vasey (2009) noted that those children have a tendency to focus on or be hypervigilant toward such cues and that attentional biases can lead to cognitive errors, which can further lead to psychological and behavioral difficulties.

Researchers use a Probe Detection Task to measure attentional biases toward words considered to be threatening stimuli (Cisler et al., 2009; Vasey, Daleiden, Williams, & Brown, 1995; Vasey, El-Hag, & Daleiden, 1996). Using a list of both neutral and threatening words, the Probe Detection Task randomly lists two words briefly on computer screens, one word adjacent to the other, after which a probe (i.e., equivalent to a bullet point) would appear in lieu of one of the words—the proctor instructs test participants to press joystick levers when noticing the probes (Cisler et al., 2009). The response/reactivity times, measured in milliseconds, between neutral and threatening word-probe responses represent attentional biases (Cisler et al., 2009). Cisler et al. (2009) found that participants with clinically diagnosed anxiety and behavioral issues reacted more quickly to threatening words (e.g., *fear* and *trouble*) compared to neutral words (e.g., *word* and *time*).

Attentional biases, or the cognitive shift of directing attention and/or thoughts toward aversive and/or anxiety-producing stimuli, is an emerging area of focus for child and adolescent developmental research (Bardeen, Dixon-Gordon, Tull, Lyons, & Gratz, 2014; Belcher, 2014; Perlman, Hein, & Stepp, 2014). For example, attentional bias researchers (e.g., Lonigan & Vasey, 2009; Lonigan, Vasey, Phillips, & Hazen, 2004; Schippell, Vasey, Cravens-Brown, & Bretveld, 2003; Vasey et al., 1995; Vasey et al., 1996) have focused on youth receiving behavioral health support and comparing responses to neutral and threatening stimuli with variables such as academic performance, social skills, and risky behavior. As a result, they found that youth alter emotions and attention and display attentional biases when presented with threatening stimuli. Other researchers have also found youth with test anxiety and reactive aggression likewise demonstrate attentional biases toward threatening words (e.g., *test* and *grade*; Schippell et al., 2003; Vasey et al., 1996). Finally, using a Probe Detection Test, Lonigan and Vasey (2009) examined reaction to aversive- and anxiety-producing stimuli as adolescents responded to reading social threatening (e.g., *teased* and *hated*); physical threatening (e.g., *danger* and *kidnapped*); and nonthreatening (e.g., *color* and *light*) words on a computer by clicking a handheld joystick. The authors found that adolescents with high negative affectivity, which refers to a sensitivity to negative stimuli, demonstrated attentional biases by responding more quickly to aversive and/or anxiety-producing words compared to neutral words. In other words, such adolescents have a tendency to focus on or be hypervigilant to such cues.

### Problem Statement

Although the aforementioned researchers illuminate important findings regarding grade point average, attentional

biases, and high school dropouts, the findings were from research that primarily used clinical samples of children and adolescents diagnosed with various mental health disorders as opposed to nonclinical samples of children and adolescents who were not clinically diagnosed with mental health disorders. Furthermore, while researchers have clearly demonstrated that grade point average is a robust predictor of academic success (Bowers, 2010; Young, Worrell, & Gabelko, 2011), there is a gap in the literature that has not longitudinally examined a nonclinical cohort of ninth-grade students' initial grade point averages and attentional biases as baseline predictors of dropping out of high school. Given such, further research is warranted that could examine this lack of research in an effort to address the documented, ongoing, and pervasive problem of high school dropouts (Heckman & LaFontaine, 2010; Hickman & Heinrich, 2011; Lessard, Butler-Kisber, Fortin, & Marcotte, 2014).

### Purpose/Research Questions

The purpose of this quantitative longitudinal study was to assess the extent to which attentional biases toward school-neutral and aversive/threatening cues and initial high school grade point average predicted the likelihood of dropping out of high school. The authors conducted a longitudinal study using a sample of 68 ninth-grade high school students and tracked this cohort to the point of either graduation or dropout. As GPA is a strong indicator of subsequent school graduation and dropout activity (Hickman et al., 2008), we integrated ninth-grade students' initial GPAs as a variable into the study to help assess the baseline predictability of initial GPAs in conjunction with the potential relative strength of attentional biases as part of the findings. Using logistic regression to address the purpose of our study, we proposed the following research question: What is the predictive relationship of initial grade point average and attentional biases among high school freshmen in dropping out of high school?

### Method

#### Participants

The longitudinal research took place in one high school district in rural eastern Arizona from 2008–2011. The cohort of 68 high school freshmen who participated in this longitudinal study was followed throughout the high school years—from the start of ninth grade through the expected graduation date. Of the 68 participants, 53 graduated from and 15 dropped out of high school. Gender of the participants was equally representative of school demographics, with female students comprising 54.4% of the sample. Furthermore, ethnicity of participants included 77.9% Caucasian-American; 7.4% Hispanic; 4.4% Native American; 2.9% African American; and 7.5% Other. These demographic figures are representative of the school and close to the state of Arizona demographics. Hence, this study was not delimited to rural eastern Arizona. See Table 1 for a complete summary of demographic variables.

Table 1

*Demographic Characteristics of Participants*

Variable	n	%
Gender		
Male	31	45.60
Female	37	54.40
Ethnicity		
African-American	2	2.90
Caucasian	53	77.90
Hispanic	5	7.40
Native American	3	4.40
Other	5	7.40
High School Status		
Graduated High School	53	77.94
Dropped Out of School or the Program	15	22.06

*Procedures and Measures*

With the permission of school administration, an entire high school cohort participated in this study. All 79 available ninth-grade students and their parents agreed and signed informed consent forms that indicated the study was voluntary, participation was not required for any school related activities and grades, and the adolescent participants could withdraw from the study at any point in time. Although all 79 parents and children agreed to participate in the study, six students were absent during the testing period, two did not complete the probe detection task, and three students departed the school district with “unknown graduate status,” leaving a data sample size of 68 students or 88.31% of the original incoming freshmen high school cohort. The calculated sample size for logistic regression analysis using G\*Power was 65 participants (Faul, Erdfelder, Buchner, & Lang, 2009). Thus, our sample size was appropriate.

The study took place over a two-day period in the nurse’s office at the high school. This location was remote from student, faculty, and administrator activities. Participants came to the office one at a time, where we asked each student to complete the attentional bias probe detection task. The average time of completion per participant was approximately 20 min.

**Probe detection task.** Participants completed a computerized probe detection task using E-Prime 2 Professional Software to measure reactivity to stimuli created by Psychological Software Tools located in Pittsburgh, Pennsylvania (Schneider, Eschman, & Zuccolotto, 2012). The computer

testing location was situated in a quiet room in the back of the nurse’s office to avoid any possible distractions. Participants sat approximately three feet in front of the 15-inch Dell laptop computer from which they were tested. The experimenter read the task instructions to each participant before asking them to read the instructions independently in an effort to ensure clarification. The instructions read:

This computer program tests your reactivity. During this test, you will see a small cross centered on the screen. Please focus your attention on this cross. Shortly after you see the cross, two words will appear on the screen, one on top of the cross and one below the cross. A few seconds later, these words will disappear, being replaced by a small dot probe. As soon as you see the small dot, press the number “1” if the dot replaced the upper word and the number “3” if the dot replaced the lower word. This is how the computer measures your reactivity, so press the appropriate keys as fast as you can. Repeat this process until the computer tells you that you are finished. If you do not understand these instructions, please notify the experimenter now. If you are ready to practice, click the number “1” now.

After a 10 word pair practice trial to acquaint participants with the computerized task, students were then prompted to begin the experimental section of the study. This section consisted of 120 trials (60 threat trials, 60 neutral trials) separated at the center of the testing screen by approximately 3 cm and a fixation cross. Threat trials consisted of one school-related word (selected as the potentially threatening words in our study) and one neutral word. Neutral trials contained two neutral words and served as both filler trials to prevent participants from identifying our experimental objective and control trials from which to establish a baseline for comparison. We established content validity for the threat and neutral words by an extensive review from school administrators based on their expertise of school words/cues that graduates and dropouts would perceive as threatening.

We matched all word pairs, both neutral and threatening, for length (i.e., number of letters), as well as vetted and pretested with school administrators for strength of neutrality and threat (see Table 2 for complete word list). All word pairs appeared centered on the computer screen for exactly 1,500 ms (long enough for participant word comprehension) before a small dot probe replaced one of the two displayed words, just 25 ms after their disappearance. Based on seminal research by Vasey, Daleiden, Williams, and Brown (1995), this time length is deemed long enough for strategic capture of control for attention and comprehension among children and adolescents. All trials contained a dot probe stimulus following the disappearance of the word pair display. At this point, participants were measured on reaction time to the dot probe stimulus by clicking one of two predetermined “hot keys” that corresponded with the dot probe location (1 = probe replacing upper word, 3 = probe replacing lower word).

Table 2

*List of Probed Threat and Neutral Word Pairs*

Threat Word	Neutral Word	Threat Word	Neutral Word
Grades	Coffee	Notebook	Umbrella
Attendance	Dishwasher	Study	Broom
AIMS*	Mail	Graduate	Clothing
Quiz	Farm	Test	Door
Spelling	Magazine	Detention	Watermelon
Decimal	Sunrise	Tardy	Booth
Project	Laundry	Calculator	Sunglasses
Desk	Bird	Diploma	Pumpkin
Learn	Float	Homeroom	Director
Writing	Cupcake	Subject	Candle
Substitute	Vegetable	History	Blanket
Pupil	Stove	Report	Powder
Classroom	Apartment	Novel	Acorn
Paper	Toast	Fail	Duck
Dropout	Picture	Globe	Outer
Backpack	Building	Principal	Fireplace
Semester	Necklace	Math	Corn
Exam	Boat	Library	Popcorn
Homework	Mattress	Student	Preview
Class	Tooth	Discipline	Television
Pencil	Mouse	Assignment	Eyeglasses
Cafeteria	Checkbook	Enroll	Basket
Textbook	Cranberry	GPA	Eye
Lecture	Window	Reading	Compact
School	Button	Books	Lemon
Teacher	Sailboat	Freshman	Doorbell
Bus	Toe	Flashcard	Yesterday
Vocabulary	Peppermint	Noun	Milk

\*AIMS is the Arizona State High School Exit Exam.



The independent variable, attentional bias, was interval scaled and recorded in milliseconds that ranged potentially from 250 ms (fastest possible time) to 1,500 ms (slowest possible time). Reactivity times below 250 ms were deemed too quick (i.e., premature response), while reactivity times above 1,500 ms were deemed too slow (i.e., delayed response) for statistical comparison (Vasey et al., 1995); therefore, we dropped these response times from the analysis. Only three reactive response times were below 250 ms and above 1,500 ms.

Subsequent word pairs were displayed 50 ms after we recorded previous word pair responses. We presented all 120 word pairs under these criteria, and E-Prime software recorded all of the data for each trial.

**Grade point average (GPA).** Using official school transcripts, we recorded participants' GPAs. GPAs ranged from 0.00–4.00. We recorded GPA from official transcripts in hundredths (e.g., 2.57, 3.68, 3.75). Initial GPAs were collected after the first semester of participants' freshman year and collected longitudinally at each quarter and semester to the point of dropping out of high school or graduating from high school. The independent variable GPA was ratio scaled, and all participants ranged between 0.00 and 4.00.

**Dropout and graduation status.** Using official school transcripts, we recorded each participant's final status of dropping out of high school or graduating from high school. Official transcripts contained the "W," or withdraw code, for those who dropped out of school and also indicated those participants who graduated from high school. The dependent variable was nominal scaled and was coded as 0 = graduates and 1 = dropouts.

## Results

Logistic regression was used to analyze the data and answer the research question: What is the predictive relationship of initial grade point average and attentional biases among high school freshmen in dropping out of high school? We present in Table 3 the means and standard deviations of the independent variables initial GPA and response time of attentional biases to threatening school-related cues and the dependent variable of high school completion status. In addition, Table 4 contains a correlation matrix of the predictor variables.

The independent variables of initial grade point average and attentional biases accounted for the logistic regression equation and were entered simultaneously as predictors of whether one dropped out of or graduated from high school. More specifically, holding all other independent variables constant, for a one-unit increase ( $SD = .83$ ) in initial grade point average, the odds of dropping out of high school are decreased by approximately 8%. In addition, holding all other independent variables constant, for a one-unit increase ( $SD = 192.01$ ) in response time of attentional biases to threatening school cues, the odds of dropping out of school are increased by approximately 4%. Overall, the model chi-square was found to be significant ( $\chi^2 = 24.86$ ,  $df = 1$ ,  $p < .001$ ). Moreover, Nagelkerke pseudo  $R^2$  indicated a high goodness of fit, as the model accounted

for 50% of the variance. See Table 5 for a summary of the logistic regression equation variables.

A 2 x 2 classification table was used to examine the baseline prediction of dropping out of high school and the prediction of dropping out of high school after we entered the logistic regression equation model. The baseline model predicted a correct classification of approximately 80%. After we examined the logistic regression equation, the model predicted a correct classification of approximately 90%. Hence, the logistic regression equation model increased the correct classification of predicting high school dropouts by 12.5 percentage points. Finally, a proportional reduction in error statistic was examined to further support the classification table. More specifically, there were approximately 30% fewer errors when predicting high school dropouts using the logistic regression model, compared to predicting high school dropouts without the logistic regression model. See Table 6 for a complete summary.

## Discussion

The rationale for this study was threefold. First, we wanted to extend the literature regarding attentional biases to the educational arena, specifically to high school dropouts.

Second, we wanted to extend the literature regarding attentional biases from a clinically diagnosed population to a nonclinical population. The rationale for such was to see if the findings from research regarding clinically diagnosed samples held true for a nonclinical sample in shifting one's attention toward threatening cues. Finally, we wanted to longitudinally examine the student's initial GPA in high school as a baseline predictor of whether a student drops out or graduates from high school. As it turns out, our study confirmed and disconfirmed prior research regarding the variables of attentional biases and initial grade point average.

Our research confirmed what previous researchers (e.g., Hickman et al., 2008; Young et al., 2011) have demonstrated in that GPA is a powerful predictor of success. Indeed, we found that for every one unit increase ( $SD = .83$ ) in initial GPA, the odds of graduating increased by 8%. We also found that graduates' initial ninth-grade first semester GPAs ( $M = 3.06$ ) were no different than their final GPAs ( $M = 3.07$ ) when they graduated high school. Dropouts' initial ninth-grade first semester GPAs ( $M = 1.92$ ) were not significantly different than their final GPAs ( $M = 2.10$ ) when they dropped out of high school. Such findings support research by Hickman et al. (2008) in that regardless of whether a student drops out or graduates from high school, the student's GPA does not significantly vary from the initial ninth-grade first semester GPA.

Interestingly, regardless of whether a student drops out or graduates from high school, the student's initial high school GPA does not vary much over time during his or her educational tenure in high school. Such findings suggest that ninth-grade freshmen students' outcomes in high school could be a product of their educational experiences, development, and progress over their first eight years of education. This



Table 3

*Means and Standard Deviations of Variables*

Variable	Dropouts		Graduates	
	M	SD	M	SD
Initial GPA	1.92	.83	3.06	.62
Probe Detection Task*	625.01	329.75	494.90	132.64

\*Time in milliseconds.

Table 4

*Correlation Matrix of Variables*

	GPA	Probe Task
GPA	1.000	
Probe Task	-.434	1.000

Table 5

*Logistic Regression: Predicting Program Completion*

Variables	Coefficient	Statistic	<i>p</i>	Exp(B) <sup>1</sup>
Grade Point Average	-2.384	10.243	.000	0.92
Probe Detection Task*	.004	4.757	.029	1.04

<sup>1</sup>Factor by which the odds of dropping out of school increase or decrease for a one-unit increase in the independent variable. Model Chi-Square = 24.86; *df* = 1; *p* < .001.

Table 6

*Classification Table: Predicting Program Completion*

Observe	Graduated	Dropped Out	Percent Correct
Graduated	51	2	96.2%
Dropped Out	5	8	61.5%
Overall % Correct			89.4%

suggests that the educational system may not be able to significantly overcome prior academic development given that both dropouts and graduates did not significantly increase or decrease GPA over time. Clearly, it appears that the educational foundation that students bring to high school is important in predicting if one will drop out or graduate from high school as evident in this longitudinal study and in prior longitudinal research (Hickman et al., 2008). Such an inability for the education system to significantly help students increase grade point averages over time during their high school tenure should be a concern for educators, students, and parents, as many postsecondary institutions base admission processes on GPA (Turner & Croucher, 2014).

Our research also confirmed and disconfirmed the results from previous seminal researchers (e.g., Schippell et al., 2003; Vasey et al., 1996) regarding attentional biases of threatening cues among adolescents. More specifically, our research confirmed that adolescents who demonstrate an attentional bias toward threatening cues significantly predicted various outcomes. In our study, it was clear that those adolescents who demonstrated an attentional bias toward school-related cues as being more threatening were significantly more likely to drop out of school. Although four percent is not as much of a robust predictor as initial ninth-grade first semester GPA (i.e., 8%) at predicting and better classifying dropouts, attentional biases of school-related cues as being perceived as threatening were still a significant predictor and increased the odds of dropping out.

Although not part of the original purpose of our study, we conducted post hoc analyses to examine the differences in the reactions of school- and neutral-word cues between graduates and dropouts as we thought such analyses would elucidate the findings from our logistic regression model. A post hoc *t*-test analysis demonstrated significant differences in the reaction speed of the probe detection task to school-related threatening cues between those students who would eventually drop out ( $M = 625.01$  ms) and graduate ( $M = 494.09$  ms) from high school,  $t(64) = -2.257, p < .05$ . That is, those who would eventually drop out of high school responded significantly slower to school-related probed threat cues than those who would eventually graduate high school. Interestingly, a post hoc *t*-test analysis did not demonstrate significant differences in the reaction speed to probed neutral words unrelated to school cues between those who would eventually drop out ( $M = 591.63$  ms) and graduate ( $M = 494.09$  ms),  $t(64) = -1.454, p > .05$ .

It is interesting to note that of the 60 probed threat cues, the cue word *dropout* had the slowest response time (e.g., 588.85 ms) both for those freshmen who would eventually drop out of and those who would graduate from high school. Moreover, the differential response time to the threat cue of *dropout* was the largest differential margin of all 60 probed threat cues at 780.92 ms for those freshmen who would eventually dropout of school and 541.74 ms for those freshmen who would eventually graduate from high school. Indeed, the response time to *dropout* was much slower than the other threat cues. Such findings suggest an

attentional bias or shift away from a threatening cue that resonates with their current cognitive processing in ninth grade and one that longitudinally predicts the outcome of those who will eventually drop out of school. With the probe detection task being presented at speeds that mirror the speed and accuracy of one's actual thought processes at a given moment, this supports research which linked thought processes in predicting behavior in past research (e.g., Reinecke, Waldenmaier, Cooper, & Harmer, 2013) and in our research.

Our findings contradict prior research of attentional biases as discussed above in that our sample did not have an attentional bias shift *toward* the probed threatening cue; rather, participants made an attentional bias shift *away from* the probed threatening cue. That is, in past studies, the at-risk populations (e.g., clinical populations) demonstrated an attentional bias shift *toward* a probed threatening cue by responding more quickly to probed threatening cues whereas in our study, our at-risk population—students who eventually dropped out of high school—responded more slowly to probed threatening cues. In our study, it was clear that those adolescents who demonstrated an attentional bias shift *away from* school-related cues were significantly more likely to drop out of school.

The question becomes why, in our sample, did the at-risk students who dropped out of school respond slower or shift their attention *away from* probed threatening cues when other at-risk populations tend to respond quicker or shift their attention *toward* probed threatening cues? In the previously discussed research regarding attentional biases, the child and adolescent populations have been clinical populations, that is those students clinically diagnosed with various developmental and mental health disorders. However, our sample differed from prior research on attentional biases in that our participants were a nonclinical sample of mainstream high school students. Although researchers have clearly demonstrated that those adolescents who drop out of high school do experience the “usual suspects” of various problems and issues in their lives, not all are diagnosed clinically for various disorders (Hickman & Heinrich, 2011; Rumberger, 2013).

### Implications and Conclusions

Our interpretation of the findings from this study suggests that attentional biases are not universal in application, but still may yield potentially significant behavioral and educational predictions. In addition to replicating this study across settings and populations to help extend and possibly corroborate the findings, future researchers may want to include nonclinical populations in and across school contexts for investigating possible attentional biases. Researchers may also want to examine attentional biases as a moderating variable that influences the relationship between grade point average and dropping out of school. Indeed, researchers have demonstrated that cognitive processes can have a moderating effect on various academic and behavior outcomes (Honick & Broadbent, 2016; Molano, Jones, Brown, & Aber, 2013). In addition, future researchers may want to explore qualitative aspects

of attentional biases regarding threatening and neutral words, in and across school settings, as helpful means toward understanding the differences in responses. Our findings, albeit not in the anticipated direction found by previous researchers, remain significant based on differences in attentional biases for a nonclinical sample often encountered in high schools.

School staff such as school counselors and school psychologists and other professionals such as local special interest groups and researchers could increasingly target interventions for at-risk students if they could generally predict who is at significant risk of dropping out, via attentional biases screening. Also, as language and meanings are central teaching and learning concepts, our findings may alert school and other professionals to be mindful of framing school-based words in ways that are less threatening to students who are at risk of dropping out of school.

Finally, our findings align with the cognitive processes of disengaged youth at risk for dropping out of school (Blondal & Adalbjarnardottir, 2012; Lessard et al., 2014; Super & Murray, 2010). The dropouts had significantly slower responses to threatening school word prompts. Perhaps dropouts and students at-risk of dropping out find school-based, threatening terms as impeding cognitive aspects of school experiences. For example, qualitative research could discover if the attentional bias shift away from school-related cues is actually perceived as a threat cue for nonclinical populations. The fact that dropouts respond slower or shift their attention away from school related cues may be that school cues are processed slower as such students find school more threatening and thus cognitively dwell on school as being threatening. Hence, students at risk for dropping out of school may be unable to cognitively shift their attention away from school cues as these cues are threatening to them. In contrast, individuals in clinical samples shift their attention toward threatening cues.

Our findings are significant for noting attentional biases for a nonclinical population in a school setting. Dropout activity is a complex, systems-based phenomenon and contributing mediating factors are often detectable *post hoc* and/or *in vivo*; thus, school staff have poor and inconsistent ability to predict who will drop out of school (Bowers et al., 2013; Schoenberger, 2012). Offering school staff a tool to identify youth at risk for dropping out of school based on their attentional biases might provide a helpful resource that affords school staff the opportunity to be proactive and intervene early.

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# *The Journal of At-Risk Issues*

## Call for Manuscripts

*The Journal of At-Risk Issues* (JARI) (ISSN1098-1608) is published by the National Dropout Prevention Center and the National Dropout Prevention Network. The combined missions of the Center and Network are to provide information and services to those engaged in helping young people in at-risk situations. The journal is nationally refereed, currently published twice per year, and abstracted in ERIC.

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Manuscripts should be original works not previously published nor concurrently submitted for publication to other journals. Manuscripts should be written clearly and concisely for a diverse audience, especially educational professionals in K-12 and higher education. Topics appropriate for *The Journal of At-Risk Issues* include, but are not limited to, research and practice, dropout prevention strategies, school restructuring, social and cultural reform, family issues, tracking, youth in at-risk situations, literacy, school violence, alternative education, cooperative learning, learning styles, community involvement in education, and dropout recovery.

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