STUDENT ENGAGEMENT, STUDENT WELLNESS, AND SENSE OF BELONGING:
RACE AND GENDER DIFFERENCES

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ABSTRACT

STUDENT ENGAGEMENT, STUDENT WELLNESS, AND SENSE OF BELONGING:
RACE AND GENDER DIFFERENCES

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Student engagement operates as a mediator between supportive school environments and academic achievement. The developing interest in student engagement and its relation to students' feelings of congruences with their academic success and wellbeing has become a focal point to enhance learning and teaching. Understanding the various factors that determine students' degrees of engagement is pivotal in order to address the best practices to increase academic achievement. Student factors related to academic engagement have been identified as key components that are related to the effectiveness of student academic engagement. In addition to these factors, there are individual student variables that also have an influence on academic engagement. Individual students' variables such as gender, ethnicity and student wellness have been found to have an impact on their academic engagement. The association between teacher support and student engagement is possibly different for boys and girls. Females indicate more engagement than boys due to the types of activities provided and content being more feminine. In addition, research has found that minority students are at times alienated from the classroom due to the differences between patterns of home and school interaction, impacting their ability to be engaged and perform well academically. Lastly, research has found that integrating mental

health supports and services in the school setting is an effective delivery system for student wellbeing. The focus of this research is to examine one aspect of student wellness which is sense of belonging and how it differs based on gender and ethnicity. In addition, this research will look at how this area of sense of belonging is related to other areas of student well-being.

CHAPTER ONE: REVIEW OF LITERATURE

Introduction

Student engagement is a pivotal component to academic achievement which has become a focal point to enhance learning and teaching. There has been a growing interest in the study of student engagement and how that relates to students' feelings of connectedness with their classroom environment, well-being, and academic success (Upadyaya & Salmela-Aro, 2013). Engagement has taken a prominent place in psychological and educational research due to its potential to address poor academic achievement and student misbehavior. Studies have found that up to 60 percent of high school students are "chronically disengaged" (Corso et. al., 2013). Corso et al., (2013) found that more than half of high school students are bored at school, and less than half enjoy being there. This increased level of disengagement was shown to lead to increases in chances of dropping out of high school. Higher levels of academic engagement have also been shown to be connected to various indicators of individual well-being. Students who show an increase in behavioral and cognitive engagement, have higher grades and are more likely to succeed. Engagement operates as a mediator between supportive school environments and academic achievement (Wang & Holcombe, 2010).

Literature Review

Student Engagement

Researchers have defined student engagement in many ways. Student engagement was first explored in the early 1920s by John Dewey, an education figure, who began studying the question of why students were bored and not engaged in school (1956). Dewy suggested that

teachers play a pivotal role in student's learning experiences through their positive relationships with the students. As the field of education continued to evolve, several researchers further explored student engagement and the factors that enhance the learning experiences of students. Authors such as Skinner and Belmont (1993) associated student engagement with motivation stating that students who are engaged show more behavioral involvement in academic activities along with a positive emotional attitude. Those students tend to choose challenging tasks, show ambition in learning, and show positive emotions such as optimism, curiosity, and interest in learning. Another research defined student engagement as "any sustained connection a learner has towards any aspect of learning, schools, or education (Fletcher, 2015). Cheong & Ong (2016) described student engagement as the time and effort that a student spends on participation in the classroom. These different definitions of student engagement have included factors such as the level of connection that students experience, the student's ability to sustain behavioral outcomes in learning activities, or how passionate or excited a student is to learn (Reyes et. al., 2013).

Understanding the factors that affect student engagement is important when identifying interventions aimed at improving academic achievement (Reyes et. al., 2013). While many studies have focused on classroom factors and instructional factors it is also important to consider student factors including gender, race, and student wellness.

Student Factors Related to Academic Engagement

Student engagement has been found to be malleable through numerous factors, such as classroom environment, classroom set-up, and student-teacher relationship (Sigh, Chang & Dika, 2010). In addition to these factors, there are individual student variables that also have an influence on academic engagement. This review will explore research regarding student factors

including ethnicity, gender, and mental health wellness, and the influence these have on student engagement.

Gender

Research has indicated that girls generally participate more actively in class and show higher student engagement than boys. One explanation for the gender differences is that girls show more academic engagement due to their motivation, the types of activities provided in school, and the content of the school curriculum being more feminine (Lietaert et al., 2015). Another reason for girls being more engaged is because of the teacher support that is provided. Research suggests that teachers see the ideal student as 'female' and are less tolerant of boy's behavior (Lietaert et al., 2015). The association between teacher support and student engagement could also possibly be different for boys and girls. For example, teachers who are emotionally warm, and show low conflict with their students are considered to be more important for boys' engagement than for girls because boys are more likely to have behavioral problems. Additional research found that girls demonstrated an increase in engagement due to their maturity behaviorally, emotionally, and cognitively (Kang, Stough, Yoon & Liew, 2023). However, the research between student engagement and teacher-student relationships is limited based on the existing research.

Ethnicity

There have been few research studies on the association between ethnicity and student engagement. Uekawa, Borman, and Lee (2007) found that student beliefs about their ethnicity are related to their attitudes toward school.   The conclusion from this research was that schools and the schooling process are hostile to underserved students due to the majority of schools being mainstream, traditionally organized classrooms that do not acknowledge or consider the

cultural orientations of students. Previous research found that African American and Hispanic students are less engaged in school than White students due to the perception of limited opportunities and futures (Johnson, Crosnoe, Elder, 2001). The finding that African American students are the least likely to be highly disengaged is important due to the concern that African Americans in school are presumed to have a lack of effort. Many students feel alienated and disconnected from school, but engagement can be improved by enhancing opportunities to interact with teachers and with each other more. Uekawa, Borman & Lee, (2007) indicated that minority students are alienated sometimes because of the important differences between patterns of home and school interaction. As a result, students from minority backgrounds are less inclined to perform well academically in class and their engagement level varies with classroom activities. This suggested that the classroom social climate for minority students depends on how teachers organize their classroom instruction, There is a need for more research on the cultural factors that affect student engagement. Understanding the role of social psychological variables in academic achievement and for minorities would lead to better-designed policies and practices in schools (Sigh, Chang & Dika, 2010).

Student Wellness

School mental health and student wellness may be a natural way to support student engagement in schools (Nelson, Asamsama, Jimerson & Lam, 2020). Mental health is defined as the state of well-being in which a person realizes his or her abilities, can cope with the normal stress of life, can work productively, and are able to contribute to his or her own community (Tome, et. al, 2021). Student engagement is associated with the ability to adjust and feel connected (Katja, 2021). These aspects of student well-being become more important during adolescence when many developmental and contextual changes occur in students' lives. Schools

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are a primary setting to identify, manage, and sustain progress for students with mental health problems. Research has shown that integrating mental health supports and services in the school setting is an effective delivery system for student wellbeing. (Hoover & Bostic, 2021). It is important to understand student engagement and student well-being in order to investigate the factors promoting student engagement at school. Student wellness is recognized as a key component in the achievement of effective learning outcomes (Spurr, 2009). School connectedness correlates with a positive sense of well-being. The link between school connectedness and relationships is a strong predictor of increases in academic achievement (Graham, Powell, & Truscott, 2016). The focus on student well-being in the education setting has been centered around constructs of physical and mental health, risk reduction, and resilience, and climates that facilitate health schooling such as safety, support, relationships, and engagement. (Soutter, O'Steen & Gilmore, 2013). However, important research on student well-being and its resonation with their educational experience in still being addressed.

CHAPTER TWO: PURPOSE OF THE STUDY

Problem Statement

While there has been extensive research on student engagement, it is a complex concept that has many components that need to be addressed. In particular, there has been little research on differences in gender and ethnicity related to various aspects of student wellness that are connected to student engagement. This is particularly true at the secondary level where the classroom environment and instructional approaches change significantly. The focus of this research will be on one specific aspect of student wellness which is sense of belonging and how this differs based on gender and ethnicity. In addition, this research will look at how this area of sense of belonging is related to other areas of student well-being.

Research Questions

1. Is there a significant difference between male and female high school students in their ratings of sense of belonging?

2. Is there a significant difference between minority and nonminority high school students in their ratings of sense of belonging?

3. Is there a relationship between high school student ratings of sense of belonging and their ratings of emotion regulation?

4. Is there a relationship between high school student ratings of sense of belonging and their ratings of social awareness?

5. Is there a relationship between high school student ratings of sense of belonging and their ratings of supportive relationships?

6. Is there a relationship between high school student ratings of sense of belonging and their ratings of positive feelings?

Methods

Participants

Participants in this survey were 1,147 students ages 15 to 18 attending Hickory Ridge High School within an urban school district. This included 309 students in 9th grade, 303 students in 10th grade, 304 students in 11th grade, and 231 students in 12th grade. Additionally, 53% of the participants were female and 47% were male. Of the students who completed the survey, 48% identified as white, 21% identified as Black or African American, 15% identified as Asian, 11% identified as Hispanic, 4% identified as Two or More Races, <1% identified as American Indian/Alaskan Native, and <1% identified as Native Hawaiian/Pacific Islander. The racial

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representation of these participants was consistent with that of the district as a whole as shown in Table 1.

Table 1

Demographics of Survey Participants and Cabarrus County District Demographics

	Survey Participants	District Demographics
Race	*n* (%)	*n* (%)
White	48%	41%
Black or African American	21%	23%
Hispanic	11%	19.4%
Asian	15%	10.7%
Multi-Racial	4%	5.3%
American Indian/Alaskan Native	<1%	<1%
Native Hawaiian/Pacific Islander	<1%	<1%

Materials

Cabarrus County Schools has identified strategic goals and objectives related to the improvement of the social, emotional, and mental health needs of all students by 2025. The Student Wellness Survey was selected in 2022 to use for collecting data from teachers, students, and families in order to measure progress being made on this goal.

The Student Wellness Survey was developed by a group of researchers who collaborated with Panorama Education in 2014 to create a valid and reliable survey tool to measure student

and teacher perceptions of teaching and learning (Education, 2015). The purpose of this survey was to provide school districts with data to assist in addressing the multifaceted needs of teachers, students, and schools. The areas included in the development of this survey were Emotion Regulation, Positive Feelings, Social Awareness, Supportive Relationships, and Sense of Belonging. Emotion Regulation is described as how well students regulate their emotions, Positive Feelings is described as how frequently students feel positive emotions, Social Awareness is described as how well students consider the perspectives of others and empathize with them, Supportive Relationship is described as how supported students feel through their relationships with friends, family and adults at school, and Sense of Belonging is described as how much students feel that they are valued members of the school community.

The student version of the Wellness Survey is estimated to take 15-20 minutes to complete and consists of 24 Likert Scale questions, 6 yes or no questions, and 1 open-ended question. The questions ask students about their thoughts and feelings towards themselves, their schools, and their perceptions of others. Responses are converted to whole numbers between 1 and 5 and averaged within a topic to produce a mean topic score. A mean topic score of 3.5 or higher is considered a strength.

Procedures

The Student Wellness Survey data is located on a digital platform known as Panorama. Access to Panorama was given by the school district to designated staff who had requested access in order to further analyze the data. An initial analysis of the Winter 2023 Student Wellness Survey data was completed during a meeting with the administration team, student support staff, and a multi-tiered system of support staff. The summary report that was reviewed provided the percentage of responses that were favorable within each of the five areas of student

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wellness including Supportive Relationships, Social Awareness, Positive Feelings, Emotion Regulation, and Sense of Belonging. In addition, for each of these areas, a percentile range in comparison to others nationally was provided. Table 2 provides a summary of the information reviewed.

Table 2

Topic areas percentages compared with national percentages.

Topic Areas	Percent Favorable	National Percentile
Supportive Relationships	88%	80-99th percentile
Social Awareness	65%	40-59th percentile
Positive Feelings	61%	60-79th percentile
Emotion Regulation	54%	80-99th percentile
Sense of Belonging	48%	20-39th percentile

The team reviewing this information identified the area of Sense of Belonging as being the one of greatest concern to the district based both on its percent of favorable ratings and national comparison. In order to get a better understanding of this area of student wellness for the high school students in this district, access to the individual student survey data was made available for the purpose of this research.

The individual student data was transferred from the Panorama platform into an Excel spreadsheet. The data transferred included gender, ethnicity, individual student item responses for each of the five student wellness areas, and total scores of individual student responses for each of the five student wellness areas.

Results

Two ANOVAs were conducted that have Sense of Belonging as the dependent variable with one analysis using gender as the independent variable and the other using minority status as the independent variable. Additionally, four Pearson's Correlation analyses were conducted to examine the relationship between Sense of Belonging and the other four student wellness areas measured by this survey including Supportive Relationship, Positive Feelings, Emotion Regulation, and Social Awareness.

Two ANOVAS were conducted in order to answer the following research questions: Is there a significant difference between male and female high school students in their ratings of sense of belonging, and is there a significant difference between minority and nonminority high school students in their ratings of sense of belonging? Four Pearson Correlations were conducted in order to answer the following research questions: is there a relationship between high school student ratings of sense of belonging and their ratings of emotion regulation; is there a relationship between high school student ratings of sense of belonging and their ratings of social awareness; is there a relationship between high school student ratings of sense of belonging and their ratings of supportive relationships; and is there a relationship between high school student ratings of sense of belonging and their ratings of positive feelings.

Research Questions: Data

Research question one. Is there a significant difference between male and female high school students in their ratings of sense of belonging?

A one-way ANOVA was conducted to compare gender differences in student's ratings of Sense of Belonging. The independent variable for the ANOVA was Gender, including male and female. The dependent variable was Sense of Belonging. The difference in ratings for Sense of

Belonging based on gender was not significant $F(1,1130)$, $p = .349$. The mean score for Female

students was 3.41 *(SD = 0.81)*. The mean score for Male students was 3.36 *(SD = 0.82)*. The

total mean score for gender was 3.39 *(SD = 0.81)*. See Table 3.

Table 3

Means and Standard Deviations for Sense of Belonging Based on Gender

ANOVA		
Gender	**N**	**Mean (SD)**
Females	594	3.41 (0.81)
Males	538	3.36 (0.82)
Total	1132	3.39 (0.81)

Research question two. Is there a significant difference between minority and

nonminority high school students in their ratings of sense of belonging?

A one-way ANOVA was computed to determine if there was a significant difference in

ratings of Sense of Belonging based on race. The independent variable for the ANOVA was race.

The difference in ratings for Sense of Belonging based on race was significant $F(6, 1130)$, =

7.281, $p = < .001$, with a significant level at .05.

A Tukey post hoc test was conducted with the ANOVA to compare specific racial groups

to white groups in regard to their ratings of sense of belonging. The results showed that there was

a statistically significant difference between White and Asian students, $p = .028$, White and

Black or African American students, $p = .013$, and White and Hispanic students, $p = .035$. See

Table 4.

Table 4

Means and Standard Deviations for Sense of Belonging and Specific Race Groups

	ANOVA	
Race	**N**	**Mean (SD)**
White	538	3.44 (.786)
Asian	172	3.66 (.766)
Black or African American	244	3.23 (.871)
Hispanic	123	3.19 (.715)
Two or More	48	3.15 (.963)
Native Hawaiian/Pacific Islander	2	3.70 (.424)
American Indian/Alaskan	5	3.60 (.179)

Research question three. Is there a relationship between high school student ratings of sense of belonging and their ratings of emotion regulation? This correlation was conducted using the total student scores in the area of sense of belonging and the total student scores in the area of emotion regulation.

A Pearson Correlation was used to examine the relationship between students' ratings of sense of belonging and their ratings of emotion regulation. There was a significant moderate positive correlation between the variables, $r = .647$, $p = <.001$. See Table 5 and Figure 1.
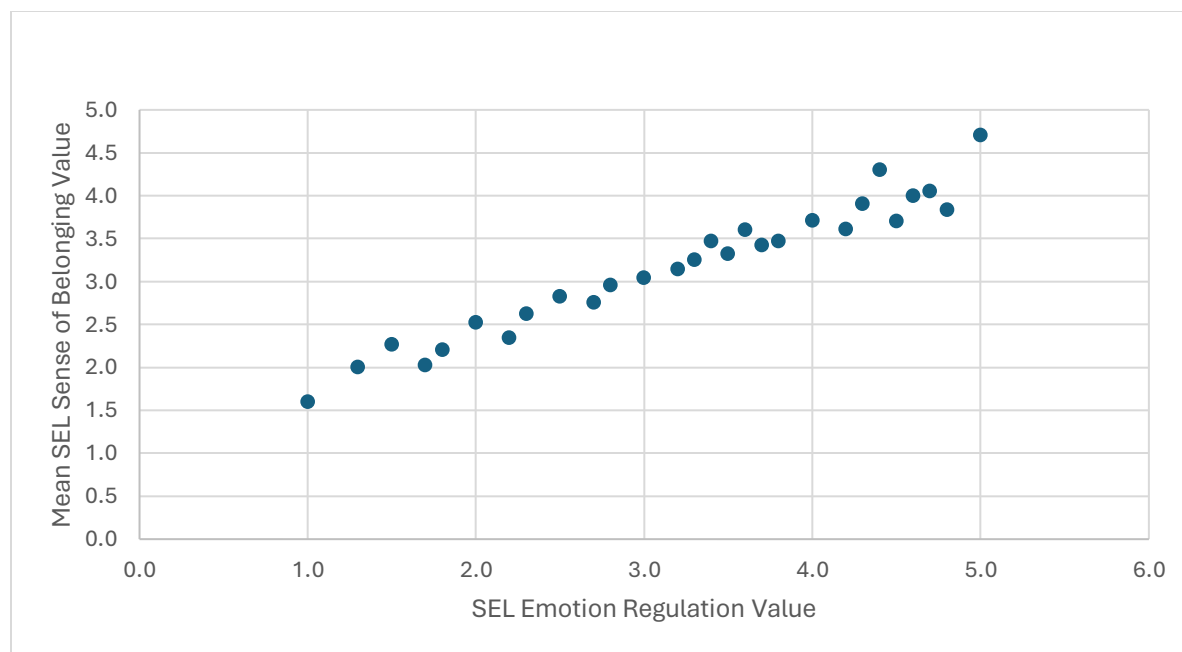
Table 5

Relationship Between Sense of Belonging and Emotion Regulation

Variables	Mean	SD	r_s	p

Sense of Belonging	3.39	.814		
Emotion Regulation	3.54	.773	.647	<.001

Figure 1

Relationship Between Sense of Belonging and Emotion Regulation

Research question four. Is there a relationship between high school student ratings of sense of belonging and their ratings of social awareness? This correlation was conducted using the total student scores in the area of Sense of Belonging and the total student scores in the area of Social Awareness.

A Pearson Correlation coefficient was used to assess the relationship between ratings of sense of belonging related to Student Wellness and students' ratings of social awareness. Results from this correlation indicated that there was a significant moderate correlation between the variables, $r = .660$, $p = <.001$. See Table 6 and Figure 2.
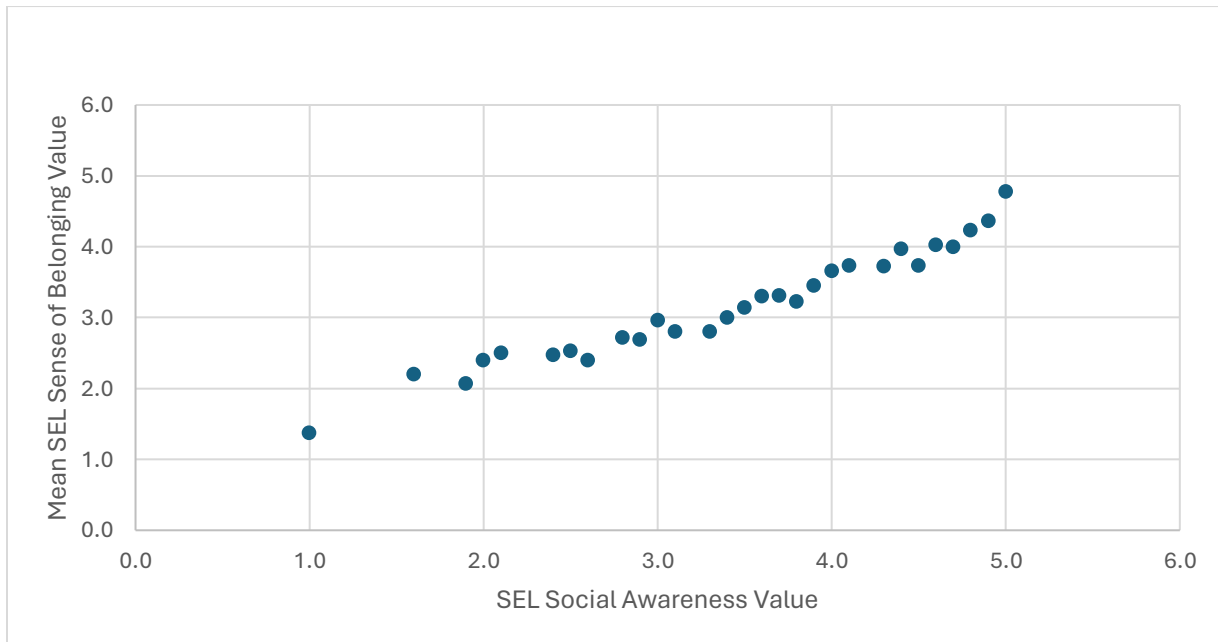
Table 6

Relationship between Sense of Belonging and Social Awareness

Variables	Mean	SD	r_s	p
Sense of Belonging	3.39	.814		
Social Awareness	3.73	.652	.660	<.001

Figure 2

Relationship Between Sense of Belonging and Social Awareness

Research question five. Is there a relationship between high school student ratings of sense of belonging and their ratings of supportive relationships? This correlation was conducted

by using the total student scores in the area of sense of belonging and the total student scores in the area of social awareness.

A Pearson Correlation coefficient was used to assess the relationship between ratings of sense of belonging related to Student Wellness and students' ratings of Supportive Relationships. The relation was correlated, $r = .469$, $p = <.001$ indicating a positive moderate correlation between both variables. See Table 7 and Figure 3.

Table 7

Relationship Between Sense of Belonging and Supportive Relationship

Variables	Mean	SD	r_s	p
Sense of Belonging	3.39	.814		
Supportive Relationships	4.52	.877	.469	<.001

Figure 3

Relationship Between Sense of Belonging and Supportive Relationships
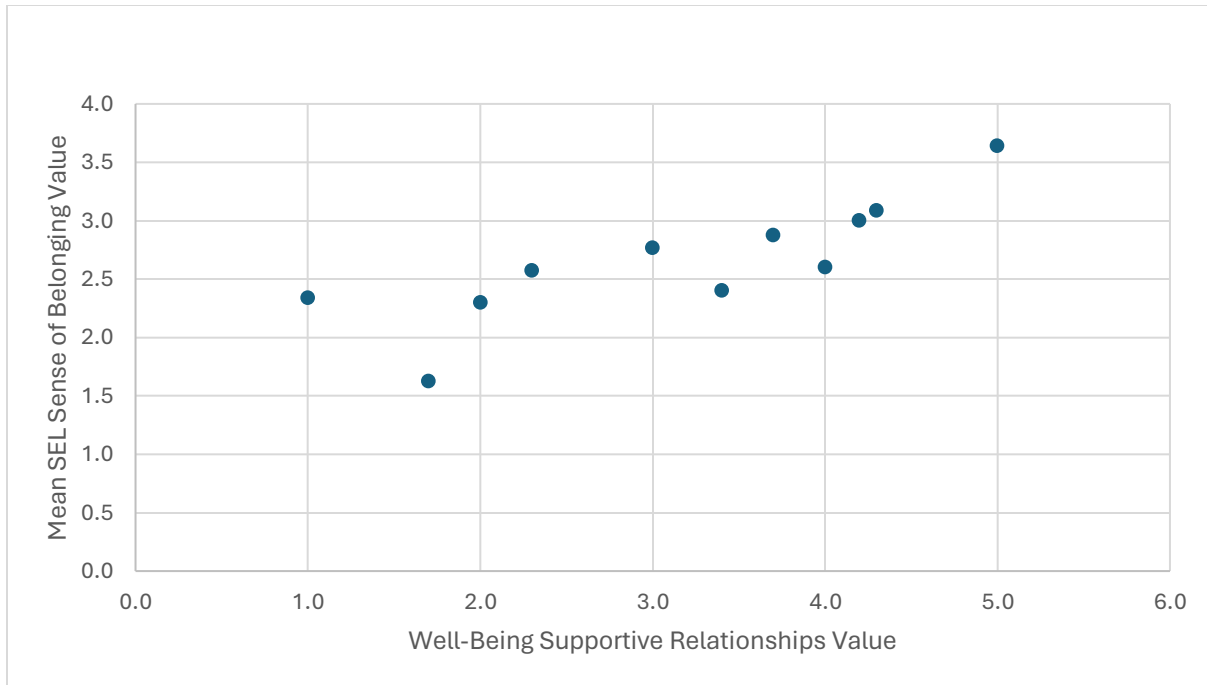
Research question six. Is there a relationship between high school student ratings of sense of belonging and their ratings of positive feelings? This correlation was conducted by using the total student scores in the area of sense of belonging and the total student scores in the area of social awareness.

A Pearson Correlation coefficient was used to examine the relationship between sense of belonging for high school student ratings, and their ratings of positive feelings. There was a moderate positive correlation between the two variables, $r = .680$, $p = <.001$. See Table 8 and Figure 4.

Table 8

Relationship Between Sense of Belonging and Positive Feelings

Variables	Mean	SD	r_s	p
Sense of Belonging	3.39	.814		

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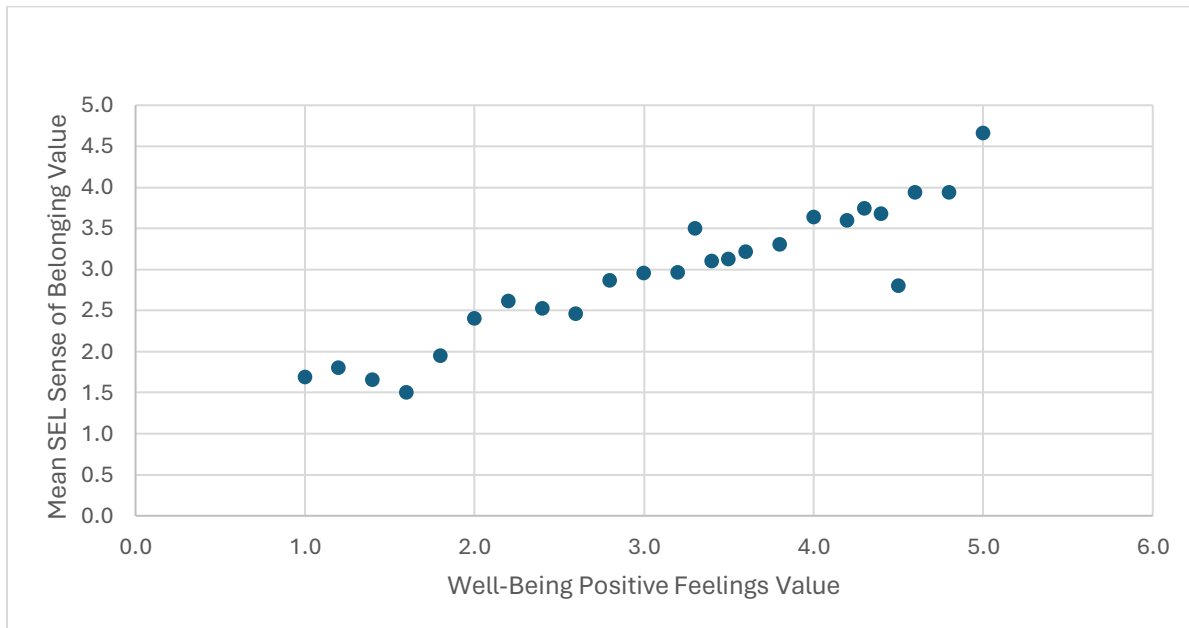|				
Positive Feelings	3.72	.776	.680	<.001

Figure 4

Relationship Between Sense of Belonging and Positive Feelings

Discussion

Interpretation and Explanation of Results

The current study analyzed one specific aspect of student wellness (Sense of Belonging), how it differs based on gender and ethnicity, and how it relates to other areas of student wellness. Sense of belonging is important for improving student wellness at school and increasing their overall academic engagement (Graham, Powell, & Truscott, 2016).

Results indicated that there was a significant difference in ratings of sense of belonging based on race. Specifically, there was a significant difference between White and Asian students indicating that Asian students have a stronger sense of belonging than White students. In

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addition, there were significant differences between White and Black or African American students and between White and Hispanic students indicating that White students have a stronger sense of belonging than Black or African American students as well as Hispanic students. There was not a significant difference in sense of belonging between White and Native Hawaiian/Pacific Islander students, American Indian/Alaskan students, and Two or More Race students. This is consistent with the previous research which indicated that Black or African American and Hispanic students are less engaged than White students and therefore feel disconnected from school (Johnson, Crosnoe, Elder, 2001). Results from this study also matched previous research that indicated that minority students feel alienated from school and are less likely to be engaged in academic settings. However, the overall engagement of minority students can be improved by enhancing opportunities for students to interact with teachers and each other, which essentially will increase their sense of belonging (Uekawa, Borman, and Lee (2007). It will be important for this school district to identify factors leading to Black and Hispanic students having a lower sense of belonging than other students in their school to find ways to make improvements in this area.

The relationship between gender and sense of belonging was also assessed. Results showed that females reported a somewhat stronger sense of belonging than male students. However, there was not a significant difference between males and females in regard to their feelings of belongingness at school. Although there was not a significant difference, this research is consistent with the literature review in regard to females being more actively engaged in class. Females demonstrate an increased motivation for school compared to males and receive more support from teachers. Therefore, females indicate a stronger connection and sense of belonging

at school (Lietaert et al., 2015). It will be important to identify ways to help ensure both males and females are connected at school.

Finally, the current research analyzed how this area of sense of belonging is related to other areas of student well-being. Based on the existing data that was analyzed, there was a significant difference between students' sense of belonging and each of the other four areas of student's wellness (social awareness, emotion regulation, supportive relationships, and positive feelings). Results indicated that as students' sense of belonging increases, their social awareness, emotion regulation, supportive relationships, and positive feelings also increase. Supportive relationships reported the most strengths, while emotion regulation reported the least strengths. Essentially, if the school makes it a goal to improve students' sense of belonging, other areas of their well-being will improve as well.

Limitations

There were a few limitations with the current study. The first being a small sample size: there are 1600 students within the high school, but a total of 1130 students completed the survey. If additional schools within the school district had been included the validity of the data could have increased. In addition, if there had been a larger sample size, there may been more statistical significance in some of the findings. Finally, there is limited research regarding factors such as gender and ethnicity in relation to student wellbeing. Without more research and a greater number of participants, these results need to be viewed as preliminary until more research can be done to support the findings.

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