THE UNIVERSITY OF CHICAGO

A MIXED METHOD APPROACH TO UNDERSTAND FACTORS THAT PROMOTE CLASSROOM BELONGING AND ENGAGEMENT FOR HIGH SCHOOL STUDENTS

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE SCHOOL OF SOCIAL SERVICE ADMINISTRATION
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

BY
TASHA SENECA KEYES

CHICAGO, ILLINOIS
JUNE 2017

This dissertation is dedicated to all the students who

before they can fully engage and learn; first, need to belong.

PREFACE

Sixteen years had lapsed from the time I received my Masters in Social Work till the time I returned to graduate school to work on my PhD. During the "in between" years I became a mother of two daughters and obtained the status of a licensed clinical social worker (LCSW). I have worked as a medical social worker on a rehabilitation unit, a home health social worker visiting patients after a hospital discharge, a social worker who worked with families who had been referred by Division for Children and Families Services (DCFS), an acute psychiatric inpatient social worker on the children and adolescent unit (PRN), and a school social worker. It was when I started working in schools that I found the place where I belong.

The focus during my master's program was in gerontology and so when I decided I wanted to work in schools I needed to go back to the College of Social Work, take a few school social work-related classes and complete a school- based practicum (600 hours) of supervised field training. I was fortunate that I was assigned supervision with Maggie Laun, LCSW at Jackson Elementary in Salt Lake City, Utah for my practicum. She not only taught me the skills I needed to become certified to work in schools but also showed me the important school-based social work skills to promote social justice and equity in an educational setting.

However, much to my dismay when I completed my practicum, I was unable to find a job. Most of Utah public school districts only hired school psychologists, to perform educational testing for special education services which are funded by the federal government. Luckily for me the timing of when I was looking for a job coincided with the Utah charter school boom and there were charter schools popping up along the Wasatch Front like wild flowers. Frustrated that I couldn't find a job, I decided to write a proposal to contract school social work services to any charter school that would take me. Three charter schools contacted me and over the next few years

I worked in these charter schools with students, parents and teachers and developed systems to address students' social and emotional issues that were interfering with their learning. I eventually was hired full time by one of those charter schools.

Working in charter schools, allowed me the freedom and flexibility to create student services that included all students. I was able to develop the social/emotional portion of the student services and support department which consisted of wrap-around services for students in both special education and general education. This was unusual because in many of the Utah public schools, the school based student service professionals were not given this type of autonomy and flexibility. It was more common that school-based student services professionals primarily worked with student who had special education designations and dealt with crises as they emerged. The benefit to working with the entire student body is that systems and structures can be implemented that teachers, students and parents can access more easily because they apply to everyone. Additionally, more students can be served and the school based student service professionals have better follow through. However, the downside to implementing this type of program is that the principal and other support staff must also be willing to work together for the school based students service professional to not become overwhelmed and burdened with too much work.

I loved working with students, their families, their teachers, the principal, support staff and the community. At times, it was a challenge to keep the various perspectives and demands of these different stake holders separate from who I was really working for, which was the students. I always tried to maintain my focus on my primary job which was to help students gain or maintain a strong self-esteem while finding ways to help them do what they needed to do in school and that was to learn.

As I prepare my dissertation study and I look back on my clinical social work practice I am reminded why understanding how to construct environments that promote students' sense of belonging both in school and the classroom resonates so profoundly for me. It is because I worked with students who, when their parents received the call from the charter school that their child had been selected by lottery to attend the charter school, were pulled out of the public school where they had been attending for at least a year, if not more, and put into a new school, with new people, new systems, routines and curriculum. These students struggled, for most student it was temporary until they got settled into the new school. Charter schools were also attractive to parents because in some cases they had exhausted all of their school options, both private and public, and they still were unable to find good educational fit for their child. Parents desperately hoped that a charter school could help meet the unique social and/or learning challenges their child faced. These students would also show up at my office needing support to belong because belonging in any educational setting had never been a part of their experience. Other reasons I saw students in my office ranged from students experiencing new challenges and adjustments at home (e.g. divorce, death, new baby, financial struggles, etc.) and students needed support. However, the most frequent request I received from students, parents, and teachers was to find ways to reduce student anxiety and promote a sense of belonging within the school and classrooms. During this time, it became abundantly clear to me that educators (including myself) and parents did not have clear strategies for helping students to feel a sense of belonging while providing students with a trusting environment that built their confidence so they could focus on their learning rather than on their need to belong.

My goal as a social worker is to continue conducting research that informs and is informed by practice. I will continue working to find concrete and systematic ways to promote belonging

in educational settings with a particular focus on underrepresented student populations, emphasizing Native American students. Another goal is to find ways to organize school based student service professions (e.g. school social workers, counselors, and psychologists) to be operating in schools together utilizing the skills they were uniquely trained to do and work toward creating educational environments that promote learning and engagement for all. More research is needed in the student support service area but it is my hypothesis that school social workers are uniquely qualified to help teachers construct classroom that promote belonging and engagement but the current systems and structures in schools needs to change in order for this to occur. The dissertation study that follows, lays the foundation for achieving these goals and the future work to come.

Subjective Positon of the Researcher

My personal background and professional school social work experiences aided the successful design of this dissertation study, the collecting and analysis of data, as well as in interpreting research findings. It is from this subjective position that I acknowledge both my strengths and limitations relevant to this research. In no way do I have the illusion of objectivity as a qualitative or a quantitative researcher. It is important that I am aware of my biases in order to control them as much as possible so they do not interfere with the data or corrupt it. I tried to control my biases by being reflective, which requires a self-scrutiny of my own positionality during data collection and analysis, as well as having awareness and understanding of my relationship with participants.

My awareness of my own positionality as former school social worker, a parent of two high school students and a University of Chicago doctoral student influenced my perspective and positionality. Before becoming a doctoral student, I was a school social worker and before either

of those positions I was a mother. In my position as a mother, I am aware how this role has shaped my thinking regarding education and learning. I have two children with very different learning styles and needs. My eldest daughter is a bright and artistically talented child who, at times is challenged with attention deficit disorder. My other daughter, who is also bright and excels in math and sciences is at times confronted with anxiety and depression. During their formative years, I spent a good deal of time investigating private, parochial, public and charter schools looking for the "best fit" for their unique learning styles and needs. I found that, regardless of the type of school, what seemed to have the most impact was when the teacher acknowledged them, respected and accepted their unique learning needs, and helped them feel they belonged in the classroom which in turn, motivated my kids to engage and ultimately succeed. I found this to be true in the early years of their education, through middle school and high school. It didn't seem to matter the developmental stage my children where in, feeling they belonged was important at every stage for them to engage and learn. Even now as both my daughters have left home and are in college, they both decided to attend small liberal arts colleges so they could have more opportunities to connect with their professors and peers and build community then if they attended a larger college. As a school social worker, my positionality as a researcher has been shaped through working with students' (K-9) around the social and emotional issues, which interfered with their learning. I also worked closely with teachers, principals and parents and witnessed firsthand the desire students had to belong and when they felt a sense of classroom belonging the relationship it had to attendance, homework completion and general interest in a subject.

My work background shapes my perspective of building relationships in classrooms and schools. It also impacts the use of Carol Goodenow's (1993) definition of belonging in

classrooms, which guides the type of questions I ask students and how I analyze student interviews. My position is that classrooms should be a place where relationships are built and that trusting relationship can be used as a tool to help students belong, engage and learn. My analysis utilized Goodenow's theory of school belonging was used as a sensitizing concept for my qualitative inquiry, as well as analysis while remaining open to discovery beyond pre-existing theory. I supplemented Goodenow's theory with open coding to elucidate the "temporal, cultural, and structural contexts" (Charmaz, 2006, pp. 523–524) of belonging allowing me to interpret students experience within and across different classroom contexts to generate concepts and theories grounded in those lived experiences

Working as a school social worker was helpful for conducting this study because I was familiar with how schools operate and the various needs of those in the school building, ranging from the principal, teachers, staff and students. I used this insider status to work with the principal, staff and teachers to get the study set up and running. My past experience working with students taught me that when students believe that you value them and their time they are much more likely to engage with you, even when it is inconvenient. Therefore, providing students was a small incentive went a long way for their participation in the study. However, having this insider perspective limited my ability to see perspectives that I was not accustom to seeing. An example of this was for those students who sense of belonging was not their first and foremost need in the classroom but was feeling competent took precedence. It was in these areas that getting feedback from others was crucial in order to have someone point out my blind spots. For instance, as a school social worker it was my job to advocate for students. It was not my job to advocate for parents, teachers or principals. Therefore, when analyzing the data, it was natural for me to take on the role of student advocate. It was helpful when explaining how I came to

understand the data with my committee members, for them to provide feedback that would help me to see other perspectives, while highlighting incomplete assumptions I was making about students' experiences. I found I was overvaluing the student experience and undervaluing the importance of the teacher and other students in the classroom. This realization helped me to balance my interpretation of the data while leading me to acknowledge that future research should take into account the teacher and other students in the classroom in order to get a complete picture.

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ACKNOWLEDGEMENTS

This dissertation could not and would not have been completed without my incredibly dedicated and knowledgeable dissertation committee. They each were profoundly committed to seeing me through this process and very generous with their time and support. To Gina Samuels who reached out to me with a personal phone call when I was accepted into the PhD program, who continued to support me as I struggled to find my voice as a student, social work researcher and scholar, and who without hesitation picked up the baton as my dissertation chair. To Camille Farrington, who has been my role model in academia and in life. I have sat in many meetings with Camille and through her example as a friend, a scholar and mentor she has taught me that with lots of effort and persistence, we can change the world (and it is okay to make mistakes along the way!). To Alida Bouris, who I came to know at the Chicago cyclo-cross races and then as my incredible research mentor, who helped me to pay attention to the little things. To Ron Ferguson, who I have learned much from his work on the TRIPOD survey. I am continually impressed by his commitment to understand students' educational experiences and how to help them succeed. To all my committee members, I have the utmost respect and admiration for each one of you! Thank you!

I am deeply grateful for the faculty and staff at the School of Social Service Administration at the University of Chicago. I reached out to so many of you during my time at SSA and in return you extended your support, guidance and friendship. I would be remiss if I didn't have a few individual *shout outs* to specific people. For instance, to Melissa Roderick, who saw potential in me and helped me to hone my ideas. To Stuart Luppescu who taught me Rasch analysis and provided statistical support as I ran analysis and wrote my findings. To Sydney Hans and Charles Payne who were always available to read manuscripts and provide

valuable feedback. To Steve Raudenbush who welcomed me to the University of Chicago- as an Institute of Education Science fellow and provided statistical support and allowed me to audit his HLM course. To Faye Kroshinsky, who is a trusted friend and was always willing to lend a helping hand. To all the SSA IT guys (Sid, John and John) who were always an email away to help with computer issues. To the U.S. Department of Education - Institution of Education Science fellowship program and SSA which generously funded my doctoral studies. To everyone at UChicago Consortium and Network for College Success who showed me how to conduct action research and do the impossible; change a large, urban school district. Thank you!

To the many people who provided me emotional and social support in Chicago. First to the 2010 doctoral cohort: Adam Brown, Kevin Tan, Christine Leone, Ryan Health, Colleen Cary Katz, Caitlin Elsaesser Gantz, Alejandra Ros and Theresa Anasti. Thank you for your friendship. Watching each one of you go through the doctoral program was both inspiring and comforting because I knew I was not alone. To my other SSA friends: Billie Jo Day, who without her solid friendship and shoulder to lean on, I am confident I would not have survived. To my beer and stats buddies: Nate Okpych, Jaeseung Kim, Michael Park and Rob Eschmann. Thank you all for your friendship, support and love.

Eight years ago, my journey into the doctoral program started and now ends with the unconditional support, encouragement and love from my husband, Brad Keyes. Although everything about this process was nothing we expected, I am a better person today having faced the many challenges, with him. I am grateful to Brad for his unwavering commitment and assurance that I could succeed at this PhD *thang!* Brad stood strong in his conviction that I could finish my PhD and consistently reminded me that when I did, I wouldn't regret it. Thank you!! To my incredibly talented and intelligent daughters, Kendra Seneca Keyes and Cassidy Seneca

Keyes. When I think back over the six years we all lived, worked, played and went to school in Chicago, there was nothing that was more gratifying than to see your bright smiles each day which helped me to persist. The admiration and love that you showed to me and to one another kept me going. To my parents, Martin E. Seneca and Karen Wilson Seneca, and my four siblings (Jake, Mark, Tom and Sommer) who were a constant support to me and my family. I am grateful to my parents who raised me to believe that I can accomplish really hard things. Lastly, I want to thank the high school students who gave of their time and shared their experiences with me. Without your insights, this project would not have ever happened.

INTRODUCTION

The primary goal of this dissertation is to gain an understanding about the specific factors that promote classroom belonging and engagement using the voices of high school students. This dissertation is just a portion of a larger research agenda where the overarching goal is to understand innovative ways to improve student learning, develop college and work-related skills and ensure that students graduate from high school ready for college or work by paying attention to their developmental and psycho-social needs. The objectives for this dissertation are: (a) to develop a qualitative understanding of how high school students conceptualize classroom belonging and the classroom factors that promote their classroom belonging and engagement; and (b) to determine if a statistically significant relationship exists between a survey measure (e.g. *Community of Engaged Learners*) that was constructed from the qualitative interviews and classroom factors that were identified in student interviews as important for promoting classroom belonging and engagement. To meet these objectives, this study employs a mixed- methods approach. In the first phase of the study, I use a constructivist grounded theory methodology (Charmaz, 2008; 2014) to address the complexity and social nature of learning and to understand the abstract phenomena of classroom belonging and engagement. In the second phase, I use multilevel student and school data and employ hierarchical linear modeling (HLM) (Raudenbush & Bryk, 2002; Raudenbush, Bryk, & Congdon, 2013) to understand the strength of the relationships that exist between classroom factors within schools and students' perception of classroom belonging and engagement.

The primary finding from the qualitative study is that teachers are a critically important driver for constructing a classroom community of engaged learners. When students perceive they are in a community of engaged learners, their sense of belonging and engagement are being

addressed through the classroom community. The analysis of student interviews reveals teaching practices that promote community of engaged learners focus on two areas: 1) building relationships and 2) constructing a learning environment. Drawing upon the qualitative analysis, a survey measure called *Community of Engaged Learners* was created to capture the engagement behaviors and students feelings of classroom belonging. The measure was placed on the 2015 Chicago Public School (CPS) annual student survey *My Voice, My School*. Using the 9th grade data collected from the 2015 administration of *My Voice, My School*, and a HLM analysis was conducted to examine the strength of the relationships between teaching practices and the newly created measure *Community of Engaged Learners*. The findings from the quantitative HLM analysis confirm that classrooms are socially complex environments and that there are many factors to consider beyond student perceptions. However, the analysis shows a small positive relationship between teacher practices (i.e. academic support and lesson organization and structure) and the construct *Community of Engaged Learners.* The findings from this analysis confirms the hypothesis that teachers are key components for constructing classrooms that promote belonging and engagement. The present study thus suggests that classrooms are complex and that although teaching practices are important for promoting classroom belonging and engagement there are other important factors that need to be considered. This study lays the foundation for a robust future agenda on discovering other important classroom factors beyond teaching practices while considering the experiences of classmates and the teachers.

The Problem

Today the United States is growing, in size and diversity. Along with this growth so does public school enrollment. The racial composition of public schools has changed from 1990 to 2013 where white student enrollment has fallen from 69% to 50% (Orfield et al, 2016). Latino

enrollment has risen from 11% to 25% and enrollment of black students has remained constant around 15 percent (Orfield et al, 2016). The U.S. elementary and secondary public school teachers is 82% white and educational leaders are also predominately white (U.S. Dept. of Education et al, 2016). Over time public school teacher diversity has increased, for instance in 1987-88 school year, 13% were teacher of color compared to 18% in the 2011-12 school year (U.S. Dept of Education et al, 2016). However, it is important to note that although the proportion of all teachers of color has increased over time this direction does not apply to increases in the proportion of teachers in all non-white racial and ethnic categories (U.S. Dept of Education et al, 2016).

As our country becomes more diverse it also is becoming more segregated. Segregated schools build an unequal and segregated society (Orfield et al., 2016) where there are large disparities between whites and people of color, with immense gaps in employment, education, wealth and health. Therefore, it is important to think about how teachers as well as school-based student support professionals (e.g. school social workers, school psychologist, and school counselors) are educated and prepared to address the diverse student body in their classrooms. Not only do these educators need diversity education and trainings but they also need to find a new way of thinking about how to address this problem and work collaboratively. One way to begin addressing this problem, is to equip teachers and school-based student support professionals with the knowledge about how to work collaboratively together to address specific factors that will help promote both classroom belonging and engagement for all students.

Many researchers are focusing on understanding the psycho-social need to belong to better understand students' motivation to learn. It has been documented that the need to belong and form meaningful attachments functions as a primary motivating factor in human behavior

(Baumeister and Leary, 1995). The problem is that educators often don't have clear strategies for constructing a classroom that promote belonging and increase engagement for all students. This dissertation study is an effort to systematically understand the classroom factors that promote belonging and engagement for all high school students.

Belonging is a multifaceted construct, and in an educational context, it has been operationalized differently by various researchers in the field of education (Anderman, 2002; Faircloth & Hamm, 2005; Goodenow, 1993b; Goodenow & Grady, 1993; Osterman, 2000a; Roeser, Midgley, & Urdan, 1996). For example, the constructs used to define or closely related to belonging include: emotional engagement (Finn, 1993; Fredricks, Blumenfeld, & Paris, 2004); perceptions of school climate (Waters, Cross, & Shaw, 2010); school connectedness (Bernat & Resnick, 2009; Resnick et al, 1997); school bonding (Jenkins, 1997); and sense of relatedness (Connell & Wellborn, 1991; Deci & Ryan, 1985; Furrer & Skinner, 2003).

Carol Goodenow's (e.g. Goodenow, 1992, 1993a, 1993b; Goodenow & Grady, 1993) definition of belonging will be used because it aligns with my prior assumption that students who perceive themselves as members of their classrooms are more motivated to engage in academic activities. At the classroom level, this means that students who feel a sense of belonging toward their teacher and their classmates are likely to engage more in their classwork. Classroom belonging differs from the type of engagement student exhibit when they feel like they belong to their school more generally, which may mean they are more likely to attend school each day and participate in school or after school activities. Goodenow defines classroom belonging as a:

> "…sense of being accepted, valued, included, and encouraged by others (e.g., teacher and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class. More than simple perceived liking or warmth, it also

involves support and respect for personal autonomy and for the student as an individual.*"* *(*Goodenow, 1993b, p. 25*).*

A good deal of the belonging research in an educational context focuses on racial minority students (Faircloth & Hamm, 2005; Hill, 2009; Johnson, Crosnoe, & Elder, 2001; Wardle, 2000). However, few studies examine what it means to belong in a high school classroom and determine the factors that are important for promoting classroom communities for all students. In addition, many researchers agree that the future direction of belonging in educational contexts needs to consider the unique aspects of child and adolescent development when defining belonging, as this impacts how it is operationalized (Christenson, Sinclair, Lehr, & Godber, 2001; Finn, 1989; Newmann, 1992; Steinberg & Cauffman, 1996). Despite what is known about belonging, engagement and learning few studies provide specific strategies to assist teachers with constructing their classrooms into communities that promote both belonging and engagement for all students.

The purpose of this dissertation is to identify specific teaching practices through student interviews and determine which ones are important for constructing classroom communities that promote belonging and engagement and then examine if these practices can be measured quantitatively, using student surveys. The idea for using student surveys is that in many schools across the country they are already being used in schools to collect data for school improvement purposes. Utilizing an existing survey instrument is not only cost effective, but could easily be adapted to provide important and confidential information designed for teachers to learn more about what is happening in their classrooms and if their teaching practices are reaching all students.

Organization of the Dissertation

This dissertation is organized using a two-paper format. Each paper was developed to be a unique manuscript for publication in an academic journal in the field of education, social work, or adolescent development. Each paper uses a different methodology and employs separate ninth grade student samples from Chicago Public Schools during the 2014-15 school year.

The first paper titled, *A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students* explores the meaning of classroom belonging and the specific classroom factors that high school students indicate are important for promoting their classroom belonging and engagement. Analysis of student interviews finds that teachers who effectively constructed their classrooms to build relationships with and between students and constructed a learning environment using good teaching practices created classroom communities of engaged learners.

The second paper titled *A HLM analysis of Teacher Practices and Being in Community of Engaged Learners* quantitatively analyzes the relationship between a newly constructed survey measure *Community of Engaged Learners* and specific teaching practices identified in student surveys as important for their classroom belonging and engagement. Understanding the specific needs that students say are important to belong and engage is useful for teachers to know and may influence how they construct their classroom. The implications section will touch on how this information can also assist school-based support service providers, such as school social workers, to be supportive of both students and teachers in school reform efforts.

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A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students

Abstract

This study examines the qualitative experiences of 32 high school students to understand what belonging in a high school classroom means to them and the factors that promote belonging and engagement. Constructivist Grounded Theory method was used to examine high school students' experiences in their favorite and least favorite ninth grade classes and the practices that foster classroom belonging and engagement. A racially diverse group of high school students completed in-depth interviews on what classroom belonging means, what classroom factors are important for promoting their classroom belonging and behavioral engagement, and a numerical rating (1-10) of their classroom belonging and behavioral engagement in their favorite and least favorite classrooms. Findings from this study show that teachers are the driving force in fostering belonging and engagement in their classrooms, which they do by creating a community of engaged learners. Teachers create a classroom community of engaged learners by simultaneously fostering relationships and constructing a learning environment. Creating a classroom community of engaged learners is an important classroom factor for promoting students' classroom belonging and engagement.

Keywords: classroom belonging, engagement, high school, transitions, identity development

Introduction

Educators, policy makers and researchers continue to search for effective and sustainable ways to improve high school graduation rates, decrease dropouts and prepare students for college or work. The obvious key to improvement would seem to be getting students to engage more in school and class, however, as most complex problems go, the solutions are not that simple. Research, ranging from psychological to behavioral engagement has examined ways to improve student outcomes. From this body of research, interventions range from early childhood education, family involvement, school-wide systemic approach, and school- community collaboration (Christenson, Reschly, & Wylie, 2012; Fredricks et al., 2004; Mapp & Kuttner, 2013). Engagement models are related to, and often incorporate, concepts from student motivation models. While engagement and motivation are related, they are not the same thing. A students' motivation can influence how easily they can be engaged. Researchers, Deci and Ryan define motivation as the energy, direction, and persistence of activation and intention (Deci, 1985; Deci & Ryan, 2002). They have outlined in their self-determination theory that individuals can be either intrinsically or extrinsically motivated. Therefore, engagement along with motivation are crucial elements for learning and although "learning requires motivation; motivation does not necessarily lead to learning" (Nuthall, 2007, pg.35). In addition to paying attention to the various types of engagement and motivation, it is also necessary to understand how the social context and environment can also impact students' motivation to engage and learn. When there is a fit between the developmental needs of the adolescent and the educational environment it has the potential to launch the adolescent toward positive growth (Eccles, Migley, Wigfield, Buchanan, Reuman, Flanagan & Mac Iver, 1993).

Noncognitive factors

In recent years, student engagement has been approached by highlighting the noncognitive factors that impact learning. Noncognitive factors comprise a set of behaviors, skills, attitudes, and strategies that help students to do well in class. Noncognitive factors, are behaviors not devoid of cognitive thought but are thought to be different from cognitive factors in education (Borghans, Duckworth, Heckman, & Ter Weel, 2008). Cognitive factors are perceived to be the academic knowledge and skills that are measured by standardized tests and refers to what students learn in school. Whereas, noncognitive factors are perceived to be those "soft skills" that matter for learning (Farrington et al, 2012). However, Farrington et al. (2012) argue in their comprehensive review of the noncognitive literature that these "so-called cognitive and noncognitive factors" continually interact in essential ways to create learning, such that changes in cognition are unlikely to happen in the absence of this interaction. Research shows that when educators foster noncognitive factors in their classrooms they also promote positive academic mindsets (Aditomo, 2015; Claro, Paunesku, & Dweck, 2016; Gutshall, 2013; Rattan, Savani, Chugh, & Dweck, 2015; Farrington, Roderick, Allensworth, Nagaoka, Keyes, Johnson & Beechum, 2012). Academic mindsets are the pyscho-social attitudes and beliefs students possess about themselves in relationship to academic work (Farrington et al., 2012). Research supports the use of academic mindsets to improve academic performance and increase successful outcomes (Farrington et al, 2012; Dweck, Walton, & Cohen, 2011).

In a literature review of noncognitive factors, Farrington et al. (2012) outline four mindsets and their relationship to academic performance. The four mindsets are: (1) when students perceive they belong and are members of an academic community; (2) when students believe they can improve their academic ability and become more competent with hard work and

effort; (3) when students believe they have the academic abilities to engage in the work and the activities their teacher assigns; and (4) when students value their class and homework and find it useful, relevant, enjoyable and therefore, want to do well when completing tasks (see Farrington et al., 2012 for more detail). Positive academic mindsets, act as a motivating force and when students employ them and the associated academic behaviors they often result in improved school performance (Farrington et al, 2012).

Farrington's review of the literature outlines the importance of developing all four of these mindsets to help students succeed in school but the literature is sparse when it comes to thinking about which mindset educators should focus on first. Of the four academic mindsets (belonging, relevance, self-efficacy and growth mindset) the need to belong is the only mindset identified in the literature as a basic human need (Maslow, 1970). The need to belong and form meaningful attachments functions as a primary motivating factor in human behavior (Baumeister and Leary, 1995). It has also been determined that feeling a sense of belonging is contextual (Osterman, 2000). In an educational context, for students to have the desire and motivation to engage in class, their basic psychological needs must be met (Osterman, 2000). This leads me to hypothesize that sense of belonging may take priority over the other academic mindsets. While the four academic mindsets are integral and interdependent, having teachers focus on developing a classroom belonging mindset may be a good place to start. Thus, this study focuses solely on the classroom belonging mindset and its relationship to behavioral engagement.

Classroom Belonging

Carol Goodenow's (e.g. 1992; 1993a; 1993b; Goodenow & Grady, 1993) claim that students who perceive themselves as members of their high school and in their classrooms, they are more motivated to engage in academic activities. School belonging translates into students

being more likely to attend school each day and participate in school or after school activities. At the classroom level belonging means that students who feel a sense of relatedness toward their teacher, their classmates and/or toward the course subject will engage more in the required work. Goodenow defines classroom belonging as a:

> "sense of being accepted, valued, included, and encouraged by others (e.g., teacher and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class. More than simple perceived liking or warmth, it also involves support and respect for personal autonomy and for the student as an individual." (Goodenow, 1993b, p. 25).

Many educational psychology researchers quantitatively study classroom belonging and engagement using various student motivational and engagement outcomes, such as their academic competence or self-efficacy (Bandura, 1986, 1994, Shunk, 1989), their attitudes toward the academic material and how these perceptions guide their behavior (Ames, 1992; Ames and Archer, 1988; Urdan 1997). A good deal of school and classroom belonging research focuses on racial minority students in elementary, middle school, high school and college contexts (Delpit, 2006; Faircloth & Hamm, 2005; Goodenow, 1993a; Hill, 2006, 2009; Sánchez, Colón, & Esparza, 2005; Walton & Cohen, 2007; Wardle, 2000). For instance, in the study by Faircloth & Hamm (2005), the authors analyze survey data from 9th to 12th grade students attending an ethnically-diverse high school. Structural equation modeling is used to determine if a relationship exists between the latent constructs: efficacy beliefs, valuing school, belonging and academic success. The racial categories from the respondents were African American (N=580), Asian American (N=948), Latino (N=860), and White (N=3,142) across seven high schools. Findings from this study indicate that experiences of belonging act as a mediator in the

relationship between the motivational variables and academic success for African American and Latino students. Additionally, the study found support within all four ethnic groups that the construct belonging best explained the relationship between motivation and achievement.

In a different study, Walton & Cohen (2007) outline the salience of social belonging for the intellectual achievement of under-represented racial minority groups, such as African Americans, Latino Americans and Native Americans. These authors examine when stigmatization occurs for underrepresented racial minority college-aged students, this creates a sense of uncertainty about the quality of the relationships that are developed in both academic and professional settings. While belonging is important for all students, those that are in the racial majority seem to benefit from an assumed sense of belonging in academic settings (Cohen, Steele, & Ross, 1999). Two experiments are executed in the Walton and Cohen (2007) study to better understand college students' state of belonging uncertainty. The first experiment finds that when students were led to believe that they would have few friends that were like them, in a particular field of study, White students were not impacted in the same way as Black students. For Black students, their sense of fit and potential for success in a particular field of study dropped nearly a full standard deviation and was based on if they could generate a list of eight friends who fit well in their field of study. This finding supports the idea that members of a racial minority group are uncertain about the social connections and bonds that exist in academic settings which led racial minority students to think more about their race and question whether "people in my group belong" (Walton & Cohen, 2007, p.87).

In the second experiment, Walton & Cohen (2007) tested an intervention that normalizes the hardships experienced during the first-year of college for students, regardless of race. For Black students in the treatment group reported that this intervention improved their sense of fit

and their belief that they could be successful by 20 percentile points. However, for Black students in the control group, exhibited a "sophomore slump" when their earned and expected grade point averages were compared (Walton & Cohen, 2007). Unlike many of the studies that focus on belonging and engagement, this dissertation study examines qualitatively what belonging means for adolescents in the classrooms of a racially and academically diverse high school to understand the classroom factors that are important for promoting belonging and engagement for all students.

Engagement

Engagement as is a multifaceted construct and has been defined three ways (Fredricks, Blumenfeld, & Paris, 2004). *Behavioral engagement* pertains to student participation and involvement in academic and social school activities (Finn, 1989, 1993; Finn and Rock, 1997; Goodenow, 1993; Goodenow and Grady, 1993; Voelkl, 1997; Wehlage et al., 1989) and is central for achieving positive student academic outcomes and preventing kids from dropping out of school. *Cognitive engagement* relates to student motivation goals and self-regulated learning (Zimmerman, Boekarts, Pintrich, & Zeider, 2000; Zimmerman, 1990) it ranges from simple memorization to exerting great effort to comprehend complex ideas and master difficult skills that promote deep understanding and expertise. *Emotional engagement* indicates how students, positively or negatively, to teachers, classmates, academics or school. Some researchers have conceptualized emotional engagement as how well a student identifies with his/her school, which would include belonging, feeling important and identifying and valuing the successes associated with school related outcomes (Fredricks & McColskey, 2012).

While previous research shows that cognitive and behavioral engagements are well understood (Fredricks et al, 2004) there is not the same consensus about emotional engagement.

Researchers indicate that the type and level of student engagement is a response to the variation in their environments (Connell, 1990; Finn & Rock 1997). This study focuses on behavioral engagement; because in the review by Farrington et al (2012) the authors found evidence that students' "academic behaviors, attitudes, and strategies that are critical for success in school and in later life including study skills, attendance, work habits, time management, help seeking behaviors, metacognitive strategies and social and academic problem-solving skills" (pg. 3). Also, behavioral engagement is an important factor to examine because it has been shown to have the most immediate effect on students' course grades and life outcomes (Farrington et al, 2012).

Classroom Factors Important for Classroom Belonging and Behavioral Engagement

The literature suggests that teacher-student relationships are a key mechanism for engagement (Pianta et al., 2012; Allen & Allen, 2009; Crosnoe, 2000; Eccles, Lord, & Midgley, 1991; Dornbusch, Glasgow, & Lin, 1996). Pianta, Hamre, and Allen (2012) break down the classroom context into three major domains: emotional supports, classroom organization and instructional supports. Pianta et al (2012) indicate that the quality of teacher-student relationships is critical to understanding student engagement. Furthermore, they note that student engagement increases when teachers are observed and given personalized feedback and support around their interactions and behavior. (Pianta et al, 2012). Although peers can influence students' attitudes about school and themselves, teachers have been found to have the strongest and most direct influence on a student's sense of belonging through interpersonal support, autonomy support and methods of instruction that generate positive interactions with peers (Osterman, 2000a).

Studies that examine the teacher-student relationship have highlighted key teacher characteristics that promote positive and supportive relationships while creating a sense of

belonging for students. The first characteristic is defined as "a general interest" in and involvement with students. The results is that the teacher and students generally like and trust one another (Martin & Dowson, 2009; Wentzel, 1997). Teachers who are considered "good" by their students are those who combine good teaching skills and a commitment to help students learn (Ozer et al, 2008). A second teacher characteristic associated with positive relationships is when teachers seem to have instructional style that could be labeled at "attentive encouragement". Teachers who have this can be seen offering encouragement, frequently checking for understanding, and providing timely feedback (Osterman, 2010). This characteristic also go with an active teaching style that provides opportunities for "debate and discussion over more conventional worksheets, notetaking and other tasks typically disliked by high school students" (Certo et al, 2003, p. 714). Additional teaching characteristics deemed positive for student engagement include confidence in student potential (Stipek, 2002) and attention to student motivational needs, such as competence, and autonomy they operate to reinforce students' sense of belonging (Osterman, 2010).

Much of the previous research about teacher-student relationships that promote classroom belonging and behavioral engagement has been quantitative researched and often focuses on elementary, middle school or college aged students (Furrer & Skinner, 2003; Roeser et al., 1996; Ryan & Patrick, 2001; Skinner, Furrer, Marchand, & Kindermann, 2008). Few studies examine these topics qualitatively with racially and academically diverse high school students about the factors that help them to feel a sense of belonging in their classrooms while motivating them to engage in the coursework. This dissertation study captures high school students' voices and identifies specific classroom factors that impact classroom belonging and behavioral engagement.

The present study

This study draws on semi-structured interviews with 32 racially and academically diverse tenth-grade students. Tenth-grade students were recruited to participate in the study early in the school year, and were asked to reflect on their ninth-grade classroom experiences and answer questions about their favorite and least favorite ninth grade classes. Questions ask about classroom contextual factors, such as the room arrangement, teaching style of the teacher, and how working with classmates affected their sense of classroom belonging and level of engagement. This study, seeks to answer the research question: what specific classroom contextual factors are important for promoting students' classroom belonging and behavioral engagement?

Methods

This paper's analysis is the first step in a larger mixed method study to understand how high school students conceptualize classroom belonging as it relates to their engagement and provide a tool for teachers to use in their classrooms for promoting classroom belonging and engagement. Using the same data, the larger study will eventually examine classroom belonging and behavioral engagement as it relates to the academic program students are enrolled in as well as examine how belonging and engagement are impacted by students' racial background. This lays the foundation to develop a survey instrument tool for teachers. The aim for the study is to identify specific classroom factors that teachers can utilize and promote a sense of belonging and motivate all students to engage in their classes.

Study Design and Site Selection

The study site was a high school in the northern part of Chicago that had a racially and academically diverse student population. According to the Illinois Report Card which shows the racial and ethnic breakdown for each school and compares it to the Chicago Public School District, in the 2014-15 school year of the study, the student body was comprised of primarily Latino and Black students and a smaller white and immigrant population (Latino: 43%, Black: 30%, Asian: 13% and Immigrant/White: 9.7%). These demographics closely mirror the larger Chicago school district which is Latino 46%, Black: 40%, Asian: 4% and Immigrant/White: 10% (Illinois State Report Card - City of Chicago Five Year Trend, 2012-2016) Eighty-eight percent of the high school student body is from low-income households (Illinois State Report Card, 2014-15).

Recruitment

Recruitment for the study started in the fall of student's tenth grade year, and occurred in in either their PE or JROTC classes. There were approximately 313 tenth grade students attending this high school when recruitment began. Each P.E. and JROTC class received a presentation and invited to participate in the study. Per approval from both University of Chicago- School of Social Service Administration Institutional Review Board (IRB) as well as CPS Research Review Board (RRB), students that expressed an interest to participate signed a sheet giving consent to contact their parents and listed their home phone number, student ID and enrolled academic program. Student were given a parent consent form to take home and instructed that parents would be notified of the study and answers any questions they may have. Students were instructed that if they expressed an interest to participate in the study and returned a signed parental consent form, as a thank you for returning a signed parent consent form

students would receive a $10 iTunes gift card, per IRB and RRB approval. However, students were told that not everyone who agrees to participate and returns a parental consent form will be selected to participate in the study, but everyone who returns a parental consent form will receive an iTunes gift card. The parents of interested students were called to inform them of the research study and answer any questions they may have. Eighty students (25.5%) signed up to participate and thirty-six students (11.5% of the student body; males=17; females= 19) returned signed parental consent forms. Thirty-two students in total were interviewed. Of these thirty-two students interviewed, four of the male Latino students requested to have no audio recording made during their interviews. Hand written notes and memos were created for these four students, who requested no audio recording. In addition, administrative and grade data were not available for three female students making it difficult to verify self-reported grades in the favorite and least favorite classes (see Table 1:3 for the list of all participants showing which students with no audio recording or incomplete data). All of the thirty-two interviews informed my understanding of students' classroom experiences.

Student Sample

Table 1:1 shows the student sample by gender and race. The thirty-two-student sample consisted of thirteen male students and nineteen female students. Nearly all participants were racial/ethnic minorities (African American=4, Latino=13, White=4, South Asia=2, Pacific Islander= 1, African=2,) and the racial backgrounds of six participants were not listed in the CPS school district administrative database.

Table 1:1

Student Sample by Gender and Race

Gender	Total	African American	Latino/a	White*	South Asian	Pacific Island / Hawaiian	African	Not available**
Male	13	3	5	2	0	0	2	1
Female	19	1	8	2	2	1	0	5

* The high school study site has many first or second-generation immigrants from Southwest Asia and Eastern Europe. When school administrative data is examined for a student who identifies as "white" it is not unusual to find that English is listed as a second language.

**The racial background was not listed in the CPS administrative data.

Data Collection

This study draws on a 45-minute semi-structured interview with 32 tenth-grade students. Interviews were collected at the start of student's tenth grade year so that students could reflection their ninth-grade transition to high school and their favorite and least favorite ninth grade classes. The timing of when IRB and RRB approved for data collection to commence and when school began, allowed the 2014-15 ninth grade students only one month's time to adjust to the transition to high school experience and their ninth-grade classrooms. This did not seem adequate time for ninth grade students to formulate a sense of belonging and engagement in their classrooms, let alone have had time to reflect on what classroom belonging in high school means and which factors are important. Because of this, it seemed most appropriate to interview students at the start of their tenth-grade year but before they had become immersed in their tenth-grade classrooms. Students were recruited early in September and interviews were scheduled in

October and November. At the start of the interview, students were provided with another overview of the study. Students were informed of the voluntary nature of the study and that they could withdraw at any time without consequence. Students were given an opportunity to grant or refuse audio recording of the interview. In total, four students refused audio recording. All participants provided verbal consent and a signed parental consent

A semi-structured interview guide (see Appendix A for interview protocol) was developed using the literature about classroom belonging and behavioral engagement. Questions were directed to students about what it means to belong in their high school classroom as well as important factors that helped students to feel a sense of classroom belonging and the motivation to engage in the course work. To start, students were asked to define classroom belonging in their own words. Following this, students were asked to identify their favorite and least favorite ninth grade classes and to discuss why each class was their favorite or least favorite. Students were asked to describe both the favorite and least favorite classrooms (i.e. arrangement of the classroom, teacher's teaching style, their peers, and how much they liked or disliked the course subject, and if they had a history of doing well or poorly in the favorite or least favorite class identified). Students were asked about their favorite and least favorite classes because I hypothesized that students' favorite class would be where they had a high sense of belonging and engagement when compared to their least favorite class. To check this assumption at the end of the interview I asked students to rate their level of engagement and belonging using Carol Goodenow's definition of belonging on a scale of 1 to 10 where a ten meant they had the highest feeling of being accepted, valued, included and encouraged by both their teacher and classmates. A five-rating meant that they had some or all of those feelings part of the time, and a one rating

means they were in the class where they never had those feeling[1]. Students self-reported their final course grade in each of the two classes discussed.

Studies show that the students' practices or behaviors that are related to behavioral engagement include attending class, the amount time spent studying for class, reading, and thinking about class, talking to others about the class, and completing homework assignments (Fredricks et al, 2004). Following this, students were also asked to rate their level of behavioral engagement on a one to ten scale, where a rating of ten meant that the student went to class every day, completed all of their assignments, participated in class whenever there was an opportunity, were very interested and enjoyed what they were doing and learning in that class, A rating of one indicated a lack of engagement, as with students who rarely attended class, never completed assignments, or thought about class. A rating of five, reflected that the student attended class at least half of the time, completed assignments at least half of the time, and was interested and paying attention in class about half of the time.

Subsequent to each interview, field notes and an analytic memo were composed (Strauss & Corbin, 1990). These detailed impressions about the interview process, the student participant, questions raised and emergent themes. Digitally recorded interviews were uploaded to a secure server that was password protected. They were transcribed verbatim. The quotes presented in this study have been slightly edited for readability, removing fillers, pauses and any additional words that have been added to the quotes are in brackets. Also, each student has been assigned a pseudonym for confidentiality.

[1] Some student chose to rate each how much their teacher and their peers promoted their belonging. Other students combined these ratings in their heads before saying them.

Data Analysis

Qualitative Data Analysis

For this paper, the QSR International's Nvivo 10 qualitative data analysis software (Nvivo 10, 2012) and Microsoft Excel (2016) software programs were used to manage, organize and analyze transcribed student interviews, field notes and memos. The analysis for this paper utilizes a Constructivist Grounded Theory method (Charmaz, 2008, 2014). This method allowed for addressing the complexity and social nature of learning and to understand the abstract phenomena of classroom belonging and engagement by moving from a *what* question to subsequent *how* questions. Part of utilizing this method requires that I, as the researcher, examine the relativity of my perspectives, positions, practices and research situation (Charmaz, 2008).

Analysis began with the post-interview memo describing the interview and my impressions immediately after the interview ended. Each transcribed interview had multiple read through and coding regimens. The first read through was to organize and become familiar with the interviews before coding began. The second time, Goodenow's (1993b) definition of classroom belonging was used as a "sensitizing concept" (Charmaz, 2006), a tool for focusing on key concepts found in existing research and literature. In this case, I drew from this theory the ideas related to being/feeling *accepted, respected, included, and supported.* During the third read I began organizing and analyzing the multiple themes that emerged when students discussed specific classroom factors in their favorite and least favorite ninth grade classes.

Based on the way the interview protocol was structured and my previous history in classrooms, I began by organizing the data using three primary categories: (1) Teacher; (2) Peers; (3) Course Subject. As I developed my analysis, I began with open coding where the data

was examined line by line using sensitizing concepts to examine the primary categories that promoted students' classroom belonging and engagement. It became important that I look more closely at the primary categories as they relate to the sensitizing concepts. An example of a subcategory found under the category "Teacher" was "Teacher Characteristics". As I began to look more closely at how students discussed specific Teacher Characteristics and the relationship to how they promoted or prohibited students' classroom belonging as they related to students' feelings of acceptance, respect, inclusion and/or support. For instance, students talked about teachers who were "good, nice and caring" as important factors that helped them to feel acceptance, respect, inclusion and/or support. Other students talked about teachers who was "like a friend" and/or who "looks out for me". The primary categories and subcategories were used for the next step of axial coding that combined all of the various categories to understand the conditions or what influenced the categories.

Next, I reviewed segments of the interviews and memos, looking for patterns of important classroom factors that promote belonging and engagement in both students' favorite and least favorite ninth grade classes. During this process, I used the Constant Comparative Method (Glaser, 1965), which is an iterative process that identifies patterns across multiple participant perspectives. I discussed these patterns with others, received feedback and then went back to transcripts to determine if codes fit the concepts suggested by the data. Codes were refined when new understandings or insights about the data occurred and codes were changed, combined or omitted all together. Overarching major themes rooted in the data emerged by searching for exceptions and disconfirming evidence. The multiple passes through the data generated a final list of codes that were descriptive (e.g., academic support), process (e.g., step-by-step instruction), and in vivo (e.g., teacher doesn't skip over the easy steps) using the participants'

own language. Lastly, school administrative data and student ids were used to examine the course grades of students' favorite and least favorite ninth grade classes and compare them to students' self-reported grades. I was also able to look at their free and reduced lunch status, their racial/ethnic background and their previous academic history (GPA) in the eighth grade. From this coding process, a framework and additional tables were created to understand the relationships between concepts.

Results

The notion of "a community of engaged learners" as a critical context for the development of belonging is the primary finding from this analysis and is an important classroom factor for promoting students' classroom belonging and engagement. Consistent with previous research, all students interviewed reported that the teacher drives what goes on in the classroom (Kim, 1995; Osterman, 2010; Solomon, Battistich, Kim, & Watson, 1996). Students did talk about peers being an important aspect to their belonging but limited classmates influence to the first few weeks of a new class. Some students (n=7) mentioned that knowing a few students before class starts helped them to feel more confident and more likely to take risks because "there is someone to back me up." However, once students got settled into the class, the importance of knowing classmates from before the class became unimportant for their sense of belonging. Some students (n=9) also mentioned that peers were important for supporting, encouraging and pushing each other to be successful academically.

Six students mentioned that having a previous interest and doing well in a course subject helped them to feel a sense of belonging and engagement, however only one student, *Dean*, mentioned that he did not feel he "fully belonged" in Algebra class because he does not like the subject and because he needs help understanding the concepts and completing the assignments.

Because of the consistency both in the literature and among all students interviewed, how teachers build relationships and construct the classroom will be the focal point for the study's findings and results.

The analysis of classroom belonging definitions and students' descriptions of their favorite and least favorite ninth grade classes, reveal a community of engaged learners encompasses two characteristics: (1) building relationships and (2) constructing a learning environment. Students reported higher levels of classroom belonging and engagement in their favorite classrooms which tended to be learning environments where the teacher was fostering relationships and constructing an engaging learning environment. Students also described the ways that their favorite classroom teachers as built relationships by showing students respect, helped them to feel included in the class, and encouraged students when they were struggling, all of which helped to establish trust. Students (n=25) described these teachers as having certain characteristics such as "good", "nice", "caring", "calm", "fun", "cool" and "experienced".

Table 1:2 indicates the teaching practices identified from student interviews that foster classroom belonging and behavioral engagement. They are: Teacher-Student Trust, Classroom Management, Lesson Organization and Structure, and Academic Support. Students also point out that there were teaching practices that either promoted or limited their classroom belonging and often students also mentioned that this worked to improve or decrease their interest and/or participation in course work. In the section that follows, a more detailed description using student quotes to elucidate the four teaching practices is provided. Generally, student descriptions of their favorite ninth grade classrooms encompassed teachers who both worked to build relationships, with and between students; and constructed classrooms using good instruction and teaching practices that encouraged students to participate. It is important to note that when students

described their favorite and least favorite ninth grade classes they did not indicate that every teaching practices listed in Table 1:2 was present. For instance, when students described their least favorite classrooms often there were things that students liked about their least favorite class (e.g., course subject, teacher, peers) however, it was not unusual for students to point one main teaching practices that was missing in their least favorite class (e.g., teacher doesn't' know how to talk to kids, the teacher is unable to manage the classroom, the teacher doesn't know how to teach in an interesting way, or the teacher doesn't teach us anything or help us to learn.). At the end of each interview I was able to check this with how students rated their level of belonging and engagement in both their favorite and least favorite classes. In the next section, students describe the teaching practices that helped them to feel they were in a community of engaged learners and which teaching practices did not.

Teacher Practices that Promote a Community of Engaged Learners

Teacher-Student Trust

Student interviews show that teachers who took time out of instruction to get to know their students and gave students opportunities to get to know their classmates, helped to build trusting relationships throughout the class. Students would often talk about these teachers as having "good people skills" meaning that the teacher knew how to relate to students and students felt that their teacher "actually liked kids and wanted to work with them". Teachers that worked to build trust with their students started by developing meaningful relationships with and between students throughout the entire class. Students discuss three ways teachers built teacher-student trust which effectively worked to promote a classroom community of engaged learners: 1) they spent time developing relationships with students (n=17); 2) they listen to students and incorporate their ideas (n=10); and 3) they show students respect and support which helps students to feel valued (n=16).

Teacher established meaningful relationships

Creating a respectful classroom environment, requires that a teacher knows his/her students, on a personal level. Megan, a Latino female shared that her favorite ninth grade class was literature. She mentioned that she was shy and did not like talking in front of people nor did she like large group or class discussions. She expressed that she was more comfortable talking with her peers in a small group of four or less students. Megan reveals, during the third quarter of the second semester of ninth grade, she took a big risk! She explains that her literature teacher gave the class a prompt to read a poem, write a summary, and present it to the class. This assignment made Megan very nervous but she liked her poem, "It was about identity and it compared identity to roots and leaves". When she got in front of the class to share her poem, she was very nervous and scared but much to her surprise, her peers just started asking questions. Megan imagined she would be standing in front of the class and not know what to say or how to answer the questions, but she surprised herself and she did know! She comments, "I think it was good. I really liked how I said the stuff and even my friends told me I did good!"

Megan highlights the importance she places on a teacher's ability to communicate and build relationships with everyone in the classroom. When Megan was asked what it meant to her as a high school student to belong in a classroom, Megan responds:

> "Well I think it means to like have communication with your teacher, have a relationship with your teacher, not only your teacher but with the students that are in the classroom with you; to not be closed up from the whole classroom, 'cause then you don't fit in. Fitting in means having communication with the students that you have in the classroom, working with them, and not setting yourself aside from the others. So involving yourself throughout the whole class, maybe".

Megan points out the importance of having communication and a relationship with the teacher, but also acknowledges that classmates contribute to a sense of belonging. If a student is closed off, then maybe that student doesn't fit in. This is a way many students described being in a classroom community.

Dwayne, an African American male student who repeated the ninth grade at two different schools. The first high school where Dwayne initially attended the ninth grade, he explains that his experience "was out of order". Dwayne comments; "I was bad because I like was cursing the teachers out when all they did was ask me a question… I was getting suspended a lot. I was ditching… I have more bad memories at [name of high school] than anything". When talking about the second high school he attended he shares that the school was in a small town.

> "I liked it there but the teachers didn't really get me. It was all Caucasians and I was the sixth or fifth African American in that school. I mean it's not like everybody looked at me like, 'Oh my god, he's black!' but it was just like the teachers couldn't really understand where I was coming from, cause I told them I was from Chicago."

Then when Dwayne enrolled at the high school where I interviewed him and he shares that he would not be in the tenth grade now if it were not for the principal of the school who promoted him to the tenth grade. Dwayne praised the principal and the dean because he was so delighted that he did not have to complete the ninth grade a third time. Dwayne shares that being placed in the tenth grade and trying to do better is the reason he loves this school.

During the interview, Dwayne mentions the important role his teacher plays in having a meaningful relationship with him. This relationship means the teacher knows him, sees him and shows him respect. For instance, Dwayne explains that when his teacher knows him well, she picks up on his body language, can identify when he is feeling frustrated and does what she can to

support him. Knowing all of this about Dwayne requires that the teacher know quite a bit about him and has developed a meaningful relationship with him. Dwayne indicates that when he has a teacher who tries to help him and does not give up on him or his learning, he feels valued and respected. Dwayne's favorite class was College Reading and he rated his level of belonging at a 10 and his engagement a 9 in that class. When asked what it means to belong in a classroom, Dwayne comments:

> "The thing that means the most to me to belong in a classroom is the teacher, like have a good relationship with the teacher. A teacher that can come up to me when I'm raising my hand or not raising my hand, but she gets my body language. Like if I'm frustrated, she'll pull me over to the side and connect with me or maybe like put me in a corner by myself away from the students but still in the same classroom teaching me and others, and like pretty much that's it".

For many students who had experienced repeated failure in school (i.e. academic, social or relational) often discussed the need to have a teacher acknowledge them as unique individuals, who at times needed specialized support and help. When a teacher developed meaningful relationships with students it enabled the teacher to identify the specialized support that was needed. This meaningful relationship assisted the students to feel they were part of a classroom community of engaged learners.

Teacher listens and incorporates students' ideas

Students also talked about what it means for a teacher to build trusting relationships with students which involves not only listening but also incorporating student input. For instance, Anika, a gregarious and outspoken female student who speaks Romanian in her home. She explains that she was very excited to learn French. Anika explains that her Romanian father also

speaks a bit of French. It was through her father where she first became interested in learning French and watching French movies. She describes French and Journalism as her favorite ninth grade classes but she thought her French teacher's teaching style was boring. However, when her French teacher decided to listen to her and her classmates' ideas about how to make the class more interesting, Anika's feelings of being in a community of engaged learners began to change. Anika's rated her level of belonging in French at a 9 and her level of engagement at an 8.5.

> "He wasn't a lecturer, he tried, I'm not going to lie in the beginning of the year it was kind of boring because he was just telling us all this 'blah blah blah'. But for some reason he liked me. I was technically the teacher's pet, but it didn't bother me and I would be like "Mr C why don't you try doing it like this?" and he would like listen to the ways we thought was better and it ended up going like that. In the beginning of the year he would basically have all these PowerPoints set up and we just gotta sit there and take notes, and I'm thinking this is not how I imagined French. I always imagined French to be something engaging, like I can just get into it because I really wanted to learn French and I still do! So I kept telling him "Mr. C you should have like some of us say how we think we pronounce and then correct us." And you should have us give an answer whether it's right or wrong, you know almost like a math class because in math they have students go up to the board whether you want to or not and you have to give the answer. So, I gave him that idea and he just went with it and after that everything was like, we were involved even if we were in a bad mood. But it ended up helping us because like we know a bit of French now".
>
> Interviewer: "How did that make you feel that he listened to you and applied your recommendations?"

Anika: “When I saw, he was executing I was like ‘Oh ok we’re going with my idea! Cool.’ Because a lot of people…it wasn’t really just my idea… I collaborated with others and we were thinking like maybe we should have him do something different or stuff like that.

Students discuss how teachers foster teacher-student trust which assists in promoting a classroom community of engaged learners by listening to students and incorporating their ideas in class. In Anika’s case, she talks about how her teacher did not give the most interesting lectures but he made up for this by listening to Anika and her classmates about things he could do to improve his lectures that would engage students.

Teacher respects and values students

Jasmin’s family emigrated from Pakistan. Getting a good education is very important to Jasmin and her family. “I didn’t grow up in Pakistan but I know how it is to not be able to have an education that is for free. An education that given to you where people actually want you to do well. I know that is a really big privilege and if I don’t take advantage of that then there is no point of me being in America where people are pushing you to do well.”. Jasmin describes herself as a writer and lover of literature. She indicates she has pretty good understanding of the many demands of teachers because her mother is a teacher. Jasmin says that it was in her World Studies class where she felt like she really belonged and could be herself. She rated her sense of belonging at a 7.5 and her engagement an 8.5. She talks about how she liked that her teacher noticed her which made her feel cared for. This helped her to feel that her opinions mattered. Jasmin described how feeling noticed motivated her to engage in class and the assignments.

“So at least I'm not just one of the 90 faces he sees a day. I'm actually myself, an individual. The way I feel in class, that's the feeling I take home when I do my homework and my

assignments. That feeling, that's how I feel when I do that class. If I don't care for a class or if I feel like that class doesn't care for me, then I'm not gonna put as much effort into that class' homework or other things".

A teacher who respectfully interacts and values the time s/he spends engaging with students can build trusting relationships with students. When students' feel respected and valued by their teacher, this is an important element to building a classroom community of engaged learners.

Classroom management

During interviews, students discussed how a teacher with good classroom management skills is a teacher who creates a learning environment where there are rules and routines that apply to all students. But they also felt that having good classroom management meant creating a classroom culture where students feel comfortable participating in class and seeking academic support. Classroom management themes that were consistent in interviews were teachers who: 1) maintained orderly classrooms while giving students some autonomy (n=6); 2) the rules and routines apply to everyone in the class (n=12); and 3) assigned seats were effective when a teacher used them to give students opportunities to work with, and get to know different people in the class (n=16).

Orderly classroom but not too strict

Jose, a Latino student who speaks Spanish at home and English is his second language, talks about feeling like he belongs in a classroom when he can participate and his teacher and classmates appreciate his ideas and respects what he believes. Jose comments that his classroom belonging changes depending on the teacher's mood which impacts how he feels in the class. "I feel it [classroom belonging] changes depending on how the teacher is, like sometimes I go from a strict teacher to a really calm teacher or to a teacher who gets mad when students talk a lot."

Jose describes the calm and respectful classroom atmosphere that his favorite Algebra teacher created to help him feel comfortable. It was important for Jose to have a classroom with order but not so strict that students couldn't get up to talk and get help from classmates. Jose rated his level of belonging and engagement in this class at a 9 out of 10.

> "The teacher isn't like too strict. He's mostly calm. The students are not wild. There's not a lot of drama going on in the classroom. No one is standing up randomly and just walking around, like doing their own thing, dancing in the classroom, something like that, none of that is happening, but everything is so calm that I can talk to my friends, like if I don't get something or they need help, I could talk to them and the teacher is fine with it".

When discussing their least favorite classes, some students talked about how the teacher was strict and engage in power struggles with students. They indicated that when a teacher takes an authoritative approach to classroom management, it does not facilitate openness or communication in a class. This type of classroom management reduces students' sense of classroom belonging and engagement, thus the feeling that they are in a community of engaged leaners. Some students (n=3) explained that a class was their least favorite classes because the teacher did not have good classroom management. Mary, a Latina female, explains a classroom where she feels she belongs but also wants to engage as a place where "people talk about some serious topics that need to be discussed and we can all put our own ideas and we feel comfortable doing that." Although, Mary describes her Biology teacher as someone she liked because he was nice and could relate to students, he was ineffective in managing the class which impacted how effective the teacher was in constructing a community of engaged learners.

> "He was too lenient with us and although he was cool he needed to know when he had to take control. I mean he did but it wasn't as effective as he might think it was. Although he would not yell he would talk in a very loud manner, you know raise his voice. The students who usually weren't paying attention or focusing on their work, they would still continue to talk".

Teachers that found a balance, between managing the class rules and routines, was often somewhere between being not too strict and not too lenient. The just right level of classroom management allowed students the sense of autonomy as well as clarity about classroom expectations which helped students to know the teacher's limits and how to do well in class. A teacher with good classroom management was an important factor in facilitating a community of engaged learners.

Classroom rules and routines apply to the whole class

An aspect of classroom management involves how a teacher establishes and enforces classroom rules. Grace, a female whose racial background was not available in the CPS database and who transferred to the high school from an all-female charter school. Grace reports at the charter school she attended, there were less students in each classroom and she was not accustomed to classrooms with 20 or more students. She expressed it was easy to get lost in the high school because there were so many kids but she also noticed she received less attention from teachers. Grace mentions that she likes attending a public high school because there is much more racial/ethnic diversity. In her favorite class, Argument and Debate, she describes the teacher as someone who had good classroom management skills because she had ten classroom or "team" rules (e.g. respect others when speaking, don't' say I don't know) that are applied to all students, thus making it feel that the rules and routines applied to everyone in the classroom

community. Grace explains how working in groups or pairs was a class norm and the number nine rule is: “the class is a team”. Grace’s perception of her Argument and Debate teacher was that her teacher wanted students to mix up where they sat so students could work and learn with different students. Grace comments “Usually there is a lot of working together, because her number nine rule is we are a team, so everyone – if one person does something, the whole class like does it, so…” This “team” mentality also promotes classroom community. Grace rated her level of belonging in this class at a 7.5 and her engagement a 9.

Charlie, a white male, has had parents who have been very involved in his elementary and junior high school education. Charlie explained that “I almost had a [close] relationship with every single one of my teachers. Like my mom still texts my sixth-grade teacher. I know where my third-grade teacher is. I try to visit my elementary school every year and I might go hunting with my eighth-grade teacher.” For Charlie, developing close relationships with his teachers was just part of going to school. He shared that in his favorite ninth grade class, Algebra, the class rules applied to everyone and was a factor in building a community of engaged learners. His Algebra teacher established an orderly classroom by correcting students when they were disrespectful. For example, when one student said something rude to another student and in order to move on, the disrespectful students were required to say two positive things to the person. According to Charlie, this class routine, helped minimize a lot of negative name calling. Charlie rated his level of belonging in Algebra a 10 and engagement was a 9.

> “She had this thing called two-ups that when other kids say something bad or insulting to the other student, whether the other student thinks it's insulting or not, she does two-ups and make them compliment the person twice. Well, say like someone was getting angry 'cause they had the problem wrong, and someone else was like, "Oh, I got it right." And

then the kid who got it wrong was like, "Oh, no. You're stupid," Miss X would just yell out, "Two ups," and everyone would cooperate and say, "Hey, you gotta give him two ups," 'cause he called him stupid".

Megan, a Latina describes how her literature teacher used a common language around the classroom rules and routines which helped to build a community of engaged learners. Megan explains that at the beginning of school, students would ask every class period about the assignments, "Do we have to annotate? Do we have to annotate?" The teacher would repeatedly tell the class as well as write on the board, 'If you are doing articles or any text you must annotate'". This helped everyone to get into the habit that annotating assignments is just what everyone did in the class. Additionally, the teacher was effective in creating community of engaged learners by how she structured class participation. Megan explains that in her literature class that sometimes students talked more than others. The teacher was effective in structuring the class to give everyone equal opportunities to talk and share ideas, thus constructing a classroom community of engaged learners. "Ms. S would sometimes help him [a friend of Megan's] put down his hand and let somebody else answer. After that students started telling other students if they had talked already, like once or twice, to not raise their hand again." Another effective strategy Megan's literature teacher used was Popsicle sticks as way to be inclusive. Each Popsicle stick had a students' name written on it and during class activities the teacher would randomly draw a stick out and call on the person whose name was written on the stick. This was to make sure all students had an equal opportunity to participate, receive support and engage in class.

"Ms. S would push us. Like at the beginning of the year she started using the sticks, so then I was like oh my gosh, she's gonna call on me, please do not call on me. But then

like at the end of the year – like in the middle of the year she stopped using them, and then like she used them again towards the end. And she would like push us to communicate and feel like we were together in the class, as a whole, like because she would call on everybody. It was not like in some of the other classes where there are only like four to five people answering, then they [the teachers] are okay with that and they don't reach out for other students to come talk about it".

According to students, teachers who struggle to build community in the class did not enforce rules and grant privileges equally to all students. Teachers with favorite students left others in class feeling. Lucy, a Latina explains that transitioning to high school has been a hard adjustment partly because there is a lot of homework and "homework is just not my thing". She explains, "I could pass a class if we didn't have homework, if it was [only] based on participation and the classwork but when there is homework… no one's there to really help you." Lucy talks about her theater class as her least favorite class because she felt that she did not matter. She indicates she felt "pushed" out because she was not as exceptional as some of her classmates. She rated her belonging at a 4 and engagement at a 3. Lucy describes her theater teacher this way:

"For last year's theater class…there wasn't really any big arguments between us. I never got kicked out of his class for being disrespectful. But I just didn't like him. I just had to get along with him 'cause he was my teacher. So, it was a forced relationship between us. I just felt like he favored the people that had talent before they came in. He favored them a lot. So, the people that didn't really have as good of talent as them, I felt like we were the ones that were just like pushed out".

Lucy's experience was not uncommon where students, who felt their teachers had favorites but they themselves were not the favorite student, struggled to feel a sense of belonging, a desire to engage in the class or that they belonged to a classroom community. Alternatively, some students mentioned that when they were the teacher's favorite student it gave them an individual advantage in the class and created high sense of belonging and engagement for that student while alienating other students in the class. Teachers who want to build classroom community of engaged learners need to help all members of the class to feel a sense of belonging.

Assigned Seats

Another classroom management component mentioned by students is the use of assigned seating. When the teacher used assigned seating to compel students to get to know one another and work with one another, students thought it was an effective classroom management tool, even if it meant they had to change seats frequently. Michael, an international student from Ghana and a student of the English-as-a Second-Language (ESL) program. Michael describes that having lived in the United States for the last five years and he notices he was more friendly and outgoing in Ghana but since coming to America he is shyer and it is difficult for him to make friends. Michael thought his Algebra teacher's use of assigned seats was helpful to understand the material but also helped him to get to know others in his class. Michael rated his level of belonging in Algebra at a 9.5 and his engagement an 8.5.

Interviewer: "Did you have a partner that you worked with and did you always have the same partner or did you guys switch seats?"

Michael: "Switched seats."

Interviewer: "How did you like switching seats?"

> Michael: “I mean that made me get to know a lot of people which helped me a lot. I mean not all the students liked it but for me it helped me”.

However, when a teacher used assigned seats to control or punish students, they did not see this as an effective way to manage the classroom, especially when the teacher was constantly changing who they sat by. When some students (n=4) described their least favorite class the main reason was because of ineffective classroom management which led to disruptive student behavior. Dwayne, an African American male, (who was introduced earlier in the paper) described his least favorite class, Algebra, where his teacher was a new teacher and had a very difficult time managing the class. Dwayne said:

> “People [his classmates] don’t give him [Algebra teacher] respect and people keep talking, so he’s trying to figure out like who to sit next to each other. And like I’m getting kind of pissed off because either way it go I’m not the one that’s talking. I’m just getting moved around like some clown. So and I told him that, and he thinks I’m giving him disrespect. So I just left it alone, 'cause I’m not gonna get sent to the office. I’m one of the best students in the class, and like it’s like I’m getting disrespected. But like I said, we go sit down in our assigned seats”.

Some other reasons students reported they did not like a class, was because it was a difficult subject that they always have done poorly in or the time of day the class was held influenced how much students liked the class (first class or the day, right after lunch or close to the end of the day). Ineffective classroom management, prohibited the construction of a classroom community of engaged learners because students felt disrespected because they were just shuffled around from one desk to another.

Lesson Organization and Structure

Student interviews reveled that how a teacher organizes and structures the class lessons and activities was important for building a community of engaged learners. Students (n=12) revealed that when a teacher organized the class lessons and activities that allowed students to interact with other students, discuss and learn from one another it was not only engaging but helped students to build relationships and learn about one another. Per student interviews (n=17), working in pairs or groups was an important teaching practice that not only allowed students to seek both social and academic support from their classmates which helped to increase their behavioral engagement, but also satisfied their developmental need to relate to their peers. Additional themes mentioned in several of students' interviews (n=5) that promoted community of engaged learners was when teachers connected the course content to student's lives, thus "making it relevant". When teachers knew students, well enough to adapt lessons and activities to students' lives, this helped students to not only feel recognized and seen but also they found the lessons more interesting and could apply them to their lives. Lastly, when teachers were authentic and honest about their opinions and it showed in the feedback they gave on students' assignments and in person (n=10).

Working in Pairs or Groups

Working in pairs, groups or teams is a useful and efficient teaching practice which according to students also helped to build their sense of community because everyone is working together toward a similar goal. Some students also remarked that working together in teams was especially useful when the teacher had organized the assignment by explaining it clearly and instructing students how they need to work together. Dwayne, an African American male (who was mentioned earlier in the paper), explains the supportive nature of group work as well as it

being an efficient and effective way to complete school work, especially when the teacher has structured the activity or group work so everyone in the group understands their role.

> "That's one thing I like when she [Ms. S] put us in groups. I mean we got a person sitting next to me, and that's my partner, but when she put us in fours, everybody know what they need to do. 'Oh you got this?' 'All right, what's the answer like to this?' 'What's your answer?' Like everybody gets along. 'cause everybody is on the right track. Ms. S she already went over that and she already say you can do it whatever way you want. But everybody likes everybody's ideas 'cause she explained it's how like everything adds up, that's what I'm saying".

Mary, a Latina (mentioned earlier in the paper) talks about group work being an integral part of why Biology was her favorite class; "it is just what we do in that class". She rated her level of belonging in Biology at 8.5 and her level of engagement at 8.75. The interviewer asked Mary if one student got stuck with doing all the work while everyone else copying off that person. She replied that everyone worked together; "We would share what we thought about the questions that were being asked or what was being stated and we would just talk about it".

In many classes, when the teacher organized the lessons and activities to include group work it was not only an effective way for students to engage in the class work but it also allowed students to seek support, learn and socialize simultaneously with their peers. Grace, an African American female (mentioned earlier in the paper) did not have any group work in her ninth-grade Biology class. She expected that Biology would be a fun class but did not like how her teacher structured the lessons and activities which she found boring, irrelevant, and did not allow for the class to work in groups.

> “It was boring, 'cause he was just like reading stuff off the slides, and so if like if he would've added a little more in, it would've probably been fun, but he was just reading the stuff off the slides. He could've just told us, "Copy this," because we were just basically reading his slides”.

Working in pairs or groups promotes belonging and engagement because when properly structured and guided by the teacher it creates an environment that supports student to work and interact with peers, allows students to help and support one another, and to complete classwork in an efficient and effective manner. Additionally, pair and group work acknowledges the adolescents’ need to socialize with peers as a way to learn more about themselves as a process of their identity development. Pair and group work, when effectively structured, promotes a classroom community of engaged learners.

Teacher feedback

George, an African American male, shares that he was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) during his ninth-grade school year because he was struggling to keep himself organized and writing papers had become more difficult for him during the transition to high school. He also comments that he felt misunderstood by his high school teachers. George says, “Being a young man from the south side of Chicago, it was very hard for teachers to understand my problems and want to talk to me and learn from me.” George describes his English teacher as being “very honest with her opinions, when she says something that she feels you need to know, she’ll say it. And I really like that she’ll get straight to the point” which was helpful for George to know that the feedback he was getting from his teacher was guidance he could trust and that his teacher wanted to see him succeed.

Jasmin, (was introduced earlier) shared that her family emigrated from Pakistan. She talked about how her World Studies teacher gave useful feedback on her papers because it would help her to see a different perspective, which motivated her to keep learning in that class. Below Jasmin is describing the type of feedback she received on her opinion papers in World Studies:

> "If I had a conflicting opinion from what he would discuss, like if I was on the other side, he would actually look at my evidence and consider it and then he would say something like, "Oh, I never thought of it that way," or "That makes sense," or "That's a possibility as well." It was in a sense more encouraging because it showed that you're not completely wrong. You just have a different way of thinking, and I thought that was very useful. It really did motivate me to keep going in that class".

Jasmin also describes her Literature class, her least favorite even though she loves reading and writing it was her least favorite class because the feedback she received from her teacher was very critical was and she did not feel she received any sort of encouragement from her teacher.

> "My [literature] teacher and I, we were always on the opposite side of a coin on a lot of the essay prompts and I think that's what brought down my grade during grading. She would write on my paper, "No, I don't agree." So I think that's what brought down my grade and that's why I hated that class as well. Because I started like I can't say what I want to say because I'll just get a bad grade for it…. The way she graded, I actually watched her. She would read over it and she wouldn't read the whole paper. She would read part of it and if it was just basic like there wasn't anything that made her say, "Oh, that's interesting," in the first few paragraphs that she read, she would just mark you down as average, and she made that very clear to us as well. So I felt that the fact that

she wasn't intrigued by anything is because she was agreeing with it. She was focusing more on, "Oh, that's not something I believe in unless, oh, that's actually a valid point".

When a teacher provides honest feedback, it enables the student to feel a sense of belonging because the student feels his/her perspective has been heard and validated. This also assists in motivating the student to engage. However, when the feedback is particularly critical and does not valid the students' perspective, whether it is right or wrong, can frustrate the student to the point where not only does the student not feel a sense of classroom belonging but also struggles to find the teacher's feedback helpful.

Academic Support

The last teaching practice students consistently identified in student interviews was having a teacher who provided support to all students in the class in order to build a community of engaged learners. Many students (n=8) discussed having a teacher that would help students sort out friendship issues or make themselves available outside of class time and create a space where students could share personal stories and seek advice. However, when students talked about the kind of support they would need from their teacher as it related to their sense of being in a community of engaged learners, often time students were referring to academic support. Students talked about having a teacher who would have a rule that making mistakes was allowed for and that it is important to take risks in order to learn (n=10). Many students also explained that teachers of their favorite classes would explain an assignment and then would physically walk around the room from desk to desk to ensure that students understood the assignment (n=8). Students also shared stories where the teacher would have a classroom rule that everyone needed to understand a concept or an assignment before moving on, no one would be left behind (n=5).

Making mistakes is part of learning

Chloe, a Latina comments that Spanish is the language she speaks at home and English is a second language. She mentions that learning grammar has been somewhat of a struggle for her but feels like her ninth grade English teacher worked to help her understand the grammar and punctuation rules which has helped her to feel more confident when writing. Chloe also describes how her World Studies teacher tried to minimize students' fear and apprehension about speaking up in class. The teacher wanted students to participate in class and told them that there was not a right or wrong question and that mistakes were normal. Chloe said this decreased her anxieties about participating and the class generally started talking more.

> "She would always tell us that we knew we were scared to say something because we thought that we were wrong. But when we would speak out there was no right or wrong answer. And then after that, we all started feeling like… oh we should not be scared if we are right or wrong".

When students felt that the teacher expected them to make mistakes and was an important part of learning, student tended to be more willing to take learning risks, especially when they knew their grade wouldn't be adversely affected. Some students liked being able to revise and resubmit their work for a better grade. When students understood that it was O.K. to make mistakes and the teacher structured the class so everyone understood that it was expected, it freed up students from worrying about looking silly in front of their peers and fostered a classroom community.

No one is left behind

Student interviews showed that a teacher who has a classroom rule about explaining a lesson or concept until all students understand and does not leave students who don't understand

behind, increases the entire classes sense of belonging and engagement. A teacher who sends this message often is like Rita's Biology teacher who walks around the classroom checking in with students about their understanding. Rita is a Latina and shares that she has had to advocate for herself with her teachers' due to an undisclosed medical issue. "I have a personal medical issue where I had to let my teachers know and tell them about it so if I was doing something on the side, to not worry about it, because I was just taking care of myself." She explains that she had to interact with her Biology teacher a lot and he was very respectful toward Rita when he was aware that she was taking a personal moment during class. The respect her Biology teacher showed Rita about her medical issue, helped her to feel much more comfortable in class, "…it helped me in a way to express myself better in that class". The type of academic support she got from her Biology teacher when she started falling behind and how her teacher would not continue until everyone in the class understood.

> "Well this class was honestly one of the most exciting classes that I've had. When it was time to do a different experiment or just different activities in class our teacher really had us involve each other and talk to one another. And he would also come around, asking us were we to need anything or if we understood it. He would make sure that we also understood the concept of it and he wouldn't tend to leave anyone behind. If someone was stuck, he would stay on that topic until they finally understood…. once I started asking my classmates and they started to slowly tell me about it, I understood it more and it started to help me. And once I asked my teacher and he went over it, I felt like I was back in a way back in the zone and understanding everything better!"

Teachers that normalize the struggle to learn hard concepts and celebrate that learning takes hard work and effort which often requires making mistakes in order to learn, helps students to feel at

ease. Teachers that create this kind of learning environment reduces students' anxiety about making mistakes and helps the entire class to build relationships by supporting each other's effort that builds community and not a competitive classroom.

Step-by-step instructions

Many students noted teachers who explained the assignment or the problem slowly and step-by-step to ensure that students can understand. Charlie, a white male (introduced earlier in the paper) who is accustom to developing trusting teacher-student relationships, describes how his Algebra teacher would make sure the entire class understood a problem and made sure she went step-by-step through the problem.

> "She would give us worksheets. We'd do 'em, and she'd make us show our work. She'd go over and then she could see what we did wrong. And then a lot of the times, she'd write a problem on the board, and make a student come up and write it and make sure he did all his work. And then if he got it right, then everyone's happy. But when they got it wrong and they'd need more help, she did the problem, but she did every single step. And she didn't just skip – even if it was the easiest thing, like two plus two was a step, she was write out two plus two equals she wouldn't just skip it and write four".

Chloe, a Latina whose first language is Spanish and was introduced earlier in this paper, said about her favorite class, English:

> "He [the teacher] broke everything down, step-by step… I used to have Ds and Fs in English. Since seventh and eighth grade I had Ds and Fs in writing and reading, but when I went to his [9th grade teacher] English class, it's like wow this is the pace that I need to be at. This is how I'm learning and to this day I still love English because of him".

For Chloe, because English was her second language it was vitally important for her sense of belonging and engagement that her teacher understood her level of comprehension and paced the class accordingly. When the teacher provided Chloe with step-by-step instructions it helped Chloe to want to try and engage in the class. It also impacted her sense of belonging because she felt successful in learning English which in the past has been challenging. Supportive teaching practices that encompass both the step-by-step instruction and no one is left behind is how Grace, a female (who was previously introduced), discusses what it means to belong in a community of engaged learners, "Like you fit in there, like you know what everybody is doing. You know what you're going to be doing, what you're gonna be expected of, and you know what the teacher expects you to do, and how you're gonna do it".

It is important to point out that there is overlap in the numbers associated with the various teaching practices, meaning that although several students would talk about a specific teaching practice many of the students would be talking about the same teacher. For example, ten students talked about having a teacher who would have a rule that making mistakes is to be expected and it is important to take risks in order to learn (n=10). There are three teachers that eight of the students are talking about. These students most often would be in different sections of the class but with the same teacher. They are all teaching very different courses (Algebra, Literature and College Reading) where two of the students are talking about different teachers teaching different courses (World Studies and Biology). From this one can conclude that although the students were often talking about the same teacher who had good teaching practices (building relationships and constructing an effective learning environment) they carried these good teaching practices from class to class.

Discussion

There are several limitations to this study that are important to discuss prior to articulating implications of this analysis to practice and future research. One such limitation is that this study only examines the select students' perspectives in one school and the findings may be specific to a group of teachers in the school. Future research needs to include conducting a similar study in a different school context that takes into the consideration the perspectives of others in the classroom, such as the teacher and several other students. Also, classroom observations are needed in order to get a more complete picture of how a community of engaged learners is constructed, and understand for which students a classroom community is important and why.

The site school was chosen because it provided both racial and academic diversity, however students who were not included in this sample are students who have already disengaged from school and have dropped out. Little is known about the school experiences of disengaged youth because they are difficult to find and interview. An important line of future research would be to examine the school experiences of disengaged youth to determine if certain teaching practices that foster either their sense of belonging and engagement could have prevented their disengagement from school. Another limitation is that the current study only examines one point in time and classroom belonging, behavioral engagement and building a classroom community of engaged learners are dynamic processes. Future longitudinal research that examine how classroom belonging and engagement fluctuates over time may provide further insights into important classroom practices. Finally, this study set out to investigate the factors that promote classroom belonging and engagement which resulted in teaching practices that promote a classroom community of engaged learners. However, when conducting interviews

and throughout the analysis it became clear that students' school identity (see Brinthaupt & Lipka, 2012, p. 91), hence their school and academic history affected the way they engaged in their classes and felt a sense of belonging. Although short-sighted, the purpose was not to understand how a student's school identity influenced belonging and engagement but should be an area for future research. Lastly, many researchers agree that the future direction of belonging in educational contexts needs to consider the unique aspects of child and adolescent development when defining belonging, which impacts how it is operationalized (Christenson et al., 2001; Finn, 1989; Newmann, 1992; Steinberg & Cauffman, 1996). To operationalize belonging using a developmental lens will require that future research focuses on how school and academic histories and identities operate for children and adolescents within a school context. Therefore, a limitation with this study is that it cannot make any systematic claims about students' school and academic histories. The discussion that follows the study's limitations is contextualized using the sense of belonging and engagement literature for comparison.

It is important for educators to consider that students' classroom belonging is linked to what goes on in the classroom. While other factors, such as family background, can influence student's emotional wellbeing; classroom belonging is contextual and in order for students to be highly motived to engage in course work, students' psychological needs must be addressed in each classroom (Osterman, 2010). The findings from this study suggest that classroom teaching practices that works to build relationships and provide good instruction lend to the construction a community of engaged learners. Being in a classroom community of engaged learners promotes both belonging and engagement. Previous studies conclude that students' sense of belonging in the classroom was the foundation of their engagement (LoVerde, 2007; FitzSimons, 2006). However, previous studies do not mention the importance of identifying and combining the

specific practices that teachers must focus on to build relationships while simultaneously promoting engagement, hence a community of engaged learners.

Constructing the community of engaged learners happened when teaching practices were used to build trusting relationships between the teacher and students but also student to student. Trusting relationships were built when teachers exhibited characteristic that communicated to all students that they cared and respected them. This often meant a teacher that takes the time to get to know his/her students, knows how to relate to kids, communicates to students that s/he like adolescents, shows respect and values students by listening to them and implementing their ideas when appropriate. Research by LoVerde (2007) confirms this finding where the purpose of LoVerde's study was to define teacher practices and identify behaviors that address students' psychological needs for competence, autonomy, and relatedness of students with disabilities. LoVerde (2007) found that treating students with fairness, respect and encouraging interaction with other students conveyed to students a message of acceptance.

Another key finding that helped in building a community of engaged learners was that students felt cared for and respected when a teacher managed the classroom effectively, organize and structure the lesson and activities, and provide academic support to students. This is consistent with the later work of Osterman (2010) where she recognizes that her earlier work had too narrow of a focus where she defined teacher support as primarily interpersonal support but later came to realize the critical importance of academic support. What a teacher does to support student learning impacts students' sense of belonging, engagement and classroom community. For instance, how a teacher manages the classroom is important and does not solely mean managing disruptive behavior. It also includes teachers who work to include the entire class through consistent classroom routine and structures that apply to all students. Making sure the

whole class is included and the teacher does not have favorite students but all of the students are "favorites" also contributes to constructing a classroom community of engaged learners. The surprising finding was the importance students placed on seating arrangements and if assigned seats were used to facilitate learning and building relationships with classmates because they were working in pairs or groups or if the reason was so the teacher could manage disruptive or talkative students.

A teacher that organizes and structures the lessons and activities so they are interesting and relevant to students' lives contributed to constructing a community of engaged learners. Teachers that provide honest and helpful feedback, allows students to meaningfully engage with one another through working on class assignments in pairs, group work and classroom discussions is how a teacher implements developmentally appropriate classrooms. Teachers in developmentally appropriate classrooms consider the psycho-social needs of the students which entails incorporating lessons that are relevant, creating places where students feel competent, have autonomy to make choices and decisions for themselves, and can connect and relate to others (Ryan & Patrick, 2001). Students' belonging and engagement increase when they have good teachers who combine good teaching skills and demonstrate a commitment to student learning (Ozer et al, 2008).

Teachers who provide consistent academic support to the entire class is an important finding from this study. This means that the teacher is available to help students learn and who support students by walking around the classroom checking in with students for understanding; makes him/herself available during and outside of the scheduled class period; doesn't leave students behind even when the majority of students understand an idea or concept; and finally, the teacher stresses the importance to make mistakes because that is how learning happens.

Research about academic support enhancing students' sense of belonging include teaching practices that overlap with some of the findings in this study. Such as holding students to "high expectations; fostering a mastery orientation in the classroom; utilizing relevant and engaging instruction methods; carefully monitoring students learning, providing encouragement and opportunities to relearn" (Osterman, 2010, p.242).

The findings from this study show that teachers are crucial for creating a community of engaged learners through a set of specific teaching practices. Successful classrooms that promote community are those where students feel their learning is supported, they are encouraged to take risks, they are challenged to interact and learn from others and they are led to embrace new ideas and understandings (Burden, 2010). Building relationships with and between all students, while simultaneously constructing a learning environment where all students feel supported to learn, is how a classroom community is built and enhances classroom belonging and engagement.

Table 1:2

Teaching Practices that Promote or Prohibit a Classroom Community of Engaged Learners

		Favorite Class		Least Favorite Class	
		Building Relationships	**Constructing a Learning Environment**	**Building Relationships**	**Constructing a Learning Environment**
Teacher Practices	**Characteristics**	Fun, good, honest, nice, caring, calm, cool	Often, has lots of experience teaching.	Too lenient or too strict	Often is a new teacher.
	Teacher Trust	Teacher takes time to get to know his/her students. Teacher knows how to relate to students Students feel that their teacher likes adolescent students. Teacher shows all students s/he respects and values them. Listens and incorporates students' ideas into class	Establishes a trusting classroom where all students feel valued and want to participate	Teacher does not develop strong relationships with students. Has difficulty relating to students. Students do not feel their teacher likes them Teacher does not show s/he respects and values all students. Doesn't listen to students.	Does not create a trusting classroom where students feel valued and want to participate.
	Classroom Management	Teacher includes all students –whole class	Consistent class rules and routines (i.e. homework and participation norms) are clearly outlined and adapted when needed. Seating arrangement changes frequently so students get to know a variety of students.	Teacher has favorite students. Power struggles between teacher and student(s).	Class rules and routines are too lenient, too strict, inconsistent or nonexistent. When discipline problems arise, routines are altered to be punitive (i.e. change seating arrangement frequently) Teacher yells at minor stuff.

Table 1:2 Continued

Teaching Practices that Promote or Prohibit a Classroom Community of Engaged Learners

		Favorite Class		Least Favorite Class	
		Building Relationships	**Constructing a Learning Environment**	**Building Relationships**	**Constructing a Learning Environment**
Teaching Practices	**Lesson Org & Structure**	Teacher understands students' developmental needs and incorporates them in lessons and activities.	Teacher makes class interesting by connecting material to students' lives. Teacher provides honest feedback. Gives students opportunities to work in pairs or groups Class discussions are an important part of lessons/activities.	Teacher does not consider students' developmental stage in the life course and fails to incorporate their developmental need into the classroom lessons and activities.	Lesson were not relevant to students' lives. Lessons and/or assignment were boring Students felt the teacher was too critical on grading assignments No class discussion or peer work Too much homework Teacher was unfamiliar with class content.
	Academic Support	Teacher provides consistent social and academic support to all students.	Teacher physically walks around the room to ensure students understand the assignment. Teacher makes him/herself available outside of class time. Teacher doesn't continue with a lesson when a student does not understand. Establishes classroom norm that making mistakes is a part of learning and encourages students to keep trying .	Teacher provides inconsistent academic support with little follow through.	Teacher easily distracted with all that is going on in the classroom making it difficult to provide consistent support. Teacher would explain how to complete the assignment once but then wouldn't check back to ensure comprehension. No follow through with academic support. Teacher did not seem to be very excited about the course content. The teacher lacked passion and it was contagious to the rest of the class.

Table 1:3

Student Pseudonyms, Level of Belonging and Engagement for Favorite and Least Favorite Class and Course Grades

Pseudonym	Gender	Race	Favorite 9th Grade Class	Belong-ing	Engage-ment	Fav. Course Grade	Least Favorite 9th Grade Class	Belong -ing	Engage-ment	Least Fav. Course Grade	9th GPA (unweighted)
Charlie	M	Wh	Algebra	10	9	Fa-A Sp-A	JROTC	5	6	Fa-B Sp-A	Fa-3.86 Sp-3.93
George	M	Af Am	History	10	10	Fall-B Sp-B	French	5	NA	Fa-C Sp-D	Fa-1.86 Sp-1.79
Dean	M	La	Literature	10	8.5	Fall-B Sp-B	French	3	5	Fa-B Sp-B	Fa-3.14 Sp-3.14
Mikah	M	Wh	English	9	8.5	Fall-B Sp-B	JROTC	5.5	7	Fa-B Sp-C	Fa-2.7 Sp- 2.7
Mark no audio	M	Afric an	JROTC	7	8	Fa- B Sp-C	French	6	6.5	Fa-C Sp-B	Fa-3.14 Sp-3.07
Billy	M	Af Am	English	9	9.5	Fa-B Sp-B	World Studies	5.5	4	Fa-D Sp-D	Fa-2.14 Sp-2.29
Dwayne	M	Af Am	College PREP (Read/ English I)	10	9	Fa=C Sp- no data	Algebra (10)	5	5	Fa-D Sp-no data	Fa-1.29 Sp- NA
Michael	M	Afric an	Algebra Double Dose	9.5	8.5	Fa-C Sp- B	ESL	9.5	6.5	Fa- B Sp-B	Fa-2.71 Sp- 2.86
Jose	M	La	Algebra	9	9	Fa-B Sp-A	French	5	7	Fa-B Sp-C	Fa-2.71 Sp=2.79

Table 1:3 continued

Student Pseudonyms, Level of Belonging and Engagement for Favorite and Least Favorite Class and Course Grades

Pseudonym	Gender	Race	Favorite 9th Grade Class	Belong-ing	Engage--ment	Fav. Course Grade	Least Favorite 9th Grade Class	Belong -ing	Engage-ment	Least Fav. Course Grade	9th GPA (unweighted)
Beth	F	Wh	Theater Academy/Fundamentals	NA	9	Fa-A Sp-A	Reading (English)	NA	7	Fa-B Sp-B	Fa-3.86 Sp-3.79
Carmella	F	NA	Biology	7	6	Fa- B Sp-B	English (H)	4.5	5	Fa- B Sp- B	Fa- 3.43 Sp-3.29
Mary	F	La	Biology	8.5	8.75	Fa-A Sp-A	Music Theory		3.5	Fa-B Sp-D	Fa-3.43 Sp-3.43
Lucy	F	La	Algebra	9.75	5.5	Fa-C Sp-D	Theater Academy/Fundamentals	1	3	Fa-C Sp-C	Fa- 1.71 Sp-1.64
Sally	F	Af Am	Algebra	8.5	10	Fa-C Sp-B	World Studies	2.25	6	Fa- D Sp-B	Fa-1.71 Sp-2.29
Rita	F	La	Biology	NA	8	Fa-A Sp-A	World Studies	NA	6.5	Fa-A Sp-A	Fa-3.43 Sp-3.71
Emily	F	La	Literature	10	9	Fa-C Sp-C	French	NA	7	Fa-B Sp-B	Fa- 2.86 Sp-2.79
Ally	F	La	Algebra	9	8	Fa-A Sp-A	Spanish	NA	5	Fa-C Sp-C	Fa-3.3 Sp-3.14
Jocelyn	F	La	Biology	8	9	Fa-B Sp-B	Algebra	5	7	Fa-C Sp-B	Fa-2.86 Sp- 3.3
Megan	F	La	Literature	10	8.75	Fa-A Sp-A	World Studies	6	7	Fa-A Sp-A	Fa-3.71 Sp-3.79

Table 1:3 continued

Student Pseudonyms, Level of Belonging and Engagement for Favorite and Least Favorite Class and Course Grades

Pseudonym	Gender	Race	Favorite 9th Grade Class	Belong-ing	Engage-ment	Fav. Course Grade	Least Favorite 9th Grade Class	Belong - ing	Engage--ment	Least Fav. Course Grade	9th GPA (unweighted)
Brooke	F	La	World Studies	8	7	Fa-C Sp-B	Algebra	NA	6	Fa-C Sp-C	Fa-2.14 Sp-2.14
Anika	F	Pac Is/ Haw	French I	9	8.5	Fa-A Sp-A	Biology	NA	5	Fa-A Sp-A	Fa-3.71 Sp-3.71
Kalindi	F	As	Algebra Double Dose	5	3	Fa-D Sp-F	Biology	NA	1.5	Fa-D Sp-F	Fa-1.14 Sp-0.86
Andrea	F	Wh	English	10+	NA	Fa-B Sp-C	World History	NA	NA	Fa-D Sp-F	Fa-1.57 Sp-1.5
Sondra	F	As	World Studies	NA	NA	Fa-B Sp-A	JROTC	5	NA	NA	Fa-3.43 Sp-3.5
Jasmin	F	NA	World Studies	7.5	8.5	Fa- A Sp-B	Literature	NA	7	Fa- C Sp-C	Fa-2.57 Sp-2.5
David no audio incorrect ID#	M	NA	World History	8	9	NA	Music Theory	4.5	6.5	NA	NA
Alex no audio & incorrect ID#	M	NA	English	8	8	NA	Spanish	NA	5	NA	NA
Rico Incorrect ID# no school data	M	NA	History	NA	NA	NA	NA	NA	NA	NA	NA

Table 1:3 continued

Student Pseudonyms, Level of Belonging and Engagement for Favorite and Least Favorite Class and Course Grades

Pseudonym	Gender	Race	Favorite 9th Grade Class	Belong-ing	Engage-ment	Fav. Course Grade	Least Favorite 9th Grade Class	Belong -ing	Engage--ment	Least Fav. Course Grade	9th GPA (unweighted)
Nikki incorrect ID# no school data	F	NA	World Studies	6	9	NA	Music	NA	7.9	NA	Fa
Grace incorrect ID # no school data	F	NA	Argue/Debate	7.5	9	No data	Biology	NA	7	NA	No data
Chloe incorrect ID# no school data	F	NA	English (9)	8	8	NA	Algebra	NA	NA	NA	Fa-
Dallas no audio no school data	M	NA	NA	NA	NA	NA	NA	6	NA	NA	Fa-1.0 Sp-1.36

Appendix: Classroom Sense of Belonging and Engagement

Interview Protocol with 10th Grade Students
Fall 2014

University of Chicago
School of Social Service Administration

IRB Number: _____ Student ID_____

Version 1
June 25, 2014

Interviewer Opening Remarks:

Thank you for agreeing to participate in my study and answer my questions. I want to ask you about your experiences in your freshman classes.

But before we start I want to emphasize that interview is confidential. No one outside of the University of Chicago research team will know what we discussed today. This includes your teachers, principal, friends or parents. This interview will not affect your class grades in any way. The only time I would break this confidentiality is if I have reason to believe someone is harming you or that someone else is being harmed or is in danger of being harmed—by law I am mandated to report that.

Also, your participation in this interview is completely voluntary. You don't have to answer any questions you don't want to answer and at any time during the interview if you want to stop or don't want to answer a question it is perfectly ok to let me know and we can move on or stop the interview. Your responses are to help my thinking and will not be shared with others.

This is going to be an interview that will last about forty-five minutes. In order to really pay attention to what you are saying, I'd like to record this interview. It that OK with you? You can always tell me to turn off the recorder at any time. Before we start do you have any question or concerns? Ok, let's get started.

[turn on audio recorder]

Because you now have your ninth- grade year behind you, you are now in the best position to think back on your entire ninth grade year and tell me what 9th grade was like for you.

- I know it is still early in the school year, but does being a sophomore feel different from last year when you were a freshman?

If you remember when I recruited you to participate in this interview, I want to understand what your experience was like when you were in the 9th grade. Some things I want to know are things like:

- What kinds of things helped you to feel like you belonged in a class?
- Did your sense of belonging in a class motivate you to work hard in that class or not?
- Does classroom belonging matter in order for students to be successful in class?

But before we get to those kinds of questions, something I am dying to know is:

- What does it mean to belong in a class? Could you describe it?
- Is school belonging different from classroom belonging? How?

I. 9th Grade Classes

1. Last year did you have at least one class that you really enjoyed?
   - What was it about the class that you liked (examples: subject, knew other students in class, teacher, time of day, easy/challenging, way class was structured)

2. Can you tell me about a class that you disliked? Why? (examples: subject, students in class, teacher, time of day, easy/challenging, way class was structured)

3. Did you feel like your 9th grade teachers knew you well?
   - How well did the teachers in your favorite/least favorite classes know you?
   - How did they get to know you?
   - Do you feel like the 10th grade teachers are similar or different to your 9th grade teachers?

4. How well did the students in your classes know you?
   - How did you get to know other students in your classes?
   - Did your 9th grade teachers give you opportunities to get to know other students in the class? (i.e. activities, work on projects with each other, games, etc)

II. Level of Engagement

5. Can you indicate on a scale of 1 to 10 your level or engagement in each of the 9th grade classes you just talked about? When I ask about "engagement" what I mean is… attendance, the amount time spent studying this class, reading, thinking about this class, talking about this class with others, completing assignments, etc.

6. Was how well you felt people in the class knew you or you knew them impact your engagement in the class?

7. Did you engagement change in this class at any point during the quarter (beginning, middle, end- or with a particular activity?).

8. If you don't mind sharing with me, what was your grade at the end of this class?
    - Do you feel like the grade reflected your level of engagement?

III. Class Value/Relevance

9. Was this class valuable to you? Why? (Personally- you were personally interested in the subject or academically- it was an academic requirement).
    - Why did you take this class?
    - Did you think it would be valuable to you initially when you registered for the class?
    - What was it about this class that has interested you the most?

IV. Belonging

10. On a scale of 1 to 10 how much did you feel you belonged in your favorite/least favorite classes?
    - In any of your ninth-grade classes, not just your favorite or least favorite classes, did your feelings of classroom belonging ever change throughout your 9th grade year?
        - What I mean is, did you felt a high sense of belonging and something happened or changed and your classroom belonging decreased or your classroom sense of belonging was low and something happened or changed and your belonging increased?
    - Did your feelings of school belonging ever change throughout your 9th grade year?

I am going to ask you some questions that are frequently on student surveys. I would like for you to answer these questions as best you can and give me your honest feedback about how easy or hard it is to answer these questions. I also want to know if these questions totally miss something important about belonging.

When I ask you these questions I want you to be thinking about your 9th grade classes. If you begin to think or talk about your 10th grade classes, that is perfectly ok, just tell me so I know which grade you are talking about.

IV. BEL-S Survey Questions

11. In your favorite class/least favorite class did you feel like your classmates accepted you for who you are? (BEL-S)

- How could you tell that classmates either accepted you or did not accept you? (Feeling accepted means: Do you feel comfortable being yourself?)
- Did you feel more accepted by your classmates in this class than other classes in the 9th grade or 10th grade?

12. Did you feel comfortable sharing your opinions in this class? (BEL-S)
    - Can you give me an example?

13. Did you feel like you belonged in this class? (BEL-S)
    - What does it mean for you to "belong" in a classroom?
    - Is belonging in a class different than belonging in the larger school community? How?
    - On a scale of 1 to 10 rate your level of belonging in this class.
    - When you feel like you belong in a class, do you put more effort in the class? Why? Or why not?

14. Did you feel that your classmates in your 9th grade class cared about you? (BEL-S)

V. Classroom Context

14. Are there things about the way the class is set up that helped you to feel like you belong?

    - For example, was there a certain thing the teacher did—like the way he/she structured the classroom (routines, seating arrangement) or the subject or the type of assignments that created a sense of belonging for you? (i.e. routines, setting arrangement, the subject, the assignments, the students, the teacher, classroom demographics, etc.).

VI. Valuing School

15. On a scale of 1 to 10 how would you describe how much you like school in general?
    - Has your like or dislike of school changed since coming to high school?
    - Do you feel safe at this school?
    - Do you feel supported by: teachers; principal; counselors; other adults; students?

Closing Remarks:

That is all I have for you today. Thank you very much for your time and for sharing your thoughts and ideas with me. They are invaluable for helping me to think about how sense of belonging is important for students and how we can measure it better.

Do you have any questions for me?

If you have any questions or concerns about our interview today, you can contact the Principal Investigator, Melissa Roderick by phone at 773-549-6672, by email at rod9@uchicago.edu, or by mail at University of Chicago, 969 E. 60th Street, Chicago, IL 60637. If you have any other concerns, you can contact the IRB Coordinator at the School of Social Service Administration at the University of Chicago by phone at 773-834-0402, by email at ssarirb@uchicago.edu, or by mail at IRB Coordinator, School of Social Service Administration, University of Chicago, 969 E. 60th Street, Chicago, IL 60637. Thanks again!

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A Hierarchical Linear Model Analysis of Teaching Practices and Being in Community of Engaged Learners

Abstract

Previous research shows that teachers who create a classroom community also foster feelings of belonging and academic engagement. Feeling a sense community is of particular importance to ninth grade students as they transition into high school. The purpose of this study is to investigate the association between teacher practices and ninth grade students' perception that they are in a classroom community of engaged learners. This study quantitatively examines the findings from dissertation paper by using a newly constructed survey measure called *Classroom Community of Engaged Learners.* The new survey measure was developed from 32 students' interviews about the factors that promote their classroom belonging and engagement. This study used a three-level hierarchical linear model analysis to test the relationship between the new survey measure and its relationship to specific teaching practices controlling for school mean SES and school level Teacher-Student Trust. Teaching practices identified in the qualitative study and mapped on to student survey measures are, how well students' teachers organized the lessons and activities, supported students' academic work and how much students trust teachers in their school. A sample of 16,039 ninth grade students attending Chicago Public School during 2014-15 academic year and responded to a student survey called *My Voice My School* (MVMS). Results indicate a small positive relationship to students perceiving they are in a classroom community with the teaching practices: teacher support and having lessons organized well and structured. It was surprising that none of the school level indicators (SES and Teacher-Student Trust) were related to students' perceiving they were in a classroom community of engaged learners, suggesting that despite school culture and climate, teachers have the capacity to build classroom communities despite the context they are in.

Introduction

It has long been long understood that learning is a social activity (Dewey, 1958; Vygotsky, 1978). In U.S. secondary schools, however, students' psychosocial and developmental needs are often overlooked as variables in how student learn. Those needs are important, for the years of attending high school students coincide with the crucial course of identity development. During those years, the need for social connections and acceptance is heightened as adolescents search to understand who they are and where they fit in. Socializing with peers and others outside their immediate family, such as teachers and other non-parental adults, facilitate a process where adolescents explore who they are and begin to understand themselves in new ways. These psychological processes not only influence how adolescents' view themselves, but also impact how they behave, respond to and view their future (Spencer, 1999).

The positive and negative psychological impressions adolescents develop during this time are often carried into difference contexts, such as school and in the classroom and have the potential to impact how capable high school students believe they are to understand and learn (Spencer, 1999). It is often assumed that engagement is the sole job of the student whereby students intrinsically have the motivation to work hard in school. Students are often held responsible to bring a level of dedication, commitment and/or investment to their learning that does not necessarily need to be fostered or maintained by any external force (Skinner & Pitzer, 2012). When students disengage from school or in class, it is often a signal that the learning environments are not supporting students in a way that fosters their energy and motivation properly (Eccles et al., 1993; Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2007). Finding ways to construct learning environments that address the mismatch between adolescents'

developmental needs and the high school context may be especially an important factor for improving educational outcomes.

The years in which students typically attend high school are filled with many challenges. The transition into high school is particularly difficult. At this moment, adolescents are bombarded with increased social and academic demands. At the same time, they tend to experience less support and monitoring from parents and teachers (Isakson & Jarvis, 1999; Reyes et al, 2000; Roderick & Camburn, 1999). While an extensive amount of research has shown a positive relationship between students' sense of classroom community, belonging and academic engagement (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Osterman, 2000; Solomon, Watson, Battistich, Schaps, & Delucchi, 1996), a student's sense of belonging to a school community tends to decrease the more they progress through their primary and secondary education (Marks, 2000; Ryan & Patrick, 2001). Studies show that when students' psychosocial needs are not fulfilled at school there is a predictable decrease in motivation, impaired development, alienation and poor performance (Deci et al, 1991). Therefore, many educators, researchers and policy makers highlight the need to make high schools into "better communities of caring and support for young people" (Hargreaves, Earl, & Ryan, 1996, p.77).

In this case, "community" indicates membership in a group that inspires feelings of trust, a sense of belonging, a commitment to others in the group, interdependence, common expectations, and shared values and beliefs (Bellah, Madsen, Sullivan, Swidler, & Tipton, 2007; McMillan, & Chavis, 1986; Shaffer & Anundsen, 2005). Creating a classroom that produce feelings of belonging so students can better engage is a goal that teachers have trouble reaching. Understanding the high school experience of students and how teachers might work to build classroom community to promote belonging and engagement is the goal of this study.

In the quest to better understand classroom factors that account for the identity development of adolescents, promote belongingness and engagement in high schools, this researcher interviewed students and asked them to identify factors that help them feel a sense of belonging and engagement in their high school classrooms (see dissertation paper 1: *A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students,* for detailed description). From student interviews a survey measure was developed called *Community of Engaged Learners*. This survey measure uses students' words to capture if students felt they belonged and were motivated to engage in their education. The *Community of Engaged Learners* survey measure was put on the Chicago Public School 2014-15 administration of a student survey and analyzed to understand the extent to which ninth grade students felt they belonged to a community in one of their ninth-grade high school classrooms and the impact it had on their engagement. The analysis of the student interviews also led to the identification of specific teacher practices that promote belonging and engagement for ninth grade students.

Following this introduction are the teaching practices identified from student interviews and the associated literature about them as they relate to belongingness and engagement. After the review of literature, is an explanation of the current study and hypotheses, followed by a methods section which includes a description of the data and sample, the survey measures used, the data analytic approach. The last section of the paper includes, the results, a discussion of the findings, the study's limitations and implications.

Research about Building a Classroom Community of Engaged Learners

The following review of classroom community literature, is not an exhaustive review but rather focuses on the classroom factors that were found to be important, from the qualitative

findings in dissertation paper I (see dissertation paper 1: *A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students*, for more details.). The factors that are not captured in this *Community of Engaged Learners* measure pertain to the perspectives of other students in the same classroom and the teacher.

The Important Role of Teachers

Student interviews revealed that teachers play a vital role in creating educational environments that cultivate feelings of belonging. Previous research shows that when teachers develop meaningful and caring relationships with students student motivation and achievement increase (Birch & Ladd, 1998; Goodenow, 1993a; Murray & Murray, 2004; Ryan & Powelson, 1991). Students who do not feel they belong to a community within a classroom tend to spend emotional and cognitive energy processing their lack of belonging, which can reduce their ability to focus on academics (Boekaerts, 1993; Pekrun, Goetz, Titz, & Perry, 2002). This makes it important that teachers understand how the routines, structures, and teaching style they employ in their classrooms impact students' sense of belonging, and thus, their potential for engagement.

Motivational researchers have examined students' academic engagement by investigating supportive socio-contextual factors (Skinner, Furrer, Marchand, & Kindermann, 2008). These factors are often captured in the instructional style of the teacher, or the way the teacher manages his/her classroom and the interpersonal connection the teacher has with students (Schultz, 1982). Previous research finds that how a teacher structures the classrooms impacts student experience (Connell & Wellborn, 1991; Deci & Ryan, 1991; Finn, 1989). Other studies show that when students develop caring and supportive school relationships they report having more positive attitudes and values about school and are generally more satisfied with school (Battistich et al., 1995; Shouse, 1996). Classroom lessons and activities that provide students with the freedom

and autonomy to make choices for themselves about their own learning interests and goals are also linked to engagement (Deci & Ryan, 2002; Guthrie & Davis, 2003; Reeve & Jang, 2006).

Teaching Practices

Lesson Organization and Structure is the amount of clarity teachers provide students about how to successfully and effectively accomplish and achieve the learning goals and outcomes (Skinner & Belmont, 1993). When a teacher provides structure it helps students to feel a sense of control, autonomy, and competence over their own outcomes (Skinner, Furrer, Marchand, & Kindermann, 2008). A study conducted by Sierens, Vansteenkiste, Goossens, Soenens, & Dochy (2009) showed that structure in high school classrooms was associated with high levels of self-regulated management of high school students' classroom engagement. This style of teaching supports students' perceptions of competence, hence the feeling of success in completing the task at hand as well as students have perceived control over their academic outcomes and self-regulated learning strategies (Sierens et al., 2009; Skinner, Zimmer-Gembeck, Connell, Eccles, & Wellborn, 1998).

Classroom Management is most commonly defined by education researchers as the way teachers create a learning environment that supports and facilitates both the academic and social-emotional progress of students (Evertson & Weinstein, 2013). The way a class is managed creates classroom context. This context influences student engagement and allows students to gain a sense of belonging. It furthermore supports students' views and experiences of themselves as successful, autonomous learners (Skinner & Pitzer, 2012, p. 27). How the teacher structures classrooms and therein establishes interactions with students is important for student engagement (Ames & Ames, 1984) and sense of belonging (Birch & Ladd, 1998; Goodenow, 1993a; Murray & Murray, 2004; Ryan & Powelson, 1991).

Support refers to how a teacher facilitates student autonomy. How a teacher supports students in the classroom ranges along a continuum from highly controlling to highly student-centered (Deci, Schwartz, Sheinman, & Ryan, 1981). Teachers who work to support students and facilitate their autonomy build relationships with students and facilitate relationships between students. They try to understand the students' perspective and attempt to make the classroom lessons and activities relevant to student interests, needs and preferences. They are very much aware of the optimal challenge level for their students (Jang, Reeve, & Deci, 2010). Related is academic support, which is providing students with instructions and the skills to work to accomplish learning tasks and goals.

Current Research and Hypothesis

The present study seeks to extend the research literature by examining, in more detail, this association between teacher practices and students' perception they are in a classroom community of engaged learners. It seeks to explore the relationship between teacher practices and a newly created survey measure Community *of Engaged Learners*. This survey measure captures the feelings and behaviors of students when they feel they are in a classroom community of engaged learners. This analysis is to examine a way to provide teachers with information about their specific teaching practices and their strengths and weaknesses in building a classroom community of engaged learners.

The primary hypothesis that guides this study is that students' perceptions of specific teacher practices will be positively associated with students' perception of being in a classroom community, net of confounding variables such as students' 2014-15 9th grade Fall semester GPA, aggregated school social economic status indicators and mean school level. Although little research has been conducted on teacher practices and their relationship to high school student

perception of their place in a classroom community, findings from my previous qualitative dissertation study (see dissertation paper 1: *A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students*) found a set of teacher practices that appeared to provide students with a sense of belonging in class, as well as a stronger motivation to engage in the coursework.

The second hypothesis is that students' perceptions of being in a classroom community of engaged learners will vary by student characteristics, including gender, racial/ethnicity, special education status and living in a high poverty neighborhood in Chicago. Previous research indicates there are motivational gender differences for middle-school aged students when teachers provide academic support to students there tends to be an impacts in the motivation for females than for males (Goodenow, 1993a). Based on these findings, it is expected that high-school females will have higher perceptions of being in a classroom community because of teacher support and other teaching practices expected to be strongly associated with outcomes.

Racial differences in perceptions about being in a classroom community are expected due to the high prevalence of racial segregation and poverty in CPS schools. For instance, it is anticipated that African American and Latino students will have the lowest levels of perceiving they are in a community of engaged learners. This is also expected of students who reside in high poverty neighborhoods with low social capital. This hypothesis is made because it is often difficult to attract, employ and keep high quality teachers in high poverty urban neighborhoods schools (Clotfelter, Ladd, Vigdor, & Wheeler, 2006; Ingersoll, 2004; Jacob, 2007). This impacts the quality of instruction, the experience level of teachers and the teacher's ability to construct classroom communities. It is also hypothesized that students with a special education designation

will have a negative perception of being in a classroom community because of the stigma that is associated with the special education label (Brown et al., 2003).

Lastly it is hypothesized that students with higher GPAs (A's and B's) will have a higher perception of being in a classroom community because research shows that teachers have racial biases based on the high or low achievement level of students and is a factor in teacher expectations (Irizarry, 2015). It is expected that how a teacher communicates expectations can impact students' sense of belonging and engagement, which can lead whether students perceive they are in a classroom community.

Methods

Data and Study Sample

To conduct this analysis, data from two sources is used. The first data source is the 2015 *My Voice My School* (MVMS) survey, which is administered to all Chicago Public Schools (CPS) students (grade 4-12th) in partnership with the University of Chicago Consortium on School Research (UChicago Consortium) and CPS. For the past twenty years, the UChicago Consortium has annually refined the MVMS survey instruments so they reliably and accurately capture school practices. CPS Students are given the survey during school on school computers. The survey administration program uses a skip program that generates student class schedule and presents students with items based on their generated target class. The purpose of the survey is to gather information about students' experiences and feelings toward their school environment and classroom teachers. The survey results are made public and are used as both for school improvement and a research tool. The second source of data is the 2014-15 Chicago Public Schools (CPS) student administrative data. The student administrative data includes student background data which is collected by CPS and shared with UChicago Consortium twice a year

(September and May). The present study analyzes MVMS and the fall (September) semester CPS data for students in the 9th grade in the 2014-15 school years.

The present study uses multilevel data from a survey administered to 30,505 ninth grade students enrolled in Chicago Public High Schools during 2014-15 school year and administrative records. Hierarchical Linear Modeling (HLM) was used because it alleviates a common statistical problem of correlated error terms that can occur when using conventional regression techniques with multilevel data (Woltman, Feldstain, MacKay, & Rocchi, 2012) . This error appears when individuals belonging to the same organizations share similar organizational characteristics, such as school climate and culture, leads to them to be related to each other (Duncan, Jones, & Moon, 1998). When this occurs it violates one of the basic assumptions of conventional regression models called uncorrelated disturbance, which is when members from the same organization have correlated error terms (Raudenbush & Bryk, 2002). This violation can result in incorrect conclusions about existing relationships. Another reason for using HLM is because the survey measures have been Rasch analyzed. Data that has been Rasch analyzed has an advantage over other types of survey data when using HLM because one can precisely adjust for individual differences (Luppescu, 2013).

During the 2014-15 school years, the total CPS secondary school (9-12) enrollment was 112,007 from 176 secondary schools[1]--for this analysis, charter schools were omitted from the sample, and only CPS high schools that had complete administrative data were used in the sample (n=103). There were 30,505 ninth-grade students. Of those, 16,137 took the survey and completed the desired response variables for this analysis. The racial breakdown for the 2014-15

[1] CPS types of secondary schools range from 95 district run, 70 charter, 9 contract, 2 SAFE

CPS ninth grade sample is 38.7% Black, 46.9% Latino, 8.4% White, 3.6% Asian, 1.1% Multiracial, 0.3% Native American. There are 51% females and 49% males. Most CPS students in this sample qualify for free or reduced lunch (85.8%). In 2014-15 school year, six percent of ninth-grade students entering the ninth grade were old for their grade. The racial demographics and students that qualify for free or reduced lunch within the ninth-grade sample for 2015 are consistent with the entire CPS district.

Measures

This study utilizes the following classroom level survey measures: *Community of Engaged Learners, Lesson Organization and Structure*[2], *Academic Support*[3], and *Student-Teacher Trust*. The survey measure *Classroom Management* was omitted from the analysis because did not have the correct corresponding response variables, thus making the measure invalid.

Community of Engaged Learners is the outcome variable in the analysis. The measure was created from the student interview responses a previous qualitative study (see dissertation paper 1: *A Qualitative Inquiry: Factors that Promote Classroom Belonging and Engagement with High School Students*) and placed on the 2015 administration of MVMS. The validity and reliability of each survey measure, including *Community of Engaged Learners,* was tested using Rasch[4] analysis (see Table 2:1). The Rasch analysis was performed using the Winsteps software

[2] Lesson organization and structure is how students defined this construct. On MVMS student survey 2015 this construct is titled *Course Clarity*

[3] Academic Support is how this construct was defined for this study. On MVMS student survey 2015 this measure construct is titled *Academic Personalism*

[4] Rasch is a quantitative method that has the capacity to inform survey development to accurately measure the attitudes and beliefs of respondents and test the validity and reliability of measurement tools (Luppescu, & Ehrilich, 2012; Wright, 1982). A measure is comprised of several items that are intended to capture a latent construct or trait. Rasch analysis provides a method that validates the inclusion or elimination of items to form a unidimensional construct. Rasch

program (Linacre, 2016). All of the survey measures have all been standardized to have a mean of zero and a standard deviation of one.

In the social sciences, it is common to report the Cronbach's alpha or the "test reliability" statistic, which is used to estimate the reliability of a survey measure and the extent to which the question are measuring the same thing (i.e., the ratio of "true variance" to "observed variance"). In Rasch analysis the Cronbach's equivalent is the reported person reliability which indicates the relative amount of error in the measures. The traditional "test" reliability is defined as the "true person variance / observed person variance" for the sample on the specific test items analyzed (Linacre, n.d.). Person reliability is the proportion of the total variance in the measure scores that is due to true variation among people rather than measurement error. A person reliability that is greater than 0.70 is acceptable, however, it is preferred when it is greater than 0.80 and extreme person scores have been removed. Person Reliability is calculated as: separation^2 / (1-separation^2). Separation is used to classify people. Low person separation (<2, person reliability <0.8) implies that the sample is not large enough to confirm the item difficulty hierarchy, or the construct validity of the instrument (Linacre, n.d.). Separation is determined using the following equation:

$$\text{Separation} = \sqrt{true\ variance} \,/\, \sqrt{error\ variance}$$

The Rasch individual reliability and separation statistics for all the survey are in Table 2:1.

measures are created on a logit scale. When the MVMS survey is Rasch analyzed, each student is given a measure score which is an indicator of how the student responded to the questions that comprise that measure. Rasch considers how far spread the range is for respondents on a linear scale and calculates each respondent's "person measure," using their person standard error and the difficulty level for each item in the measure. Item difficulty refers to the level of ease or difficulty with which each respondent agrees with or endorses the survey question. Items that are most difficult to endorse have lower odds of people responding positively to them.

Student-level Measures (see Appendix for full list)

Community of Engaged Learners

Community of Engaged Learners was assessed using a five- item measure. A sample question is "In your class to what extent are you interested in participating in class discussions/activities?" Items are scored on a five-point scale of 1 =Not at all to 5 =Completely scale The Rasch person reliability of this scale is 0.89.

Lesson Organization and Structure

Students assessed their teachers' Lesson Organization and Structure with a four-item measure. All items were preceded by the stem, "How much do you agree with the following statements about your [TARGET] class?" A sample question is: *It's clear to me what I need to do to get a good grade*. Items were scored on a scale of 1 = Strongly disagree to 4 = Strongly agree scale. The Rasch person reliability of the Lesson Organization and Structure scale is 0.40[5].

Academic Support

Academic Support was assessed using a five-item measure with a stem question of "How much do you agree with the following statements about your [TARGET] class?" A sample question is "*The teacher for this class* n*otices if I have trouble learning something"*. Items are scored on a scale of 1 = Strongly disagree to 4 = Strongly agree scale. The Rasch person reliability, hence the internal consistency of the Academic Support scale is 0.22[6].

[5] This reliability is lower than is normally accepted to create a measure of students' perspectives. However, having a continuous measure of students' perspectives on Lesson Organization & Structure (rather than two responses to two items) allows me to conduct the analysis described below.

[6] This reliability is lower than is normally accepted to create a measure of students' perspectives. However, having a continuous measure of students' perspectives on Academic Support (rather than two responses to two items) allows me to conduct the analysis described below.

Teacher-Student Trust

The Teacher-Student Trust measure was assessed using a five-item measure with a stem question of "How much do you agree with the following". A sample question is "*I feel safe and comfortable with my teachers at this school".* Items are scored on a scale of 1 = Strongly disagree to 4 = Strongly agree scale. The person reliability is 0.85. This measure was initially analyzed at the classroom level and it was found to have no relationship to *Community of Engaged Learners*. It was then aggregated to the school level because the survey question is about teacher-student trust generally within the school, rather than teacher-student trust in a specific class with a particular teacher (see Appendix for list of all survey questions).

Table 2:1

Survey Measure and Rasch Person Reliability and Separation Statistics

Measure	**Person Reliability**	**Separation**
Community of Engaged Learners	0.89	2.82
Lesson Organization and Structure	0.40*	0.81
Academic Support	0.22*	0.52*
Teacher-Student Trust	0.85	2.38

Note: *This reliability is lower than is normally accepted to create a measure of students' perspectives. However, having a continuous measure of students' perspectives on Lesson Organization & Structure and Academic Support (rather than two responses to two items) allows me to conduct the analysis described below. Additionally, these reliability and separation scores are taken from the 2015 9th grade class only and do not include the entire CPS sample.

CPS Administrative Data

These data include student background information, such as gender, grade level, birthdate, free- or reduced-price lunch status, special education status, home address and course grades. Table 2:2 shows the dummy variables that were created for student's racial background,

gender, special education status,[7] if student live in the highest poverty neighborhoods in Chicago, and by GPA category (A=4, B=3, C=2, D=1, F=0). African-American students are omitted from this analysis because they are used as the reference group for the racial categories. Females are also omitted because they are used as the reference category for gender and students with a B average GPA are removed from the HLM analysis because they are used as the reference group for this analysis.

A dummy variable called *high poverty* was created to capture the census block areas of Chicago neighborhoods suffering extreme poverty. This measure uses the home address of each student and is merged with census information about the neighborhood's concentration of poverty (SCON) which is constructed from data on the percent of adult males employed and the percent of families with incomes above the poverty line. High-poverty neighborhoods have a value of SCON greater than 1. Moderate –poverty neighborhoods have values between -1 and 1 and low-poverty neighborhoods have a value below -1 (Ehrlich et al., 2014, p.43). The *high poverty* measure is used at the student level (level 2 in the HLM model) to determine the relationship between students who came from the very poorest neighborhoods and their perception of being in a community of engaged learners. This variable is also used because it is a more sensitive instrument than the free and reduced lunch variable (Ehrlich et al, 2014, p 43).

[7] Student with 504 plans were not included in the special education designation variable.

Table 2:2

Student-Level Dummy Variables

Dummy Variables	N	Percent of Sample
Race not available [8]	152	0.94
White	1600	9.92
Black	5,449	33.77
Native American	53	0.33
Latino	7,972	49.40
Multi-racial[9]	193	1.20
Asian	692	4.29
Pacific Islander/ Hawaiian	22	0.14
Male	7,797	48.32
High Poverty	2,319	14.39
Special Education[10]	1989	12.33

Table 2:3 shows the dummy variable categories for the unweighted mean grade point average (GPA) for the 9th grade sample. The GPAs are categorized based on a 4.0 scale and broken down by the letter grade associated with the GPA range (A=4 (3.7-4.0+); B=3 (2.7-3.3); C=2 (1.7-2.3); D= 1 (1.0-1.3); F=0 (<1.0).

[8] The racial background data was not specified in CPS administrative data

[9] Multi-racial means students have indicated on their school records that they are more than one race.

[10] All Students who had a special education designation were included. However, students who had 504 plans were omitted from this group.

Table 2:3

Frequency of Fall Semester GPA Categories

GPA Dummy Category	Frequency	Percent
A= 4	2384	14.83
B=3	6148	38.25
C=2	4881	30.37
D=1	1781	11.08
F=0	878	5.46
Total	16072	100

School-Level Measures

Census information about the economic conditions of the neighborhood in which each student lives was used to create two measures of the economic conditions of students' residential block. The first measure is (SCON), determined by data on the percentage of adult males employed and the percentage of families with incomes above the poverty line in the census block group or where the student lives. A high positive number for SCON means the census block group has a high level of poverty concentration. Conversely, a large negative number is good because it means the census block group where the student lives has a low level of poverty concentration. The second neighborhood economic conditions measure is social status variable (SSOC), which is calculated by using the data for the census block group in which the student lives. The census variables used for the SSOC measure are the mean level of education of adults and the percentage of employed persons who work as managers or professionals. A high positive SSOC value means the block group has a high social status, while a large negative value means the block group has very low social status. Both economic conditions measures are standardized so a 0 value is the mean value for census block groups in Chicago and 1 is the standard deviation. Half of the block groups will have a negative value (SSOC) and half will have a

positive value (SCON). To aggregate these mean values of all students at the same school were averaged together using this equation: the school level mean of SCON + (-1) * school level mean of SSOC / 2.

The student level measure, *Teacher-Student Trust*, was aggregated to the school level because the measure asks students to respond about all teachers in their school and does not ask students about individual classroom teachers. Therefore, the mean score of all students attending a particular school was used in the analysis as a measure of school climate. The *Teacher-Student Trust* measure was assessed using a five-item measure with a stem question of "How much do you agree with the following". A sample question is "*I feel safe and comfortable with my teachers at this school".* Items are scored on a scale of (1) = Strongly disagree; (2) =Disagree; (3) =Agree; and (4) =Strongly agree. The person reliability is 0.85.

Missing Data

Missing data was handled differently depending on the level of the data. Survey item-level missing data (from complete to partially complete) were calculated using Rasch analysis to generate individual person measure scores. In the case where there are missing responses the person measure is based on the difficulty of the item. Only ninth-grade students who had responded to the outcome measure *Community of Engaged Learners* were included in the final data set (N=20,916).

Student demographic missing data was handled in the HLM software which uses list wise deletion at the analysis stage based on the variables included in the actual model to be run (Raudenbush & Bryk, 2002). Also, some charter schools administered the MVMS to their ninth-grade students (N=69), however, they were omitted from the analysis because this study is interested in studying the relationships between teacher practices in a public high school and

students' perceptions. Charter schools are thought to be different from a regular CPS district high school and charter schools are not required to submit their student grade data to CPS for analysis (Center for Research on Education Outcomes, 2009). Thus, 98% of the students attending charter schools had missing data in the administrative file. Therefore, charter schools were not included in this analysis.

Data Analytic Approach

Five hierarchical linear models were run using the HLM7 program to assess the direct relationships between classroom-level and school-level variables on outcome controlling for student characteristics: (1) an unconditional means model with only the measurement model at level 1; (2) a model adding in the classroom-level teacher practice variables to the unconditional model; (3) a third model adding the school level SES composite mean variable and the aggregated school level mean of *Teacher-Student Trust* to Model 2; (4) a fourth model adding all of the covariate variables (race, gender, high poverty, special education and students' unweighted Fall GPA); and the last model (5) removes the unweighted Fall GPA and adds in GPA dummy categories-A, C, D, & F to Model 3.

Model assumptions were checked by comparing the results of the model-based fixed effects with the results of the fixed effects with robust standard errors. If the model-based fixed effects and the fixed effects with robust standard errors differ substantially, it suggests problems with normality, homoscedasticity, or linearity (Raudenbush & Bryk, 2002). For each model, the fixed effects and fixed effects with robust standard errors were similar, suggesting no severe violations of the assumptions underlying the application of hierarchical linear modeling. Lastly, a deviance test of each of the smaller models was explored to examine the model fit of the final Model 5. The deviance statistic quantifies the fit of a model compared to the saturated model, or

a model that fits perfectly (Atkins, 2010). The models are compared and the chi-square is the difference in deviances between the two models, which is tested against a chi-square distribution with degrees of freedom equal to the difference in parameters (Atkins, 2010). Another statistic, when fitting models is to estimate a "Pseudo R^2" which when calculated provides "an indication of the amount of variance accounted for by comparing the variance component in an unconditional model to the same variance component in a conditional model" (Anderson, 2012, p. 14) . Pseudo R^2 is calculated using the following formula:

$$\text{Pseudo } R^2 = \frac{\sigma^2_{unconditional} - \sigma^2_{conditional}}{\sigma^2_{unconditional}}$$

This equation provides an estimate of the proportional reduction in residual variance between two nested models (Holden, Kelley, & Agarwal, 2008). However, using this method has some potential problems if the Level 1 variance is larger in the restricted model than the unrestricted model, which would produce negative Pseudo R^2(Kreft, Kreft, & Leeuw, 1998).

The next section outlines in detail the three-level HLM model where Level 1 is a measurement model, Level 2 is the classroom level and Level 3 is the school-level. In this analysis, Level 2 and Level 3 act like Level 1 and 2 in a traditional HLM model.

3 Level HLM Model

Level 1 – Measurement Model

Level 1 of this three-level model is called a measurement model. In a measurement model the respondents' Rasch measures for the outcome measure, *Community of Engaged Learners*, is adjusted for measurement error.[11] The Level 1 equation is stated as:

[11] At Level 1, each individual Rasch measure contains different amounts of measurement error as calculated by the Rasch model. The presence of heterogeneous variance violates one of the basic assumptions of linear models (Luppescu, 2013).

$$Y_{ij} = X_{1ij} + \varepsilon_{ij}$$

Where Y_{ij} is the outcome for student *i* in school *j* and $\varepsilon_{ij} \sim N\ (0, \sigma_{ij}^2)$. In this scenario, the error term is not homogenous because of the different levels of measurement error in the Y's. In order to remove the heteroscedasticity, the measures are reweighted by their inverse standard errors (Luppescu, 2013). Below is the equation used to reweight the measures using the standard error from the *Community of Engaged Learners* (*CEL*) measure:

$$CEL\_Measure\ Score_{mij} = \pi_{1ij} * (INVERSE\ S.E_{mij}) + \varepsilon_{mij}{}^{*}$$

$$*\varepsilon_{mik} \sim N\ (0, 1)$$

CEL_{mij} is the observed rating scale of Community of Engaged Learners (C*EL)* for measurement *m* by student *i* in school *j;*

π_{1ij} is the latent value of *CEL* adjusted for measurement error for student *i* in high school *j*;

ε_{mij} is the error of measurement *m* associated with the response of student *i* in school *j* on the *CEL* measure.

Typically, the measurement error (e_{mij}) at Level 1 is unknown and normally distributed with a mean 0 and some constant variance. However, this HLM model is atypical because there is only one measure per student. With only one measure, the true score and the measurement error variance cannot be estimated. However, because the standard error has been estimated from the Rasch analysis rating scale measure, dividing by the standard error makes the residual variance normally distributed (~N (0, 1)). Each construct measure is adjusted for their unreliability by multiplying each side of the equation by the inverse of the standard error estimates for each construct. It should be noted that when the measurement error is adjusted in this way, σ^2 is now fixed at 1 (Raudenbush & Bryk, 2002). When using the HLM7 program, it

allows for the researcher to adjust for the heteroscedasticity in the measures by fixing $\sigma^2 = 1$. The outcome variable CEL_{mij} and the inverse of the standard error were standardized after calculations were made.

Level 2- Student Level

Similar to Level 1, at Level 2 each student's survey measure is divided by the person specific standard error for that measure in order to account for the number and consistency of responses (Raudenbush & Bryk, 2002). Adjusting for the measurement error in the observations reduces the size of the individual- and group-level variance. At Level 2**,** the responses students gave about classroom teacher practices or "true scores" were modeled as a function of a set of student level characteristics, X_{ij}. Individual student variation in the "true mean scores" was captured in e_{mij} which is assumed to be normally distributed with a mean 0 and variance τ_β[12]. Level-2 standardized survey measures and dummy variables were uncentered. In Model 4 students' Fall GPA was grand mean centered for ease of interpretation.

Level 2 Model:

$$\pi_{1ij} = \beta_{10j} + \beta_{11j}*(Z\_LESSON\ ORG_{ij}) + \beta_{12j}*(Z\_SUPPORT_{ij}) + \beta_{13j}*(DNOT\_AV_{ij}) + \beta_{14j}*(DWHITE_{ij}) + \beta_{15j}*(DNATIVE_{ij}) + \beta_{16j}*(DLATINO_{ij}) + \beta_{17j}*(DMULTI_{ij}) + \beta_{18j}*(DASIAN_{ij}) + \beta_{19j}*(DPACIS\_H_{ij}) + \beta_{110j}*(DMALE_{ij}) + \beta_{111j}*(HIGHPOV_{ij}) + \beta_{112j}*(SPECIAL\_ED_{ij}) + \beta_{113j}*(Fall\_\ GPA\_2015_{ij}) + r_{1ij}$$

Where:

β_{10j} is the mean of π_{1ij} (i.e., the mean of true value of CEL) for students in school *j;*

β_{1nj} is the change in the mean π_{1ij} for teacher practices and for student characteristic *n.*

[12] $\tau\beta$ is a matrix of variances and covariances

r_{1ij} is the random error associated with student *i* in school *j* after adjusting for student level covariates.

Level 3- School Level

At Level 3, the economic conditions of the neighborhoods where students reside (*COMPOSITE_SES*) and survey measure *Teacher-Student Trust* have been aggregated to the school level. The school level *Teacher-Student Trust* has been standardized.

Level-3 Model:

$$\beta_{10j} = \gamma_{100} + \gamma_{101}\left(COMPOSITE\_SES_J\right) + \gamma_{102}\left(z\_Teacher\_Student\ Trust_j\right) + u_{10j}$$

Where:

γ_{100} is the mean of *CEL* overall, across all schools.

γ_{101} is the mean change in β_{10j} for a 1-standard deviation change in $COMPOSITE\_SES_j$

γ_{102} is the mean change in β_{10j} for a 1-standard deviation change in $z\_Teacher\_Student\ Trust_j$

u_{10j} is the error term for school *j*

RESULTS

Preliminary Analysis

Descriptive statistics for the analytic sample are reported in Table 2:4 (N = 16,039). The outcome variables, the Community of Engaged Learners, the Teacher Practices, and the aggregated school level Teacher-Student Trust are all survey measures that have been analyzed using the Rasch method and have been standardized, which rescales them to have a mean of zero and a standard deviation of one. Additionally, the demographic variables and grade categories

are dummy variables. The school level variables have been aggregated to encompass the mean for the entire school.

Table 2:4

Descriptive Statistics of Variables in in HLM Analysis

Variable Name	Mean	sd	Minimum	Maximum
Outcome				
Community of Engaged Learners	0	1.00	-2.63	1.37
Inverse Standard Error	0	1.00	-2.64	1.28
Teacher Practices				
Lesson Organization and Structure	0	1.00	-2.77	1.26
Academic Support	0	1.00	-2.36	1.29
Covariates				
Race not available	0.01	0.10	0	1
White	0.10	0.30	0	1
Native American	0	0.06	0	1
Latino/a	0.50	0.50	0	1
Multiple race	0.01	0.11	0	1
Asian	0.04	0.20	0	1
Pacific Island/Hawaiian	0	0.04	0	1
High Poverty	0.14	0.35	0	1
Special Education	0.12	0.33	0	1
Male	0.48	0.50	0	1
Unweighted GPA	2.63	0.94	0	4
F GPA category	0.05	0.23	0	1
D GPA category	0.11	0.31	0	1
C GPA category	0.30	0.46	0	1
B GPA category	0.38	0.49	0	1
A GPA category	0.15	0.36	0	1
School Level Variable				
Social Economic Status Composite	0.14	0.13	-0.08	0.49
Teacher-Student Trust_	0	1.00	-1.92	1.54

Table 2:5 shows the correlations between the standardized survey measures or variables in the HLM model to indicate that no multicollinearity exists. Multicollinearity is a phenomenon where two or more predictor variables in a regression model are highly correlated or one of the variables can be linearly predicted from the other with a substantial degree of accuracy. Table Table 2:5 is evidence that the variables in the HLM model are not highly correlated and that none of the variables need to be removed from the model. The predictor variables, *Lesson Organization* and *Academic Support* are moderately (.40-.59) correlated to the outcome variable, *Community of Engaged Learners*. While the school-level variable, *Teacher-Student Trust* has a weak (.20-.39) correlation to the outcome variable, *Community of Engaged Learners*. The correlation matrix also shows that the two student-level predictor variables, *Academic Support* and *Lesson Organization and Structure* have a strong correlation (.60-.79) but does not require removal from the model. The school-level variables. *Teacher-Student Trust* and *Composite SES* both have a weak correlation (.20-.39) to both *Academic Support* and *Lesson Organization and Structure*.

Table 2:5

Correlations Student and School Level Variables

	Outcome: Community of Engaged Learners	*Student-level* Lesson Org & Structure	*Student-level* Academic Support	*School-Level* Composite SES	*School-Level* Teacher-Student Trust
Community of Engaged Learners	1				
Lesson Org & Structure	0.54***	1			
Academic Support	0.54***	0.65***	1		
School-Level Composite SES	0.02	0.01	0.05***	1	
School- Level Teacher Trust	0.10***	0.14***	0.13***	0.11***	1

****p<0.001*

The interclass correlation coefficient (ICC) is computed based on the covariance estimates within the unconditional means model (0.00454 / 0.00454 +0.05532= 0.07584), which gives the proportion of the total variance that occurs between schools. Previous research shows that values between .05 and .20 are common in cross-sectional HLM applications in social science research (Muthén, 1991, 1994; Muthén & Satorra, 1989; Spybrook, Raudenbush, Liu, Congdon & Martinez, 2008). Furthermore, Roberts (2007) suggests that when the ICCis small it may not warrant abandoning HLM given that dependencies can arise after additional variables have been entered into the model. The ICC should be an initial indicator but small values should not immediately rule out its use. Based on this suggestion, and the fact that a measurement model at level 1 is being used, I proceeded with the multilevel analysis.

To measure the magnitude of the variation among schools in their mean perception of being in a classroom community of engaged learners the plausible values range (-0.6411, -0.377) for the means can be created based on the between variance obtained from the model: -0.508995 $\pm$ 1.96* $(0.00454)^{1/2}$. The reliability estimate for this model is 0.306. The level 2 variance estimate was not significant of student's perceiving they are in a community of engaged learners within a school ($\sigma^2 = 0.05532, n.s$). It is important to note that the unconditional model results did show a very small and statistically significant variance in being in a community of engaged learners across schools $\tau_\beta = 0.00454, p < .01$, a further indication that HLM is needed. The Pseudo $R^2$was not calculated to find the variance because the Level 1 variance ($\sigma^2_{conditional}$= 0.08) is larger in the restricted model than the unrestricted model $\sigma^2_{unconditional} = 0.06$) producing a negative Pseudo R^2 (See Table 2.6).

Table 2:6 shows the results from each model. For each model, the intercept for students' perception of being in a community of engaged learners was negative and statistically significant. Contrary to my hypothesis, the aggregate school-level *SES composite* and school-level measure *Teacher-Student Trust* were not statistically significant. And although the school-level SES composite operated in the expected way, meaning that when there is a mean change in students' perception of being in a community of engaged learners, there is a 1 standard deviation change in the school level SES composite. The school level mean of *Teacher-Student Trust* did not operate in the same way and is found to have a negative relationship to being in a classroom community of engaged learners. For instance, when looking at the results in Model 5, the mean change in students' perception of being in a classroom community increased by 0. 0.0566 (n.s.) for a one standard deviation change of school level SES composite score. Similarly, the mean change in students' perception of being in a classroom community decreased by - 0.0334 (n.s.)

for a one standard deviation change of school level Teacher-Student trust score. When comparing the intercept for unconditional model (-0.50899, p<0.001) to the final Model 5 with all covariates and school level variables (-0.537399***, p<0.001), the variation is slight and contribution to the effect sizes was miniscule.

Effect Sizes of Teacher Practices

The mean value of students' perceiving they are in a community of engaged learners by teacher practices also did not adhere to my hypothesis. Teacher practices had a significant but very small effect on student's perception of being in a community of engaged learners. To calculate the effect size, the coefficient of the standardized predictor (e.g., *Teacher Practices*) is divided by the standard error of 1. Therefore, teachers who had their lessons organized and structured well had an effect of students' perceiving they were in a classroom community of engaged learners of, $\beta = 0.035$, $p < 0.05$. As expected, teachers who provided Academic Support to students had the association of, $\beta = 0.055$, $p < 0.001$ to students' perception of being in a classroom community but the effect size of $\beta = 0.055$, $p < 0.001$ was much smaller than expected

Table 2:6

HLM Results by Model and Model Fit

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Parameters	Unconditional	ADD Student Level Independent Variables to L2	ADD School Level Variables to L3	ADD Covariates to L2	Remove *Fall GPA_2015*. ADD GPA by Category
Regression Coefficients (Fixed effects)					
Intercept (ϒ100)	-0.51***	-0.55***	0.56***	-0.53***	-0.54***
Composite SES (ϒ101)			0.12	0.06	0.06
School Level Trust (ϒ102)			-0.09*	-0.03	-0.03
Lesson Organization and Structure (ϒ110)		0.03*	0.03*	0.04*	0.04*
Academic Support (ϒ120)		0.06***	0.06***	0.06***	0.05***
Variance components (random effects)					
Residual (σ^2)	0.06	0.08	0.08	0.08	0.08
Intercept (τ_β)	0.005***	0.004***	0.003***	0.002	0.002
Random L1 Reliability Estimate	0.05	0.06	0.06	0.06	0.06
Random L2 Reliability Estimate	0.31	0.27	0.25	0.16	0.14
Model summary and fit					
Deviance statistic	41819.09609	41695.911386	41690.392855	41627.892641	41622.237151
Number of estimated parameters	3	5	7	18	21
χ^2 statistic	198.73558	76.50772	70.98919	8.48897	Full Model
Degrees of freedom	18	17	15	4	
p-value	<0.001	<0.001	<0.001	0.074	

* p <.05, ** p <.01, *** p<.001

Effects of Student Characteristics

Table 2:7 shows that students from all racial groups with African American students as the reference group, have a negative association with being in a community of engaged learners. The coefficients range between -0.02 to -0.14. It was unexpected to find that Latino students are less likely to feel they are in a classroom Community of Engaged Learners, β = -0.14, $p < 0.001$ when compared to African-American students. Additionally, Asian students are also less likely than African American students to feel they are in a Community of Engaged Learners, β = -0.135, $p < 0$. Counter to my hypothesis, male students have a higher perception $\beta = 0.078$, $p < 0.001$ of being in a classroom community of engaged learners when compared to their female peers.

Students living in high poverty neighborhoods was not statistically significant in their perception of being in a classroom community. Contrary to my hypothesis, students with a special education status have a $\beta = 0.06$, $p < 0.05$ increase in perceiving they are in a community of engaged learners. And confirming my hypothesis, students with an A average GPA when compared to ninth grade students with a B average GPA have a $\beta = 0.055$, $p < 0.01$, a slight increase in their perception of being in a classroom community. However, contrary to the community literature, when students' unweighted GPA was added (Model 4), the relationship to students' perceiving they were in a community was not significant $\beta = 0.004$ (n.s.).

Table 2:7 Student Characteristics Results (Model 5)	
Student Characteristics	Coefficient
White	-0.09**
Native	-0.03
Latino	-0.14***
Multiracial	-0.10
Asian	-0.14**
Pacific Islander/Hawaiian	-0.02
Race Not Available	-0.08
Male	0.077774***
Resides in a High Poverty Neighborhood	0.01
Special Education	0.06*
F average GPA	0.06
D average GPA	0.01
C average GPA	-0.003
A average GPA	0.06**

* p <.05, ** p <.01, *** p<.001

Discussion

Although the literature has highlighted the importance for promoting community and classroom belonging as a way to motivate and engage high school students (Goodenow, 1992; Fredricks, 2004, Osterman, 2000), few studies have examined how specific teacher practices may contribute to the building of a classroom community of engaged learners. Little is known about which teacher practices and contextual factors promote belonging and engagement and lead students to perceiving they are in a classroom community of engaged learners. This study is one of the first to examine specific teaching practices and their relationship to how they feel

and behave when they are in a classroom community using a new measure that was developed from qualitative interviews with ninth grade students.

The student-identified teacher practices had a significant but small effect on the new survey measure about the behavior and feelings students have when they perceive they are in a community of engaged learners. Consistent with the academic support literature (Klem & Connell, 2004; Libbey, 2004; Osterman, 2000), the HLM analysis confirmed that academic support is an important teacher practice for engagement. Additionally, the hypothesis that teachers who effectively organize and structure their lessons also contribute to students' perception of being in a classroom community was confirmed. The positive but small effect of the relationships between teacher practices and students' perception of being in a community of engaged learners, further elucidate the complex nature of ninth grade high school classrooms. The complexity arises when a teacher is trying to promote sense of belonging, motivate and engage students, and build a classroom community. This study, which uses a new survey measure *Community of Engaged Learners* may be the starting point for future research that explores how to measure the different perspectives of classroom members that gets at the complex nature of how factors that promote classroom community are measured.

The school level variables (i.e., SES composite and Teacher-Student Trust) were unrelated to students' perception about being in a classroom community. One explanation for this finding may have something to do with solitary nature of teaching, where teachers can build a community in their classrooms, despite what is happening in the school building (e.g.., the impoverished neighborhoods that the majority of students in the school come from or the mean level of teacher-students trust in the school). Previous research has found that teacher-student trust is important factor for building a classroom community by helping students feel more

comfortable to ask questions and express unpopular opinions (Watkins, 2005; Jennings & Greenberg, 2009; Lamborn, Newmann & Wehlage, 1992), however, when aggregated to the school level it loses its importance in the classroom. It also could be argued that the Chicago context, which is known for a large percentage of students who live in segregated neighborhoods with high levels of poverty, has become so common place in CPS schools and classrooms that SES cannot be identified as a specific factor that impacts what goes on in the classrooms. Because it impacts everyone it is difficult to detect as a contributing factor in the CPS student surveys.

Student Characteristics

Race & Gender

It was hypothesized that there would be variation by racial group of students' perceiving they are in a classroom community of engaged learners. However, when compared to African-American students, Latino and Asian students had the largest decrease in perceiving they were in a community of engaged learners, with White students not trailing far behind. It was equally surprising to see that male students had a small but positive mean perception of being in a classroom community of engaged learners, above that of female students.

These finding are counterintuitive to what is reported about the achievement levels by race and gender, where White, Latino and Asian students generally outperform African-American students and female students outperform male students. A 2011 report by the University of Chicago Consortium on School Research shows that racial gaps in achievement have consistently increased in CPS schools with White and Asian students making more progress than Latino students and African American students falling behind all other groups (Luppescu et al, 2011). This racial gap trend exists in other Midwestern states (i.e. Wisconsin, Illinois,

Michigan and Minnesota) where the White-Black achievement gap has generally been larger than a standard deviation over the last decade (Stanford Center for Education Policy Analysis website, 2013). However, when GPA was added in Model 4 it was unrelated to student's perception of being in a community of engaged learners.

In addition, the discrepant findings may be related to the racial and gender composition in CPS. For instance, the CPS demographics show that Asian (3.9%) and White students (9.9%) are underrepresented in the CPS classrooms ("CPS Stats and Facts", 2016). The *Community of Engaged Learners* survey measure may be picking up on the racial underrepresentation in CPS classrooms showing how these racially underrepresented groups are responding to the survey questions about feeling comfortable being themselves in class and/or participating in class discussions. Whereas a possible explanation for why Latino students have a lower perception of being in a classroom community of engaged learners when compared to African American students may be related to the Chicago context where there are nearly 511,000 undocumented immigrants, between the ages of 16-24 years of age, living in Illinois (Eltagouri, 2017). The reality for many undocumented students is that they live in fear of being "found out" and deported in general, and this may transfer into their experiences of their school contexts. They have difficulty knowing who at school they can trust. This results in reluctance to get involved in school and for some can lead to dropping out altogether (Rivera, 2016). The concerns of being undocumented impacts many immigrant students, but Latino students may be disproportionately impacted in this sample because Latino make up the largest student demographic in Chicago Public Schools (46.5%). The indication that male students have a higher mean level of being in a community of engaged learners when compared to female students needs to be investigated further. One possible explanation may have to do with differences in levels of confidence or

overconfidence by gender. In a study by Dahlborn et al. (2011), researchers asked 14-year-old high school students what grade they expect to get on an upcoming math exam. Forty-seven percent of the girls and 63% of the boys thought they would get one of the two highest grades on the exam, but none of the girls in the sample thought she would get the highest grade on the exam. When students took the math exam a week later, 56 % of the girls and 49% of the boys got one of the two highest grades. The researchers then measured whether students correctly estimate or overestimate their own academic performance and found that boys have an 18% higher probability to overestimate their test grade. Dahlborn et al. are careful to point out that although boys and girls may differ in their levels of math ability confidence, other studies (e.g. Dreber et al, 2009) show there is no difference in their levels of competitiveness. Male confidence or overconfidence may have influenced the way they responded to these questions. Future investigation about how male and female students respond to the measure is needed. .

Poverty & Special Education Status

Living in an economically disadvantaged neighborhood, whether measured at the school level or student level, was not related to whether students perceived that they were in a classroom community of engaged learners. The reason for this may be due to the fact that over 80% of Chicago Public School students (K-12) are considered economically disadvantaged ("CPS Stats and Facts", 2016) and the student survey is unable to detect any variation in students' perceptions about being in a classroom community.

Research shows that students with learning disabilities have elevated self-reports of loneliness, anonymity, victimization and lower levels of school participation (Sabornie, 1994). However, contrary to the hypothesis, students with a special education designation had a higher perception of being in a classroom community. The severity of special education services CPS

high school students receive may be a factor which may or may not impact the level of stigma student experience. For example, if students are being served in a self-contained classroom with little or no access to their peers who are in an inclusive classroom with typical learners, the stigma they feel about their special education designation may not be activated. Thus, their perception of being in a classroom community may or may not be present. However, if a student with a special education designation is in an inclusive learning environment with typical learners the student may sense the stigma which can impact their perception of being in a classroom community. These factors are important in order to best understand how students perceive if they belong in a classroom community of engaged learners.

Grade Point Average (GPA)

When GPA was used as a control its relationship to student's perception of being in a classroom community was miniscule and not significant. However, when GPA was categorized into dummy variables based on students' mean fall GPA using students who had a B average GPA as my reference group, my hypothesis was confirmed with results showing that students with an A average GPA have a statistically significant increase in their perception on being in a community of engaged learners.

Limitations and Future Directions

Although the present study demonstrates results concerning the relationships between teacher practices and students' perceptions of being in a community of engaged learners, these findings must be interpreted within the context of the study's limitations. One limitation is related to the measures used in this study. This study relied on self-report data from ninth-grade students, which may be subject to bias and only considers the students perspective. Future research should gain access to data that links students in classrooms in order analyze the

perspectives of other students in the classroom as well as the teacher. Another limitation is that the construct Community of Engaged Learners measure was created before qualitative interviews were over; the wording was not tested and refined using cognitive interviews with high school students to ensure they were worded in a way for accurate interpretation. Despite this, Rasch analysis of this measure suggests that it operates as a solid measure. Future research examining how students interpret the Community of Engaged Learners measure using cognitive interviews are needed. Despite these limitations, this study highlights how teacher practices play a role in how students perceive they belong and engage in the classroom. However, this study also highlights that teacher practices are not the only factor that should be considered when trying to understand the factors that promote a sense of belonging and engagement in the classroom. The data used for this analysis is cross-sectional and limits the ability to determine causality. Additionally, this study only examines the 2014-15 cohort of ninth grade CPS students and the results could be vastly different in other grades, thus limiting the generalizability of these findings.

Lastly, it is important to note that the qualitative data that guides the quantitative analysis for this study was collected at a school where three different academic programs were housed in the same school. School structure and classroom composition may also be affecting the results because it was not accounted for and would be important to consider for future research.

CONCLUSION/IMPLICATIONS

Research shows that the way in which classrooms are managed is a variable that can be manipulated (Wang, Haertel, & Walberg, 1990). Teachers play an important role in how classrooms are constructed particularly when they pay attention to relationship building and learning. One way teachers can approach this is by building classroom communities where students feel a sense of belonging and the motivation to engage in the class lessons and the associated work. Successful classrooms that promote community are designed to help all student feel safe, respected and valued in order to learn new skills (Burden, 2010).

This dissertation study adds to the classroom community literature in that it privileges the voice of diverse high school students and their perspectives. The study design is unique in that it uses a mixed method approach, first it qualitatively explores classroom factors that students feel are important for their belonging and engagement. The findings show that teachers working to build a community of engaged learners can achieve classroom belonging and behavioral engagement for some students but not all. This was made evident by how students rated, on a scale of 1-10 their level of belonging and engagement in their favorite and least favorite ninth grade class (see Table 1:3). Although overall, students tended to rate a higher level of belonging and engagement in their favorite ninth grade class, there were a few students where the difference was not as pronounced as expected. For instance, some students had the same level of belonging in both their favorite and least favorite class because they liked the classmates in both classes equally, so they reported their level of belonging as being the same in both classes but their level of engagement was different because they did not like the teacher or the subject in one of the classes. In other situations, students rated their level of belonging and engagement as high in both their favorite and least favorite classes because these students had strong school identities

and doing well or generally liking school is part of their identity. Student and school identity needs to be explored further to unpack what exactly is going in order to provide ways educators can construct classrooms to promote a community of engaged learners.

This dissertation then examines the association between the teaching practices, identified from student interviews, and students perceiving they are in a community of engaged learners is examined quantitatively using HLM. The findings from this study provide insights in to the specific teaching practice that promote a Community of Engaged Learners which range from seat assignments, which permits students to work and engage with one another on lessons; to how the teacher walks around the room, ensuring all students understand the assignment and not letting anyone fall behind. Many of the findings from the qualitative study are consistent with previous research about teaching practices that promote student engagement, such as developing teacher trust, effectively managing the classroom through rule and routines, organizing and structuring lessons and activities so they are relevant and interesting to students, and academically supporting students to succeed. However, in addition to the teaching practices that promote student engagement, the qualitative study also finds that these teaching practices are important for developing classroom belonging. When the teacher works to construct a classroom that furthers both belonging and engagement it has the potential to lead to a community of engaged learners. This mixed method dissertation study is important because it adds to the few studies that focus on teaching practices in high school classroom that promote both classroom belonging and behavioral engagement. By providing research that can directly assist teachers with the construction of their classrooms and impact student's belonging and engagement when they are in a community of engaged learners.

The quantitative study shows that overall, ninth grade students in CPS have a negative perception of being in a classroom community of engaged learners, regardless of race. This is a strong signal that possibly teachers should be doing more thinking about how to construct their classrooms to promote community. The teaching practices Lesson Organization and Structure and Academic Support were found to be helpful in building a Community of Engaged Learners, but the association was smaller than expected. The unexpectedly small association between these two teaching practices and students' perceiving they are in a classroom community of engaged learners is a clear indication that additional teaching practices that students pointed out in their qualitative interviews should be included (such as teacher characteristics, classroom management, and classroom level teacher-student trust) in the HLM model.

School level variables –SES and Teacher student trust don't seem to make an impact on building a classroom community of engaged learners. This makes sense because although, the school culture and climate is important for getting kids to school each day and staying in school by engaging them with extracurricular activities (i.e sports, student government, art and theater programs, etc.) the school level activities and culture don't translate for all students to feel belonging and engagement in their high school classrooms. In addition, educators often want to blame external factors, such as family problems and/or poverty on why students are not performing well in school. While these factors do contribute, this study finds that they don't matter for what is going on in the classroom.

This study also highlights the importance for honing the community of engaged learners' measurement tool. Further exploration is needed. Findings from the quantitative study are inconsistent with previous education research, however, rather than dismissing these findings as incorrect or inconclusive, further research is needed to better understand if the Community of

Engaged Learners is in fact capturing something new or if the measure is not accurately capturing the concept. One way to begin exploring the effectiveness of the Community of Engaged Learners measure it to conduct cognitive interviews with high school students in different contexts (i.e. different high schools in different states) to ensure the community of engaged learners is in fact capturing the intended construct.

IMPLICATIONS FOR PRACTICE

One way to address the changing demographics of public schools is to change the way school operate and the systems within. Addressing how school-based student support service professions, like school social workers, school counselors and school psychologists work together and with students, teachers, and families has the potential to improve how classrooms are constructed to promote high school students' perception of being in a classroom community of engaged learners. This dissertation study is foundational for moving forward with education reform in a way that addresses multiple systems within the school building. Although the implications for education reform are lofty, it is important to remember that moving and changing such a large U.S institution, like public education is going to take lots of different people and professionals working together. This is just the start of that journey.

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Appendix Table:

Latent Construct Measures, Survey Items and Infit and Outfit Mean Squares[1]

Latent Construct Measure	Survey Items	Infit Mean Square[2]	Outfit Mean Square[3]
Community of Engaged Learners	(1) Are you interested in participating in class discussions/activities	0.8587	0.8112
	(2) Do you feel comfortable being your "true self"?	0.9923	0.8553
	(3) Is there agreement within the class that you have to make mistakes in order to learn the material	0.8520	0.8106
	(4) Do you feel successful when doing the work for this class?	0.6898	0.6293
	(5) Do you receive enough step-by-step support to do the work in this class?	0.8067	0.7250
Lesson Organization and Structure	(1) I learn a lot from feedback on my work.	0.8857	0.8246
	(2) It's clear to me what I need to do to get a good grade.	0.8119	0.6635
	(3) The work we do in class is good preparation for the test	0.6635	0.5554
	(4) The homework assignments help me to learn the course material	0.7616	0.6539
	(5) I know what my teacher wants me to learn in this class. Students have a four point Likert scale to respond	0.7300	0.5941

[1] The MVMS surveys are analyzed using the Rasch model. The Rasch polytomous fit statistics indicate how accurately the data fit the model. Mean square fit statistics show the size of the randomness or the distortion of the measurement system. If there is the expected amount of variation is the responses, the value of this statistic is 1.0. Values within 30% of the expected value roughly 0.7 to 1.3 are considered acceptable (1.3 indicates misfit, 0.7 indicates overfit). When values are less than 1.0 this is an indication that the observations are too predictable or redundant. Values greater than 1.0 show unpredictability and is an indication that the data do not fit the model well.

[2] Rasch infit mean-square statistics are a goodness-of-fit statistic, measuring the amount of variation in the data, compared to what is expected. The Infit mean square fit statistic is an information-weighted aggregate of the residuals. It is more sensitive to the pattern of responses to items targeted on the person, and vice-versa. The statistical information in Rasch observations is the variance of responses around its expectation, σ2.

[3] The outfit mean square fit statistic is based on the conventional sum of squared standardized residuals. This is more sensitive to responses to items with difficulty far from a person, and vice versa. The unweighted fit statistic (outfit) is more sensitive to outliers, and so the information-weighted fit statistic is generally more useful.

Appendix Table 1 continued:

Latent Construct Measures, Survey Items and Infit and Outfit Mean Squares

Latent Construct Measure	Survey Items	Infit Mean Square	Outfit Mean Square
Academic Support	**(**1) Helps me catch up if I am behind	0.7959	0.6955
	(2) Is willing to give extra help on schoolwork if I need it	0.8743	0.7446
	3) Notices if I have trouble learning something	0.7195	0.7446
	(4) Gives me specific suggestions about how I can improve my work in this class.	0.6888	0.5850
	(5) Explains things in a different way if I don't' understand something in class	0.7534	0.6334
Teacher-Student Trust - School Level	(1) When my teachers tell me not to do something, I know they have a good reason	0.9440	0.8749
	(2) I feel safe and comfortable with my teachers at this school	0.7050	0.7050
	(3) My teachers always keep their promises	0.7751	0.7751
	(4) My teachers will always listen to students' ideas	0.7671	0.6992
	(5) My teachers treat me with respect	0.6653	0.6653