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Examining Montessori Middle School through a Self-Determination Theory Lens:

A Mixed Methods Study of the Lived Experiences of Adolescents

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Education

in

Educational Leadership

by

Luz Casquejo Johnston

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California State University, San Marcos

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Carolyn Huie Hofstetter

2013

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Chair

University of California, San Diego

California State University San Marcos

2013

DEDICATION

In loving recognition of all of those who supported me throughout my dissertation journey, namely my husband, Patrick, my children, Sofia and Benjamin and my parents, Ernie and Lita Casquejo.

EPIGRAPH

"It is the child who makes the man, and no man exists who was not made by the child he once was."—Maria Montessori—

TABLE OF CONTENTS

SIGNATURE PAGE iii
DEDICATION iv
EPIGRAPH v
LIST OF FIGURES, TABLES, CHARTS ix
VITA x
ABSTRACT OF THE DISSERTATION xi
CHAPTER ONE: INTRODUCTION TO THE STUDY 1
Statement of the Problem 2
Purpose 6
Research Questions 8
Theoretical Frameworks 9
Self-determination theory. 9
Critical theory and student voice 10
Methods 11
Significance of the Study 12
Key Definitions 14
CHAPTER TWO: REVIEW OF THE LITERATURE 16
Montessori Education 17
Brief history. 17
Development of the erdkinder (adolescent program). 19
The link between the Montessori Method and student achievement. 20
Summary of Montessori literature review. 23
Theoretical Frameworks 26
Self-determination 26
Motivation. 31
Student voice. 35
Summary of theoretical framework review. 37
CHAPTER THREE: METHODOLOGY 40
Purpose of the Study and Research Questions 40
Design of the Study 41
Methodology Design Diagram 44
Context 45

Research Site ... 45
Operations ... 45
Participants ... 46
Methods ... 47
Phase 1—Purposeful Participant Selection through Quantitative Analysis ... 47
Phase 2—Narrative Inquiry ... 49
Interpretation of Qualitative and Quantitative Results ... 51
Limitations ... 52
CHAPTER FOUR: RESULTS ... 54
Quantitative Analysis ... 55
Narrative Analysis Results ... 56
Below the Median ... 57
At the Median ... 63
Above the Median ... 69
Analysis of Narratives ... 75
Autonomy: Freedom of Choice ... 78
Competence: Skills ... 79
Relatedness: Caring ... 81
Summary of Results ... 83
.CHAPTER FIVE: DISCUSSION ... 85
Summary ... 85
Overview of the Problem ... 85
Theoretical Framework ... 87
Methodology ... 87
Results ... 88
Summary of Findings ... 91
Autonomy ... 91
Relatedness ... 93
Competence ... 96
Implications ... 96
Implications for Educators of Middle School Students ... 97
Implications for Educational Leaders ... 100
Further Research ... 102

Study Limitations 103
Generalizability 103
Positionality 104
Conclusion 104
APPENDIX A: CONSENT FORM 106
APPENDIX B: SURVEY INSTRUMENT 109
APPENDIX C: INTERVIEW PROTOCOL 110
REFERENCES 111

LIST OF FIGURES, TABLES, CHARTS

Figure 3.1 Methodology Design Diagram 44

Table 4.1 Descriptives 55

Chart 4.1 MeanSDT 55

Figure 4.1 Process Diagram 75

Table 4.2 Themes Identified 77

Figure 4.2 Freedom and Choice Mind Map 78

Figure 4.3 Skills Mind Map 79

Figure 4.4 How People at the School Care about Me Mind Map 81

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ABSTRACT OF THE DISSERTATION

Examining Montessori Middle School through a Self-Determination Theory Lens:

A Mixed Methods Study of the Lived Experiences of Adolescents

by

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Doctor of Education in Educational Leadership

University of California, San Diego, 2013
California State University, San Marcos, 2013

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Montessori education was developed over a century ago. Dr. Montessori and her followers designed learning environments to meet the academic, social and psychological needs of students from eighteen months to eighteen years old. Within her writings and books, Dr. Montessori described strategies and structures that support autonomy, competence and relatedness. These same supports are found within Self-determination Theory (SDT) literature. Research points towards a link between satisfaction of the basic needs for autonomy, competence, and relatedness and increased resilience, goal achievement, and feelings of well-being. .

This study examined the influence of enrollment on the development of self-determination in a Montessori middle school which is intentionally created to support the development of autonomy, competence, and relatedness on adolescents. Bounded by self-determination, critical, and student voice theory, this research was designed to give

voice to the most important stakeholders in education, add to the discourse on middle school reform, and provide the perspective of the student to the critique of middle level education.

Based on the analysis of narrative, the major themes which represented all participants in all cycles were indicators of the importance of autonomy and relatedness. Two themes, "choose type of work", "choose order of tasks" illustrate the importance of autonomy to this group of students. The last major theme, "help me stay on top of things" highlighted the importance of relatedness to the study group.

From these themes implications for middle level educators, educational leaders and future researchers were developed. Participants in the study voiced strong opinions about practices which supported autonomy and relatedness. Students valued the ability to choose the order of their tasks and the tasks they could choose to demonstrate understanding as well as the ability to re-take tests. These changes require a paradigm shift to a student-centered learning environment. Educational leaders can support this shift through providing staff development and planning time. Future research suggested by this study include studies which could further examine a possible link between relatedness support and student achievement and studies designed to capture the voices of students with a low measured SDT.

CHAPTER ONE: INTRODUCTION TO THE STUDY

> *"Education should no longer be mostly imparting knowledge, but must take a new path, seeking the release of human potentials"* –Maria Montessori (1948)

Imagine a school community where students lead problem-solving sessions, actively plan their electives based on their interests, direct their own learning, work independently, and cooperatively, lead their own parent-teacher conferences and achieve on state-mandated assessments. This is Montessori Middle School. Since its inception in 1986 by Dr. Betsy Coe, children ages twelve to fifteen have been working together to create community and shape their intelligence in private, public and charter schools across the nation. Built upon notes and transcripts from the 1952 lecture series during which Dr. Maria Montessori coined the phrase "*erdkinder,"* child of the land, Montessori Middle School is designed to provide middle adolescents with the optimal learning environment within which they can develop intellectually, psychologically, and emotionally.

Dr. Montessori's speeches and writings about middle adolescence detail her understanding based on her research and observations of children. The upheaval of this stage of development was to her a special time during which the "spiritual embryo" of man could awaken (Montessori, 1936). Children were to be treated as the creators of peace and the future. Adolescents needed to continue their development in environments where they could be liberated through education within a community of caring adults and peers. Choice, working towards mastery and building community, principals embedded in Montessori methodology and practice, are supports for autonomy, competence and

relatedness. These are the three constructs of Self-Determination Theory (SDT) which was developed in 1985. Deci and Ryan's work defined self-determination as the feeling of control over one's own destiny. The main constructs of self-determination are autonomy, competence and relatedness. Domestic and international research point to a strong positive correlation to self-determination and student achievement (Deci & Ryan, 2000b; Jang, Reeve, Ryan & Kim, 2009; Shih, 2008). Research suggests that learning environments which support development of autonomy, competence and relatedness lead to increased student engagement and achievement (Soenens & Vansteenkiste, 2005; Vansteenkiste, Ryan & Deci, 2008). The Carnegie Institute's 1989 report entitled *Turning Points: Preparing American Youth for the 21st Century* advised reforms in middle level education which included small communities of learning led by caring, respectful adults, rigorous academics tailored to students' specific needs and individualized learning. Research in education, psychology, and Dr. Montessori's writings suggest ways to create environments that can support adolescent development.

Statement of the Problem

The needs of the adolescent have been well documented. Erikson's work on the stages of human development calls adolescence the stage of fidelity (1993 [1950]). During this critical period, young adults forge their identities and define their roles. The National Middle School Association (NMSA) document, *This We Believe*, delineates fourteen characteristics for a successful middle school which include rigorous, personalized curriculum, nurturing environment, and adults who understand and value the

adolescent (2000). The Carnegie Institute's *Turning Points: Preparing American Youth for the 21st Century* echo these recommendations (1989).

In addition, research in the field of self-determination defines the basic needs of all humans as autonomy, competence and relatedness. When humans are supported to meet these needs, they are empowered to successfully plan and meet their goals (Deci & Ryan, 2000). The result is increased motivation, persistence and psychological well-being (Deci & Ryan, 1991). While Self-determination Theory is rooted in psychology, many studies illustrated its importance in the educational setting at all levels and across cultures (Chirkov & Ryan, 2001; Sheldon, 2009; Shih, 2008; Jang & Ryan 2000). Studies involving middle school students confirmed that basic needs satisfaction, the foundation of SDT, correlated to increased student performance (Anderman, 1998; Roeser, 1998; Hoffman, Field & Posh, 1997).

Furthermore, Dr. Montessori's work points towards these same constructs. Her original handbook details the process by which young children are liberated through education. Teachers are expected to be keen observers of the human behavior prepared to provide the student with the appropriate material to spark his interest (Montessori, 1964 reprint of 1912). At this point, the teacher retreats to observe the child's interactions with the materials allowing the child to work until she observes a deep satisfaction in the child (Montessori, 1917). The practice of observing the child's needs, providing the appropriate material and allowing the student to master a material is the type of supportive behavior which nurtures both competence and autonomy. The student has choice in activity and works towards mastery. In addition, Dr. Montessori presented a series of lectures throughout the 1940's and 1950's which called for an incorporation of

peace into educational systems. Her call to action delineates the role of the adult who facilitates the process of creating community by teaching students their place in their small classroom as well as school, city, nation and world (Montessori, 1972, reprints of lectures in 1946 and 1952). These practices support relatedness, thus, create a nurturing environment.

The practices and strategies included in Dr. Montessori's writings speak to and describe a learning environment which supports the growth of the whole child. The characteristics included in her writings mirror those detailed in the Carnegie report (1989) and the NMSA document, *This We Believe,* (2000). Supports for academic, social, psychological and emotional growth are the cornerstones of Montessori Middle school (Coe, 1988). The following sections include a brief discussion of research on Montessori learning environments and methods applied in traditional settings. The gaps in this body are the study of Montessori middle school as well as the study of relatedness supports which are hallmarks of Montessori education. Chapter two elaborates on the research presented in chapter one and includes another gap in middle school literature. This gap is the inclusion of student voice. This sub-theory of critical theory is a critique of the exclusion of student voice in educational reform efforts (Cook-Sather, 2002). The problem that the study addresses is the exclusion of student voice in the critique of middle school learning environments. Based on Montessori and Coe's work, Montessori middle school addresses the needs of adolescents as defined by Carnegie and NMSA, we do not know, however, how this environment effects, positively or negatively, the development of autonomy, competence and relatedness. The study sought to capture the

voice of students enrolled in a Montessori middle school in regards to the development of self-determination (autonomy, competence, and relatedness),

Montessori Education, with its emphasis on individualized and personalized instruction embedded within the context of *cosmic citizenship* and peace education, focuses on the creation of high trust learning environments (Montessori, 1917, [1936]). Socrates claimed that he was a citizen of the world. Montessori challenged students to become citizens of the cosmos—stewards of the earth and creators of peace. During Montessori Middle School training, teachers study child development, techniques to teach conflict resolution skills and strategies to build community. The first few weeks of school are devoted to discovering the potential of each child through community building activities, personal reflection journals, goal-setting meetings and academic assessments (Coe, 1988). This time encourages the formation of Kohlberg's "just community" which was adopted by Dr. Montessori as she developed the erdkinder concept (Enright, 2008). During the erdkinder, junior high and high school students are led via study of the natural world and their inner world through what Erikson calls the competence stage of development. Dr. Montessori used the creation of community as a way to help students navigate Erikson's stages of competence and fidelity. Students are empowered to resolve problems with or without the support of their peers or facilitated by an adult. Socially empowered students identify with their teachers, the barrier between the two disappears and achievement increases. These practices create a relatedness supportive middle school.

The evidence in trust research supports the importance of relatedness. Several researchers have come to the same conclusion in their longitudinal studies. Studies found that trust was a mediator in increasing student achievement. Students in high-trust

environments achieved at higher levels than their counterparts in low-trust environments regardless of socioeconomic status, race and gender (Goddard, Salloum & Berebitsky, 2009; Goddard, Tschannen-Moran & Hoy, 2001). This is echoed in another study on trust and improvement in schools which found that teachers in schools that successfully implemented reforms repeatedly pointed toward the relationships of trust that were built amongst faculty as a reason for these successes (Louis, 2009).

Montessori education is over a century old and has stood the test of time as a model of addressing academic need and developing the whole child. In addition, research conducted thus far suggests that Montessori education could serve as a model for addressing academic and social-emotional needs of students. With its focus on teaching students in the zone of proximal development (Vygotsky, 1962 [1934]) within an authentic community, Montessori education can serve as a model for social justice and equity in education as well as a way in which to address the achievement gap. Montessori philosophy and methodology dictates the creation of communities of learning that are built on trust between peers as well as between teachers and students. The inherent structures and practices described in Dr. Montessori's writings support the development self-determination which includes autonomy, competence and relatedness. A deeper study of Montessori Methods through the lens of Self-Determination Theory would yield a fuller picture of their enduring success.

Purpose

The purpose of this study was to capture and, then, explore the experiences of adolescents in a Montessori middle school learning environment as a way to determine its

influence, if any, on their needs satisfaction. Developmental theories and self-determination theory suggest that programs for middle school students which support the need for autonomy, competence and relatedness can positively affect persistence, goal achievement and well-being of the adolescent (Anderman & Midgley, 1998; Niemic, et al., 2006; Vansteenkiste, Ryan & Deci, 2008). While studies in traditional settings have been conducted and point towards a positive correlation between self-determination supportive schools and increased academic achievement, none have been conducted in Montessori middle schools.

Dr. Montessori's writings delineate the creation of learning environments which support all constructs of self-determination. Empirical studies suggest that the method positively affects student achievement (Hanson, 2009;Hobbs, 2008; McDurham, 2011). The gap in the literature is three-fold: quantitative and qualitative studies on the effectiveness of Montessori middle schools, the effect of relatedness supports such as peace education and community building (both hallmarks of Montessori education) on student achievement, and qualitative studies of Montessori school students at all levels. This project seeks to illuminate these subjects.

The study captured the lived experience of adolescents in a Montessori middle school through the lens of Self-Determination Theory. In doing so, this research contributes knowledge to existing gaps in the literature as previously mentioned. Using quantitative measures participants were selected for the qualitative portion of the study. Based on survey data, a subset of students was chosen based on demographic data, years in Montessori schools and overall self-determination scores. The second part of the study will incorporate qualitative measures to capture the lived experiences of these students.

Participant were interviewed and observed over the course of a seventh-month period. What the students said and did during this period were used to measure the overall effect of implementing Dr. Montessori's techniques and to generate suggestions for the creation of an optimal learning environment for adolescents.

Research Questions

The question that guided this study was:

1) In what ways, if any, does attending a Montessori middle school learning environment influence an adolescent's development of self-determination?

In order to capture these experiences, these secondary questions were explored:

1) What do adolescents say which indicates the influence of attending a Montessori middle school learning environment on their development of self-determination?

This project sought to study the Montessori learning environment within the context of self-determination theory. As detailed in the following literature review, Dr. Montessori's work contains supports for the constructs of self-determination. Specifically, her work included liberation through work, supports for autonomy and competence. In addition, peace education and community development, hallmarks of Montessori learning environments support relatedness. Listening to the voices of the students who live this experience will provide insights into the influences of Montessori education at the middle school level as well as elucidate the need for self-determination supportive structures within all middle schools.

Theoretical Frameworks

Self-determination theory. The middle school years are marked with great variability across domains affecting student health which include physical, mental and psychological health. During this time, adolescents define themselves socially and begin the process of setting life goals. "It is vitally important to recognize that the areas of development—intellectual, physical, social, emotional and moral—are inexorably intertwined. With young adolescents, achieving academic success is highly dependent upon their other developmental needs are also being met" (AMLE, 2003, p. 3)

Self-determination theory (SDT) delineates three basic needs which must be satisfied in order for healthy psychological development and personal growth. NMSA's research identifies psychological need as an antecedent to personal growth and development for adolescents. The three needs defined by SDT pioneers Deci and Ryan are: autonomy—empowerment to make important life decisions, competence—mastery of skills in all areas of development, and relatedness—the degree to which an individual is connected to others. Human beings strive to meet these needs (Deci & Ryan, 2000). Environments such as the one envisioned by the NMSA and Dr. Montessori's work support these three constructs.

Decades of research support SDT as a viable lens by which educators can understand the needs of adolescents, their persistence in school and their ability to set and reach goals (Vallerand & Bissonnette, 1992; Vansteenkiste & Deci, 2006; Vansteenkiste, et. al, 2004). International researchers as well as those studying various educational settings and genders corroborate this relationship (Chirkov, 2009; Jang, Reeve, Ryan & Kim, 2009; Shih, 2008). SDT is also linked to intrinsic motivation which is the

antecedent to engagement and achievement (Niemic & Ryan, 2009). Recently, there has been an increased focus on autonomy supportive school environments. These supportive environments lead to increased perceived autonomy which leads directly to engagement (Niemic & Ryan, 2009). Autonomy supports can also be found throughout the literature in the field of trust. Environments where high trust was perceived by teachers led to a less threat-rigid response demonstrated by less-restrictive teaching practices (Daly, 2009). These schools had bigger gains as measure by academic performance index (API). The less-restrictive teaching practices were much like ones described in autonomy supportive classrooms in SDT literature (Roth, Assor, Kanat-Maymon & Kaplan, 2007).

Critical theory and student voice. Critical theory and student voice are nesting theories which provide a lens for the study and provide a reason for the methods chosen. At the heart of critical theory is the need to critique and examine a phenomenon, organization or structure. "Critical theory is, at its center, an effort to join empirical investigation, the task of interpretation, and the critique of this reality" (McLaren & Girarelli, 1995, p. 2). This theory frames the study as a way to examine a learning environment which seeks to meet the academic, psychological, emotional, and social needs of the adolescent. The second frame lies within critical theory. Student voice theory is the framework that seeks to engage students in the effort of educational reform. Students, the most important stakeholders in education, are not part of the decisions which profoundly affect them. Student voice allows students to speak for themselves. The problem of generalizing student experiences, speaking for students, and speaking about students (Fielding, 2001; Fielding, 2004; Mitra, 2004) is resolved when student voices are captured by researchers. The study design sought to capture the impressions

of students as they acclimate to a Montessori middle school. The voices of students have added to the critique of middle schools as well as examine the influence of attending the intentionally designed learning environment of a Montessori middle school.

Methods

This constructivist theory study began with a quantitative phase used to identify students within clusters of low to high self-determination. The study employed the participant selection variant of the explanatory sequential design. Cluster analysis of quantitative data gathered from administration of the Basic Psychological Needs Work Scale (BPNW-S) was used to identify students who were interviewed and observed multiple times over a seventh-month period in order to document and analyze their lived experience in a Montessori middle school. The sample for the qualitative phase included subjects of varying levels of self-determination, varying levels of Montessori education experience, and included males and females.

The purpose of the second narrative inquiry phase of the study was to capture the lived experience of adolescents new to Montessori middle school throughout a six-month period of time. The students' lived experiences were gathered through multiple structured and unstructured interviews as well as observations. What students said and did in interviews and observations was used to determine the impact, if any, of enrollment in the intentionally created Montessori middle school learning environment on adolescent self-determination development.

Significance of the Study

In 1989, the Carnegie Council for Adolescent Development sounded the following call to action:

> A volatile mismatch exists between the organization and curriculum of middle grade school and the intellectual and emotional needs of young adolescents. Caught in a vortex of changing demands, the engagement of many youth in learning diminishes, and their rates of alienation, substance abuse, absenteeism, and dropping out of school begin to rise. As the number of youth left behind grows, and opportunities in the economy for poorly educated workers diminish, we face the specter of a divided society; one affluent and well-educated, the other poorer and ill-educated. We face an America at odds with itself. (Carnegie Council, 1989, pp. 8-9)

In the following pages of this landmark report, the council gave recommendations based on research in middle schools and data gathered. Many of the recommendations are found within the constructs of SDT. The council suggestions include practices and structures that foster autonomy, competence and relatedness. The NMSA's *This We Believe*, echoes these recommendations.

Dr. Montessori's writings at the turn of the twentieth century and her lectures on adolescence called for practices similar to those described in the aforementioned documents. Further, quantitative research on the method points to a positive correlation to student achievement (Dorhmann, et al., 2007; Hanson, 2009; Hobbs, 2008; McCladdie, 2006; McDurham, 2011; Peng, 2009). The autonomy and competence supportive practices of presenting topics as students become ready and allowing students to work on concepts to mastery honors what Dr. Montessori calls the "spiritual embryo" and liberates the child through auto-education. Her inclusion of peace education and community development (Montessori, 1972) create the nurturing environments which are

recommended by the Carnegie Council and the NMSA These practices support relatedness. Montessori middle schools are intentionally designed to support students in their social, psychological, mental, and emotional development.

The significance of the study is the use of narrative inquiry and grounded theory in order to construct a theory of how self-determination is affected in an intentionally created learning environment. By giving voice to the students who live this experience, the study will contribute to the field of SDT as well as the literature on the Montessori Method. The voices of the study participants will add the perspective of students to the middle school reform movement detailed by the Carnegie Council and the NMSA. This study will address the three-fold gap in Montessori literature—studies on adolescents, studies on relatedness supports in Montessori education and their impact on students and most importantly the inclusion of student voice. This study is also significant as it will give voice to students, the most important stakeholder in education, providing their perspective on self-determination supports in a middle school environment and the impact of these supports on feelings of autonomy, competence and relatedness.

The methods used in this study could impact future research as well. The study design which used methodology developed by Glassett (2012) has the potential to influence future work. The use of survey and demographic data in order to cluster groups for the purpose of participant selection is a novel approach. The intentionality of subject selection allowed the voices of several representatives along the continuum of self-determination and Montessori experience to be represented. The intent behind this decision was to create a fuller picture of the effect of the Montessori methodology on adolescent development.

Key Definitions

Autonomy. This is one of the three constructs of self-determination. Autonomy refers to the feeling a person has that they control their actions. People who express strong autonomy feel that they have meaningful input into the decisions they make and that their choices ultimately determine their destiny (Deci & Ryan, 2002).

Competence. This is one of three constructs of self-determination. Competence refers to the feeling a person has about their abilities in all realms. Competence in an educational setting can be academic, social, psychological or physical. Student who express competence feel that they have the skills to successfully shape their lives (Deci & Ryan, 2002).

Erdkinder. This is the name Dr. Montessori gave to the middle school learning environment. The literal translation from the original German is “child of the earth”. This refers to Montessori’s belief that adolescents needed to connect to the world around them. The development of the middle school included supports for all growth areas including academic, social, psychological and physical. By connecting to their school community and the community at large, Dr. Montessori hoped that adolescent would leave the erdkinder with a greater sense of their place in the world and their impact upon it (Montessori, 1973) .

Explanatory sequential design. Studies employing this design are two-phased and mixed method. The first phase of the design is usually quantitative. The purpose of the first quantitative phase is to examine a phenomenon. The second qualitative phase is used to explore the phenomenon in a deeper way (Creswell & Plano-Clark, 2011).

Mixed methods data analysis. This type of analysis refers to the mixing of quantitative and qualitative methods and data. Analysis can be done either sequentially or concurrently. Projects can be single or multi-phased. (Creswell & Plano-Clark, 2011).

Participation-selection variant. This refers to one type of alteration which can be made to the explanatory sequential design. Studies which employ this variation emphasize the second qualitative phase. Quantitative data is used to purposely select participants for the second phase which seeks to take a deeper look through qualitative measures at the phenomena discovered in the first quantitative phase (Creswell & Plano-Clark, 2011).

Relatedness. This is one of three constructs of self-determination. Relatedness refers to the feeling that one is part of a larger community. Students who express feelings of relatedness say that they are cared for by the adults in their learning environment and that they belong to their school community (Deci & Ryan, 2002).

Self-determination theory (SDT). This is a macro-theory which defines the basic universal needs of humans. SDT posits that the satisfaction of these basic needs defined as autonomy, competence and relatedness leads to intrinsic motivation, feelings of life-satisfaction, psychological well-being and personality integration (Deci & Ryan, 2000).

CHAPTER TWO: REVIEW OF THE LITERATURE

The following literature review provides the context within which the study is situated and also describes what is currently known about the adolescent school experience. First, a brief overview of Dr. Montessori's writings and lectures about adolescent development and the concept of "erdkinder" will give the reader an insight into the philosophy behind the development of the Montessori middle school. This frame will be expanded upon through a review of literature in the field of SDT. Montessori philosophy and practice will be linked to the constructs of autonomy, competence, and relatedness as a way to understand some of the underpinnings which support the success of students in Montessori middle schools as seen through anecdotal and empirical evidence.

The chapter continues with a review of the research in SDT which links SDT-supportive environment to student resilience, goal achievement, academic achievement and well-being. Research involving Montessori methods and practices will be discussed through the lens of autonomy and competence supportive strategies. These quantitative studies will illuminate the growing evidence for inclusion of SDT-supportive practices in the middle school setting.

SDT comes from the study of personal motivation. Interest in the conditions which create intrinsic motivation was the foundation for the macro-theory of SDT (Deci, 1975). Further, motivation is still of great concern to those in the educational field as schools struggle to provide opportunities for all students (NMSA, 2000). The studies

included in this literature expand on the topic of motivation in adolescents. These articles will illuminate the need for inclusion of SDT-supportive practices and structures.

The fourth section focuses on the literature involving qualitative measures which capture student voice and illuminate the inner lives of adolescents. Research in the field of student voice examines engagement and motivation which are the seeds from which the field of SDT was born. In addition, this section will add the critical as well as grounded theory frameworks to the study. A review of studies and analyses of student voice will create a context for the methods in the study.

Montessori Education

> "We must not therefore set ourselves the educational problem of seeking means whereby to organize the internal personality of the child and develop his characteristics; the sole problem is that of offering the child the necessary nourishment" (Montessori, 1917, p.70)

Brief history. Maria Montessori developed her methods of education and philosophy through qualitative measures. Her training as physician and anthropologist informed her practice and allowed her to apply these techniques to the formation of the Montessori Method. Her observations, anecdotal notes, interviews with children and her review of the literature on child development led her to develop what she called an experimental science. Rooted in observation, the teacher became a facilitator of knowledge rather than a lecturer. Teachers were trained to watch children and allow them to explore the prepared environment of the Montessori classroom. In this way, the child became free to determine his own needs which led to an increase in attention and effort. She observed that students engaged in the process of creating their own intellect

were drawn to materials and would focus and repeat exercises with the materials until they had mastered the concept.

She developed a method of training teachers which included training in observational methods and anecdotal records. The teacher's sole job was to determine based on the student's inclinations what lesson was needed. The teacher was to prepare an environment which included materials for auto-education, organized by subject area and ordered by increasing difficulty (Montessori, 1917). The practice of auto-selection and working towards mastery are hallmarks of the Montessori Method. It is important to note that these methods developed over ninety years ago are also included in the Carnegie Council report as well as the NMSA document, *This We Believe.* These practices support the development of autonomy and competence (Niemic & Ryan, 2009).

Montessori's work focused on the intellectual development of the child as well as the moral and spiritual development. She observed that students became aware of others around them in a natural progression much as they determined the need for new intellectual concepts in the pre-school years. Their interest in those outside of themselves drew them to create relationships. These innate interests in socialization were the foundations for the inclusion of peace education and moral development in the method.

> "Around it, as in the intellectual education which proceeds from the exercises of the senses, order establishes itself: the distinction between right and wrong is perceived. No one can *teach* this distinction in all its details to one who cannot see it" (Montessori, 1917).

Teachers were encouraged to be examples of kindness and were taught to facilitate the process of teaching children to recognize their effect on other children and to resolve conflict with or without an adult. The development of a moral code was seen as an innate

desire of the child. Trust was built between teachers as well as between children in order to create a community. This feeling of belonging and the structures which support it were included in later SDT literature (Deci & Ryan, 1985).

Development of the erdkinder (adolescent program). After her first successes with pre-school aged children, Dr. Montessori continued to write and develop programs and schools throughout the world until her death in 1952(Standing, 1988). While she wrote speeches and developed theories about the specific needs of the adolescent, she did not design the *erdkinder.* Dr. Betsy Coe (1988) described and analyzed the effectiveness of the adolescent learning community she developed that drew on Dr. Montessori's writings as well as Kohlberg's theory of Moral Development and Erikson's stages of development. Both Kohlberg and Erikson were influenced by Dr. Montessori's work. Kohlberg's children attended Montessori schools, and Erikson was trained by Dr. Montessori. Their experiences with the movement informed their own work and later informed the work of innovators within the Montessori community who worked to create an authentic *erdkinder,* Montessori middle school.

Coe (1996) detailed the strategies and practices which enabled teachers to form community within their school environments. She also included refinements implemented at the School of the Woods where she began a middle school program in 1986. This article reflected on the challenges faced by adolescents as they begin to define themselves not only in small peer groups but within a larger school community. The push and pull both toward and away from peers and family is unique to adolescence. Dr. Montessori observed this in her writings. The adolescent program contains the same hallmarks as the previous learning environments created for younger children. Students

are given choice in their intellectual pursuit, work towards mastery and create community. The change between this stage and the previous is a broadening of the scope of the notion community from school to neighborhood, city, government and world.

The link between the Montessori Method and student achievement. While Montessori Education in the United States is over 100 years old; it has only drawn the attention of researchers within the past few decades. The search for empirical studies for this proposal included all years in several databases. Of the studies and articles reviewed only a few were empirical, and fewer still measured academic achievement. This section is dedicated to the analysis of these studies and includes the seminal study on Montessori Middle School written by Dr. Betsy Coe (1988). The study, while informative, is not empirical research. In a section analyzing the academic effectiveness of the Montessori middle school curriculum, the validity of the curriculum designed by Dr. Coe was corroborated by scores on the Iowa Basic Achievement Test. Students in the program grew an average of one and half to two years based on percentile rank, which is well above the national average of one year of percentile growth. Individual score averages for students range from the 87th percentile for vocabulary and reading comprehension to the 96th percentile in mathematics. The average composite score for students was in the 90th percentile.

The incredible gains and percentile ranking in Coe's study were not typical for the rest of the studies reviewed for this research study. While gains were noted in several studies (Dohrmann, 2007; Hanson, 2009; Hobbs, 2009; McCladdie, 2006; Peng, 2009), one study was inconclusive in its correlation between the method and student achievement (Lopata, et al, 2005) and another (Claxton, 1982) found a negative

correlation between usage of the Montessori method and student achievement for one grade level and no correlation for other grade levels studied. These studies involved domestic and international studies and varied in grade level from elementary to high school. Sample size, socioeconomic status and sample population varied as well. The implications and limitations of each study lead to interesting possibilities for further research.

The first study to compare achievement in Montessori and traditional public school settings examined children who included 182 kindergarten, first, second and third-grade students in two metropolitan North Texas schools. Populations were similar in both socioeconomic status and racial demographics. The project studied the student performance on several types of standardized tests, student self-concept as measured by surveys, and parental perception as measured by parent surveys. Results showed that there were more similarities between the two types of school than differences. Student performance was similar in all grade levels except in first-grade males. First-grade males in the traditional program scored significantly higher on assessments than Montessori first grade students. Self-concept data from students indicated no significant difference between the two populations. There was also no significant difference in parent perception data from parent surveys. The research suggests further study using a larger sample size and using data from older students. The researcher hypothesized that the youth and inexperience with testing measures may have decreased the effectiveness of instrumentation (Claxton, 1982).

Five studies continued the work of this initial study using data from older students as suggested. The researchers used the results of norm-referenced tests. They compared

the results of Montessori students to non-Montessori counterparts. Researchers matched sample size and demographics in schools included in their studies using both extant and current data. Language arts and mathematics performance was measured and compared between Montessori and non-Montessori populations. These studies showed a strong positive correlation to enrollment in Montessori schools and performance on norm-referenced tests (Hobbs, 2008; McCladdie, 2006; McDurham, 2011; Peng, 2009). .

One study project was unique in its approach and concept. While results echoed the work of the aforementioned researchers, this examination used an experimental model in a traditional inner-city public school. The control and experimental groups were composed of black students identified by low achievement on the Texas Assessment of Knowledge and Skills (TAKS). Teachers of students in fourth and fifth-grade experimental groups used Montessori concepts to teach language arts. These concepts included small-group instruction to targeted groups and mastery-based learning. While the results on the TAKS were not statistically significant after the experiment, the researcher noted that there were gains in all areas of language arts for students in the fourth and fifth-grade Montessori intervention groups. Results further suggested that use of Montessori concepts could be a resource for increasing language arts performance for black students and as a change agent in closing the achievement gap (Hanson, 2009).

A longitudinal study conducted further corroborated the positive correlation of Montessori education and student achievement. This study is unique in its approach from the previous studies in that researchers sought to examine the long-term effects of Montessori education on high school students in traditional public school settings. The aforementioned study compared students currently enrolled in Montessori schools with

analogous non-Montessori counterparts. The study focused on achievement data collected from 1997-2001. The study population included high school seniors who attended Milwaukee Public Montessori Schools from pre-school through fifth grade. The peer control group consisted of high school seniors who were enrolled in non-Montessori Milwaukee Public Schools from pre-school to fifth grade. Researchers discovered a significant positive correlation to high achievement in mathematics and science for students in the Montessori group (Dohrmann, Nishida, Gartner, Lipsky & Grimm, 2009).

The majority of the work reviewed for the study show in several settings amongst students of various ages that Montessori education positively effects student achievement. In addition, one study also noted higher motivation in the fourth and fifth grade Montessori experimental group (Hanson, 2009). The aforementioned longitudinal study also noted a long-term effect on high school outcomes for students who had previously attended Montessori schools from preschool through fifth grade (Dohrmann, et al., 2007). Specifically, the autonomy supportive practice of student choice and the competence supportive practice of individualization of work and mastery of concept pointed to a positive correlation between these practices and student achievement. The data confirms what Montessorians believed for over a century: use of Montessori methodology appears to increase academic achievement for many students.

Summary of Montessori literature review. Although Deci and Ryan's work (2001) was conducted decades later, Dr. Montessori's writings and speeches include the seeds of self-determination. The need to support autonomy, competence and relatedness can be found in her foundational writings. She describes the type of activity which a teacher must encourage:

> “This work cannot be arbitrarily offered, and it is precisely here that our method enters; it must be work which the human being instinctively desires to do, work towards which the latent tendencies of life naturally turn, or towards which the individual step by step ascends” (Montessori, 1964 reprint of original 1912 work, p. 351)

This quote illustrates Dr. Montessori’s understanding that students tasked with the creation of their own intellect on their own terms will naturally work towards mastery which increases a student’s feelings of competence. “The environment is certainly secondary in the phenomena of life. It can modify, as it can assist or destroy, but it can never create. The source of growth lies within” (Montessori, 1967 reprint of 1936 original, p. 61). She understood the root of intrinsic motivation. The supports for autonomy and competence included in Montessori foundational literature have been studied by empirical quantitative research contained in the review. The findings suggest that these practices lead to increased student achievement (Dohrmann, 2007; Hanson, 2009; Hobbs, 2009; McCladdie, 2006; Peng, 2009).

Dr. Montessori’s work also included method and philosophy to support relatedness. She reminds teachers that the best technique to teach kindness is to be the example of kindness (Montessori, 1964 reprint of 1914 original). To her, the spiritual embryo of peace was the child himself. Just as she believed children had an innate curiosity which fueled the desire to create their intellect, she believed that within every child was the innate desire to be part of the greater community of man (Montessori, 1972 reprint of 1949 original). She believed that teachers taught peace by modeling kindness, acceptance of error, and recovery from mistakes. As children learned by example and facilitation to notice their effect on the environment and on others, they learned to make

amends and positively impact their community first in the classroom, then in the school, and hopefully the world.

Her work on adolescent development includes these methods and practices which are tailored to meet the needs of young adults.

> "In both the psychoanalytic and the Montessori approach, the relation of observer-participant and participant should be on of alliance based on mutual respect and confidence. The observer-participant should be carefully trained. He should be interested in the phenomena he is observing and understand them" (Montessori, Mario Jr. 1976, p.7)

The ideas in this quote are echoed in recommendations in both *Turning Points* published by the Carnegie Council (1989) and *This We Believe* published by National Middle School Association (National Middle Level Education (NMLE)) (2003) are striking. During this stage of development, the adolescent struggles with his place and ability to support himself (Erikson, 1993 reprinted from 1950 original). Dr. Montessori's erdkinder (translation—earth child) allowed adolescents a learning environment designed to meet this need. The original erdkinder was conceived as a farm where young adults could interact with nature. Students would help in the creation of a working farm which would sustain the school community (Montessori, 1973 reprinted from 1948 original). Management of the day-to-day operations and business would be facilitated by adults but run in a meaningful way by the students.

As evidenced by the previous section of the literature review, Montessori learning environments are intentionally created to support the development of the whole child. Evidence from quantitative studies suggests a positive correlation between autonomy and competence supportive methods in Montessori elementary schools and increased student achievement. The study examines several gaps in Montessori literature.—adolescents in

Montessori middle schools, the effect of relatedness supportive practices in these environments and the voice of students captured through qualitative measures.

Theoretical Frameworks

Self-determination. Dr. Montessori's writing about her method and the erdkinder include practices and structures which support the intellectual, psychological, and emotional development of children. The practice of allowing students to choose work and work towards mastery on a concept are supports for autonomy and competence respectively. The inclusion of peace education and development of the teacher as a caring individual are supports for relatedness. Self-determination theory (SDT) posits that humans align themselves and seek out situations which will enable them to meet three universal needs. Autonomy is the need for humans to be the locus of control for their actions. Competence is the need to show and demonstrate capacity in all dimensions of personality including intellectual, psychological, and emotional. Relatedness is the human need for connection to other caring humans (Deci & Ryan, 2002).

Further, humans naturally strive to meet these basic needs. People search for activities and environments, which will support growth in autonomy, competence, and relatedness. When an environment supports these constructs, intrinsic motivation, well-being, and a unified sense of self are created (Ryan & Deci, 2002). Examination of educational settings through the lens of SDT has shown that teachers and administrators can encourage the development of these constructs. Students in settings where these

basic needs are not supported are less engaged and less motivated to achieve (Niemic & Ryan, 2009). In the following sections, each construct will be discussed in depth.

Autonomy. Autonomy is met when the individual is the locus of control for his or her actions. The locus of control determines the level of motivation from amotivation to intrinsic. Individuals can act through external pressure or extrinsic rewards. The locus of control in these situations is outside of the individual. Performance in these situations tends to be short-lived. Conversely, as the locus of control is internalized, long-lasting performance, competence, and the drive to continue towards mastery is increased. In addition, a person can be extrinsically motivated if the autonomy and values are supported by the actions (Deci & Ryan, 2000). The construct of autonomy support has been studied by several researchers internationally. Parent-autonomy support (PAS) as well as Teacher-autonomy support (TAS) has been linked to academic achievement (Chirkov, 2009; Chirkov & Ryan, 2001; Niemic, et al, 2006; Shi, 2008; Soenens and Vansteenkiste, 2005) and well-being (Roeser & Eccles, 1998; Sheldon & Omolie, 2009; Vansteenkiste, Ryan & Deci, 2008). PAS was measured as the feeling that students felt their parents involved them in decisions which impacted their lives. TAS was measured in a similar way. TAS was measured by student feelings that they had meaningful input into decisions which impacted their education.

Autonomy support can be found in both the work of Dr. Montessori as well as the recommendations of the Carnegie Council and the NMSA. Dr. Montessori speaks of choice and challenges teachers to allow students to choose work. In this way, the teacher encourages students to build their own intellect. "Thus here again liberty, the sole meaning will lead to the maximum development of character, in intelligence, and

sentiment; and will give to us, the educators, peace and the possibility of contemplating the miracle of growth" (Montessori, 1917, p. 6). In *This We Believe,* the NMSA suggests "multiple learning and teaching approaches that respond to their diversity" (NMSA, 2003, p.7). Using multiple learning approaches allows student to choose how and with what modality they can construct their knowledge and demonstrate understanding.

Competence. The need for competence is supported by structures and practices which allow people to demonstrate their abilities. People who perceive themselves as competent are confident in their abilities to surmount obstacles and challenges. They feel capable, challenge themselves, and are motivated to acquire and practice skills needed to reach their goals (Ryan & Deci, 2000). Competence has been studied internationally. Results of these studies suggest a link to perceived competence and student achievement (Jang, et al., 2009; Miserandino, 1996). One study also linked competence to feelings of well-being (Sheldon, et al., 2009).

The subjects of the aforementioned studies were adolescents. The results echo Dr. Montessori's recommendation that teachers must support students in their quest for skill attainment. Her instruction to provide materials for auto-education and her observation that children thrive in environments where they are allowed to work without interruption to mastery instilled in students that they had the power to create their own meaning and intellect (Montessori, 1917). While her early work describes this process for pre-school aged children, she included these same recommendations for the middle school program. The NMSA's call for a culture which includes "students and teachers engaged in active learning" (NMSA, 2003, p. 15) includes students creating meaning

through teaching, peer tutoring and active engagement in school governance. These practices foster a sense of ability and capability to affect one's school setting.

Relatedness. The need for connection to others is supported through practices and structures which foster caring relationships (Deci & Ryan, 2000). A hallmark of adolescent development is the creation of deep connections between peers. This is a time when students define themselves not only through their academic but their social successes (Elkind, 1994). Relatedness is experienced as a feeling of being safe within individual relationships and community relationships. Perceived relatedness in adolescents has been show to encourage well-being and academic achievement (Jang, et al., 2009). In addition, students who expressed satisfaction of the need for relatedness were more likely to connect with their school culture (Niemic & Ryan, 2009).

A link to increased relatedness and student achievement, collegiality and leadership can be drawn from trust literature. Trust is defined as the feeling one has of safety and the willingness to be vulnerable (Hurley, 2006). The trustor believes that the trustee has his/her best interests at heart (Bryk & Schneider, 2003; Hurley, 2006). High-trust schools foster trust between all stakeholders including principals, teachers, staff, parents and students. These relationships are fostered by several factors that lead to trust. These include characteristics of the trustor, the trustee and the situation. Some factors which determine whether a trustor will invest trust in a trustee include risk tolerance of trustor, reliability of trustee, and the risk level of the situation (Hurley, 2006).

Relational trust is a change agent which leads to increased collegiality (Daly, 2009; Daly & Chrispeels, 2008; Wahlstrom & Seashore-Louis, 2008) and student achievement (Dee, 2004; Goddard, et al., 2001; Goddard, et al., 2009, Musial, 1986;

Roessingh, 2006; Sahlberg, 2007; Wentzel, 1991). This construct was also linked to competence (Wentzel, 1991). Faculty trust of students and feelings that students could be trusted led to increased teacher feelings that students were competent. The feelings that students were more competent were positively correlated to student achievement (Van Maele and Van Houtte, 2009; Van Maele and VanHoutte, 2010).

Dr. Montessori believed that children had both innate curiosity and goodness. She believed that a student, provided with examples of goodwill and direction towards understanding, was the world's only hope for peace. Teachers were to notice when children became aware of the reactions of peers to their behavior and actions and to provide examples of kindness and understanding (Montessori, 1972 reprint of 1949 original). Within this environment of understanding and caring, the spiritual embryo of man was brought into peaceful existence. Supports for relatedness including an advocate for every student, a caring and safe environment, and cultivation of relationships are included in the Carnegie Council (1989) and NMLE (2003) documents. As the adolescent learns her/his place in the greater community, she/he learns the skills needed in order to positively impact her/his environment.

The theme of the importance of fostering relational trust (relatedness) is also echoed in several articles written by Montessorians. Creating community is the cornerstone of creating an authentic Montessori school (Gillespie, 1994; Rule and Kyle, 2009). Several articles point towards building community—relational trust amongst students, relational trust amongst faculty and relational trust amongst all stakeholders as a hallmark of a the erdkinder (Coe, 1988; Coe, 1996; Enright, 2008). The articles included in this section illustrate the fact that Montessorians have incorporated Dr. Montessori's

recommendations for relatedness support. The importance for the study is the lack of research in the area of relatedness support within Montessori learning communities and their effect on the lived experiences of the adolescent.

Motivation. The study of motivation was the seed from which the macro-theory of SDT was developed. SDT states that humans have innate, universal needs for autonomy, competence, and relatedness. When these basic needs are met, people are motivated to challenge themselves, their sense of well-being increases, and they develop a wholly integrated sense of self. The type of motivation an individual feels is determined by locus of control. The more the locus of control is integrated into a person's character, the more intrinsically motivated he/she becomes. When a person has fully integrated the locus of control, he is intrinsically motivated, literally moved to action from within (Deci and Ryan, 1985). Self-determined motivation can be intrinsic (for pleasure or for the fulfillment of basic needs) or extrinsic (motivated to act from an externally located source but integrated into self through an alignment with beliefs) (Deci and Ryan, 2000).

Extrinsic rewards defined as those given by an outside regulator have also been shown to decrease intrinsic motivation (Deci, 1975). Extrinsic rewards have a short-term positive effect and increase performance. As students become used to an extrinsic reward system, the rewards become less significant. The student will either stop responding to extrinsic rewards or demand more rewards (Ryan & Deci, 2000). Findings of a meta-analysis confirmed the link between autonomy supportive extrinsic rewards and an increase in intrinsic motivation. Verbal rewards in the form positive feedback given in an

autonomous supportive style were the only type of extrinsic reward which caused an increase in intrinsic motivation (Deci, Koestner & Ryan, 2007).

Intrinsic Motivation. People are said to be intrinsically motivated when their reason for action is located within themselves. Action is derived from pleasure or the fulfillment of basic needs. No external rewards or regulations need to be applied in order for action or goal persistence (Deci & Ryan, 2000a; Ryan & Deci, 2000; Ryan and Dec, 2002). From an educational standpoint, a student who spends hours reading about and creating presentations about dinosaurs because she is fascinated by them, feels empowered by her knowledge, and enjoys sharing her knowledge is intrinsically motivated.

Extrinsic Motivation. Extrinsic motivation is regulated by sources outside of the individual. Cognitive Evaluation Theory (CET), a sub-theory of SDT posits that while motivation can come from external regulation, individuals can act in a self-determined way if they have integrated the reason for action into alignment with personal beliefs. CET defines four distinct regulation processes of extrinsic motivation: *external, introjected, identified and integrated* (Deci & Ryan, 2000). External and introjected regulation are controlled and less self-determined. Identified and integrated regulation are autonomous and more self-determined. Integrated regulation is considered the most self-determined and is considered to be autonomous motivation (Deci, et al., 1991). In an educational setting, a student may not have a passion for calculus and may find it difficult to master. The student may, however, be passionate about becoming a doctor. Because the student has an intrinsic motivation towards a career in medicine, she has integrated the value of studying a subject for which she has no inherent like. She will study calculus

because she values the skills she will obtain which will lead to entrance into medical school.

Amotivation. Amotivation occurs when an individual is literally not moved to act. A student can choose inaction or passive action which is exemplified by low effort or low engagement. A subset of amotivated students is the *reluctant learner*. These are students who show aptitude through standardized test scores but who have consistently low grade-point averages (GPA) (Daniels & Arapostathis, 2005). Students who are amotivated report feeling a lack of autonomy, competence (inability to show their talents in their preferred way), and relatedness (Daniels, 2011; Daniels & Arapostathis, 2005, Deci, 1975; Ryan, 1995).

Autonomy support linked to motivation. Autonomous motivation through identified or integrated regulation processes is considered self-determined. The individual, although extrinsically motivated, has determined that actions taken align with their sense of self or goals (Deci, et al., 1991). Research suggests that autonomous academic motivation mediates the relationship between academic self-concept and academic achievement (Guay, et al., 2010). Students who identified or integrated their motives for academic effort felt more academically competent which led to increased academic achievement. Support of the SDT construct of autonomy and competence has been linked to increased autonomous motivation. Autonomy support has been linked to persistence and feelings of academic competence (Arnone, Reynolds & Marshall, 2009; Miserandino, 1996; Vansteenkiste, 2004). Students who reported strong social skills and perceived social competence also reported mastery goal orientation. Further, students in classrooms where relatedness was supported through the fostering of social and

emotional needs had increased academic achievement (Wentzel, 1999). Relatedness was also connected to a transformation from extrinsic motivation to intrinsic motivation. Students who entered a program for adolescents reported a transformation from extrinsic motivation to intrinsic motivation as a result of internalizing connections and importance of the program (Dawes & Larson, 2011).

Supports for SDT also enhance goal framing. Goal framing can be intrinsic or extrinsic (Deci & Ryan, 2000). Intrinsically framed goals are one's that flow from intrinsic motivation and are pleasurable or fulfill a basic need. Extrinsically framed goals flow from external regulation and control. An adolescent's desire to get and maintain a job can be either intrinsically framed—desire to make money for personal expenditures or extrinsically framed—pressure from a parent to make money to help with household expenses. In an educational setting, a student could study and work towards an A in an economics class because he enjoys the study or the content (intrinsically framed goal) or because it is a graduation requirement (extrinsically framed goal). The way in which the academic goal in the example is framed dramatically effects the type of learning that occurs. The student who is pressured to take the economics class will study and retain the information necessary for a short time and will focus on rote learning. The student who loves economics will retain the knowledge and have a deeper conceptual understanding because of his inherent interest in the subject (Vansteenkiste, Lens & Deci, 2006). Further, teachers can encourage intrinsic goal forming through autonomy and competence supportive practices (Ryan & Shim, 2008)

The previous section on Montessori education includes Dr. Montessori's recommendations for strategies which support autonomy, competence and relatedness.

These strategies are considered foundational to the Montessori Method and are part of the intentionally created erdkinder. The study examined these supports through student perceptions in order to determine the influence, if any, of enrollment in a Montessori middle school on adolescent self-determination development.

Student voice. Rooted in self-determination, critical, and grounded theories, student voice creates an intimate portrait of the lived experience of the most important stakeholders in education. The call to action by researchers in the field is to give students the opportunity to work alongside, researchers, educational leaders, and policy makers. Rather than be the objects acted upon by the system, students are empowered to shape and determine their own destinies within it. Student voice is SDT personalized.

Research in the field includes reform, links to critical theory, and links to intrinsic motivation. The use of qualitative methods in this area captures the lived experience of those most affected by educational policies and practices. Inclusion of this framework in the study gives voice to the adolescent in a Montessori middle school in a way that examination of achievement data and surveys cannot.

As with other theoretical frameworks, there are both advantages and disadvantages to the use of student voice. Student voice is a lens through which researchers have been able to view the effectiveness of reforms (Fielding, 2001; Kruse, 2000), the reasons for disengagement (Daniels and Arapostathis, 2005; Kroger, et al., 2004), and youth development (Mitra, 2004). The difficulties lie in proclaiming that the voices captured are representative and generalizable to the general population of adolescents, deletion of key components of transcripts based on researcher lens, silencing

of those who do not or will not speak, and reinforcement of current power dynamics (Cook-Sather, 2006; Fielding, 2004).

Critical theory within student voice framework. Critical theory within student voice has several contexts which include social (child development), legal (civil rights of children), and constructivism (there is no single truth) (Lincoln, 1995). Critical theorists are trained to question the status quo. In the case of student voice, this is the exclusion of the most important stakeholders in the creation of policies and reform (Cook-Sather, 2002). As the previous section on SDT confirms, the need for autonomy is a basic need. So far, the need for autonomy in the school setting has been seriously challenged by the exclusion of student voice in policy discussions. Critical theorists who use student voice recognize the importance of talking with rather than for students (Cook-Sather, 2006; Fielding, 2001; Fielding, 2004; Kruse, 2000; Robinson & Taylor, 2007).

Self-determination theory and student voice framework. SDT researchers have used extant data, achievement data, survey results, and experimental practices to highlight the importance of autonomy, competence, and relatedness to adolescent development and achievement. Student voice is more concerned with illuminating the lived experience of students. What students say and do becomes data which researchers can analyze to gather themes related to development and the effect that construct supportive practices has on their feeling of well-being. The findings from student interviews corroborate the data gathered from quantitative methods. Autonomy, competence, and relatedness are constructs which adolescents crave. Youth in several studies report that when teachers create learning environments where autonomy and competence (Kroger, et al., 2004; Mitra, 2004) or relatedness (Daniels, 2011; Daniels &

Arapostathis, 2005; Kroger, et al., 2004) are supported, they feel more motivated to complete work and tasks that they would not otherwise intrinsically be motivated to complete.

Student voice is a framework which addresses gaps in Montessori education literature. As noted previously, the significance of the study lies in its exploration of how study adolescents experience life in Montessori middle schools, the effect of relatedness support in Montessori learning environments, and the use of qualitative methods to study the effect of this intentionally created environment on its students. This study seeks to give voice to adolescents as a way to examine their lived experiences and illuminate the effect of SDT supports as described by Dr. Montessori.

Bricolage. In many research traditions, theoretical frameworks determine a narrow band of research methodologies. Bricolage as conceived by Kincheloe (2005) is grounded theory in its purest form. Bricoleurs use cross-discipline frameworks and methodologies in order to examine phenomena. For bricoleurs, all research is grounded in the moment. Where other researchers methodically plan their approach, bricoleurs allow theoretical frameworks and methodologies to evolve as the study evolves.

Summary of theoretical framework review. This section of the review details the framework and the relation to the methodologies for this study. The research questions are embedded across several frameworks which interact and intersect. The overarching question: What influence, if any, does attending a Montessori middle school learning environment have on an adolescent's development of self-determination? is framed within the SDT constructs of autonomy, competence, and relatedness. Supports for these constructs are contained in Dr. Montessori's original work (1917) as well as the

work of Coe (1986) the innovator of Montessori middle school. This intentionally created community includes practices and structures to support the development of the adolescent. The guiding questions frame the study as an exploration of the lived experience of students in this learning environment.

Student voice embedded within critical and grounded theories informs the methodology of the study. The choice of qualitative measures will allow a thicker description of the lived experiences of subjects (Cook-Sather, 2006; Fielding, 2004; Robinson & Taylor, 2007) . Capturing the thoughts and feelings of the stakeholders most affected by this intentionally created learning environment frames the study within critical theory. The voices of adolescents can be used as an examination of Montessori middle school as well as lend support for SDT supports for adolescents. This critical look could lead to implications for more generalized educational practices. The study does not intend to document assumed findings but will be grounded in the words and actions of subjects. The intent of the study is to document and analyze narratives to find themes that describe how adolescents experience Montessori middle school.

The following chapter will describe the methods for the study. This mixed methods approach will begin with an examination of student perceptions through quantitative methods. The lenses of SDT and student voice are the major theoretical frameworks for this study. In the first part of the study, SDT will be studied by the administration of a survey which is designed to measure feelings of autonomy, competence, and relatedness. Cluster analysis will identify possible subjects based on demographic data and levels of self-determination. Subjects identified through quantitative measure will be interviewed and observed through the lens of student voice.

Their collective and individual voices will be examined for themes which may point to an effect of the SDT supports incorporated into the Montessori middle school on the students' lived experiences. SDT will also be used to identify ways in which the learning environment studies can be improved and brought into alignment with Dr. Montessori's original vision.

CHAPTER THREE: METHODOLOGY

In the first chapter of this proposal, the need for qualitative research in Montessori middle schools was identified. The addition of student voice to existing quantitative research studies was as a way in which to study the lived experiences of adolescents in these intentionally created learning environments. The SDT lens was a way in which to examine how autonomy, competence and relatedness supports documented in Dr. Montessori's original writings could explain the success of Montessori schools. The second chapter examines the literature relevant to the study beginning with a look at Montessori education with a focus on autonomy, competence and relatedness supports. The literature review continued with a look at the theoretical frameworks which will define the study. Self-determination was identified as the main theory while student voice was identified as a secondary theory. This chapter will detail how the theoretical frameworks will be applied in order to analyze the student voice of adolescents in an intentionally created Montessori middle school.

Purpose of the Study and Research Questions

The study captured the lived experiences of adolescents in an intentionally designed middle school program in order to document the influence, if any; enrollment in a Montessori middle school has on development of self-determination. Dr. Montessori's original writings include structures and strategies which were included in order to create a learning environment which supports the growth of the whole child. This two-phased, explanatory sequential, mixed methods study used data from quantitative methods to intentionally sample students with varying degrees of basic needs satisfaction and will

continue with interviews and observations of selected students in order to capture their lived experiences through student voice and observation. Emphasis is placed heavily on the second, qualitative phase, a textual analysis of words and actions which will document students' lived experiences over a six-month period of time as they acclimate to the Montessori middle school.

The study was bound by the following guiding questions:

1) What influence, if any, does attending a Montessori middle school learning environment have on an adolescent's development of self-determination?

In order to capture these experiences, these secondary questions were explored:

1) What do adolescents say which indicates the influence of attending a Montessori middle school learning environment on their development of self-determination?

In the following sections, the use of quantitative data to intentionally sample for the qualitative phase will be described. Citations from the articles included in the literature review will support the methods of both phases.

Design of the Study

This study employed a two-phased mixed methodology which includes a phase one participant-selection variant of an explanatory sequential design. The use of this methodology is appropriate for the study because it allowed for the purposeful selection of participants for the second qualitative phase. Purposeful selection ensured that the finished analysis of narrative will contain a representative sampling of the students' voices at the research site. The research questions as well as the student voice framework point towards the use and emphasis on the qualitative methods phase. The use of

quantitative data for participant selection allows for the deeper study of subjects who exhibit varying levels of self-determination (Creswell & Plano-Clark, 2007).

The purpose of the first phase of the study is to identify the levels of satisfaction of basic needs that adolescents feel. At the end of this phase, groups of participants which report varying levels of satisfaction will be determined. Students will be invited to participate in the second narrative inquiry phase based on their identification within each identified group. Employing the participant selection variation of the explanatory sequential design will ensure that an even sampling between groups of varying self-determination will be included in the qualitative phase. Inclusion of two from each level will allow for a more robust picture of each level. Their lived experience over a six month period will be collected through interviews and observations using narrative inquiry methods. The time period allows for variations in feelings based on time of year, distractions based on school events and absences.

While SDT and its relation to student achievement, outcomes, and influence on goal orientation have been extensively studied using quantitative methods (Deci & Ryan, 200b; Field, Hoffman & Posch,1997; Shih, 2008) some studies within the field use qualitative measures. Narrative inquiry in the form of life stories was used to gauge basic needs satisfaction (Bauer & McAdams, 2000). This framework was also used to study the effect of autonomy support on adolescent motivation to engage in a youth program (Dawes & Larson, 2011). Both studies imply that narrative inquiry could be used to further the understanding of SDT constructs.

Analysis of qualitative data was conducted through both narrative analysis and analysis of narrative methods. In the first part of qualitative analyses, *narrative analysis*

of each subject's interviews was examined for themes. In-vivo coding will identified phrases and words that pointed towards themes that were generalizable to the sample. This phase differs from the *analysis of narrative* phase in that findings were gleaned from one narrative. During the *analysis of narrative* phase, phrases and words were identified across narratives which gave a general set of themes for the entire sample. These methods are further discussed in the method section of this chapter. Figure 3-1 is a process flow-chart of the methodology employed in each phase, associated procedures and/or theoretical frameworks.

Methodology Design Diagram

Figure 3.1 Methodology Design Process including phases, associated theoretical frameworks and associated processes. This diagram illustrates the participant-selection variant of the sequential explanatory design (Creswell & Plano-Clark, 2011)

Context

Research Site

In order to explore the research questions, the study was conducted at the school site of a large independent study charter in Southwest Riverside County. The charter is the largest independent study charter school in California with over 5,000 students enrolled in a variety programs. The study focused on a small subset of the student population, namely students enrolled in the Montessori Junior High (MJH) which serves 7th and 8th grade students. Students are on campus five days of the week from 8:30am to 3:30pm.

MJH is in its third year of implementation and currently serves 92 students. The three MJH teachers have self-contained classrooms and share the duties of planning the core subject areas.

Operations

The model for MJH comes from the training and program designed by Coe (1988) based on the writings of Dr. Montessori on adolescent development and the *erdkinder.* The focus is on development of the whole child with particular attention to the specific needs of the adolescent. While classes are considered self-contained, MJH students are afforded the opportunity to work with all teachers and all students throughout this year. This is accomplished through the yearly integrated thematic *cycles*. At the beginning of each cycle, students are randomly assigned to a teacher. During each cycle, students must complete group and individual work. Group work is designed to encourage leadership and problem solving skills. Individual work is designed to encourage mastery of concepts. Grades are assigned for work based on the RSCS grading scale; however, MJH

is a mastery based academy. Students take tests or re-take test to a passing score of 80% or better. This encourages competence. Students may choose when they complete work with the limitation that all work has a deadline. This practice and structure supports autonomy.

All of the teachers were sent to the Houston Montessori Center to receive training from the originator and designer of the Montessori middle school learning environment, Dr. Betsy Coe. While the program has not undergone certification by the American Montessori Society's (AMS) advisory committee, Montessori Accreditation of Teacher Education (MACTE), Dr. Coe supervised and evaluated the implementation of the program and its authenticity to Montessori methods and practices. She oversaw the training of the teachers and visited MJH on two occasions to evaluate implementation of the philosophy and methodology at the site. Her overall comments were positive.

Participants

MJH students enter the program from various school contexts. Some students come from the kindergarten through sixth grade Montessori School (MS). MS is an on-site instruction and homeschool hybrid. Students are on-site for three days and are homeschooled for two days. MS's unique design gives students the opportunity to have school experiences in a Montessori learning environment as well as a homeschool experience. The Lake Charter School (LCS) is a large independent study charter school. Most of students attending LCS are homeschooled. Academies serve parents who want some on-site classes and homeschool days.

Students who matriculate to MJH from MS have at least one year of Montessori education. This year will mark the first year that a small group of students have benefited

from seven years in MS. Other students come from various programs throughout the independent study charter including classical education and traditional homeschool programs. About a third this year's seventh grade class will come from a local site-based charter school which is a project-based, science and art charter school. The site-based charter has not been allowed to expand beyond their original kindergarten through sixth grade model by their chartering district. Sycamore's geographic proximity to the Murrieta Student Center has drawn families to MJH.

Methods

Phase 1—Purposeful Participant Selection through Quantitative Analysis

Participant selection. The study was submitted to the Institutional Review Board (IRB) at California State University, San Marcos (CSUSM). After IRB approval, a consent form was sent home to 7th grade MJH students. This form requested permission for students to complete a survey and, if selected based on the quantitative data, be invited to participate in the interview and observation phase of the study. Only students with consent forms were invited to complete the survey.

Quantitative data collection. 7th grade students returned a consent form completed a modified version of the Basic Needs Satisfaction Work Scale (BSNW-S) which is a modified version of the Basic Psychological Needs Scale (BPNS). The scale modified questions in order to determine feelings of autonomy, competence, and relatedness in a school context. Work terms were modified to reflect an educational setting. The BPNS and related scales were obtained from the Self-determination Theory page of the University of Rochester (University of Rochester, 2008). The BPNS was used in an educational setting to determine feeling of autonomy, competence and

relatedness in university students (Brokelman, 2009; Gillison, Standage & Skevington, 2008). A modified version of the BSNW-S was to measure SDT constructs in adolescents based on the work of researchers in the United Kingdom who successfully used a modified school with adolescents transitioning to high school (Gillison, Standage & Skevington, 2008). In addition, a pilot of this scale was administered to fifth through eighth grade students in three schools. Student answers fell within the suggested norms in the scale documentation.

The BSNW-S for adolescents was obtained from Gillison who modified questions from the BSNW-S to include educational setting terminology. For example, "When I'm at work, I have to do what I'm told" was changed to "When I'm at school, I have to do what I'm told". Students will answer the survey on a 7-point Likert scale from "not true at all" (1) to "very true" (7) (Gillison, Standage & Skevington, 2008). In addition, cognitive labs were conducted with students of the same age but not in the sample group. Students were asked if they understood the questions on the scale. Students indicated that they understood the vocabulary and did not need further explanation of terms.

Quantitative data analysis. Data from the surveys was coded and entered into SPSS v.20. Descriptive analysis was conducted to identify groups of students based on their perceived overall feelings of autonomy, competence, and relatedness as well as their experience in Montessori education. Samples from groups of students with below the expected median, at the expected median, and above the expected median perceived self-determination were invited to participate in the second phase of the study. Only students who submitted consent participated in phase two with a sample of two each selected from below the expected median, at the expected median, and above the expected median

perceived self-determination. Employing this strategy for participant selection ensured even sampling across the levels of self-determination.

Phase 2—Narrative Inquiry

Narrative Inquiry. Narrative inquiry is the vehicle by which the lived experiences of the adolescent will be captured. Interviews and observations of participants will give a rich description of how students experience the intentionally created Montessori middle school learning environment. Narrative inquiry encompasses a broad set of qualitative methods which are used in order to narrate "to tell" a story (Clandinin & Connelly, 2000). Narrative inquiry is the most appropriate means by which to meet the purpose of the study. Studies which follow the stories of individuals over time are well suited to this type of research design because they allow for factors which could affect qualitative data collection including individual mood of student on a given day, distractions or stress caused by the school environment or absences (Creswell, 2008). This study with its focus on telling the story of adolescents in their own words as they acclimate to a Montessori middle school fits well within this design.

Further, narrative inquirers are challenged to observe and collect data while negotiating relationships with subjects. The extended period of focus and contact with subjects calls for the narrative inquirer to be objective and engaged, to become the listener while the subject becomes the narrator (Chase, 2005; Clandinin & Connelly, 2000). The stories narrated by adolescents in this study will illuminate their lived experience. The words of each student were used to identify themes, determine attitudes, and create a one voice narrative over all experiences. In this manner, the research questions were explored and illuminated.

Qualitative participant selection and data collection. As mentioned in the quantitative analysis, cluster analysis will be used to separate participants into groups of varying self-determination. Based on analyses, two students from each group will be included in the qualitative phase of the study. Participants will be interviewed and observed over a six-month period. The length of time of the study will ensure a full picture of the each student's lived experience and will hopefully mitigate any factors which could affect student responses such as emotions, distractions, or stressors. The interviews will be conducted during independent work time or Personal World as agreed upon by teachers in order to minimalize the impact of decreased instructional minutes. Independent work time occurs at the beginning of the day and is a time dedicated to individual work assigned by teachers and chosen by students. Personal World is a twenty minute period of time which occurs immediately following recess and lunch. It is a time designed to allow students to relax and calm themselves in order to prepare for the afternoon work period. Because both times include student choice, these times were appropriate times for interviews. Interviews were conducted throughout the day by the lead investigator who is also the director of the MJH. Each interview took between 15 to 30 minutes. The protocol and interview questions are included in Appendix C.

The interview protocol and questions were intentionally sparse in order to allow for the conceptual transformation of interviewer and interviewee to narrator and listener (Chase, 2005). The questions were designed to be specific as well as open-ended. Close attention was paid to verbiage and word choice in order to avoid questions that could imply specific answers. Pilot interviews were conducted to gauge whether or not the questions were understandable to seventh and eighth grade students as well as if answers

collected reflected the type of response data which would address the research questions. Student responses indicated that not only did students understand the questions but that these questions were valid in collecting data that addressd the research questions.

Narrative Analysis. After each interview, the text of the interview was transcribed and examined. This phase of analysis took what students actually said in order to create a unique narrative. In vivo coding was employed as a technique to identify themes from repeated words, phrase or actions. Coding was used on both transcripts and cross-referenced with audio files in an effort to preserve as much of the student's voice as possible. This analysis, while time-consuming, was instrumental in creating a rich narrative.

Interpretation of Qualitative and Quantitative Results

Analysis of narratives. The second phase of qualitative analysis was conducted after all interviews and observations had occurred. The purpose of this phase of the study was to weave themes contained within the narratives of the individual students into a cohesive voice in order to represent the lived experiences of adolescents in an intentionally created Montessori middle school.

Narrative analysis of each student sample was used to identify common words and phrases repeated throughout the sample population. The in vivo coding used in to identify themes on each narrative were applied to the narratives of the entire sample. Both audio files and transcripts were examined to ensure accuracy and allow nuances of voice pattern to be captured. In vivo coding honors students voice because it uses exact

words and phrases used by participants. Its use in this methodology helped to create the most authentic voice of the student sample.

Limitations

Generalizability. As noted in chapters one and two, the gap in the literature on Montessori methodology is three-fold. This study is the beginning of closing this gap in the study of Montessori education. The student population, research methodology and use of SDT lens are all novel ways through which to study a method and philosophy which is known for its academic results and its focus on the creation of environments which support the development of the whole child. The sample size and the scope of this study limit the generalizability to all adolescents as well as all adolescents in Montessori middle schools.

The methodology also limits the generalizability of the findings. Narrative inquiry, however, does not seek to generalize findings. Rather, the purpose of narrative inquiry is to capture stories of individuals or groups. The themes identified throughout the narratives could suggest further reforms or backing for the strategies and practices which support the development of autonomy, competence and relatedness in Montessori learning environments.

Positionality. Positionality is also a limitation of this study. Access to the target population will be gained based on researcher positionality. As director, of the program site, the researcher's position within the school could be seen as a hindrance to objectivity and perhaps access to students' true feelings during interviews. In spite of this limitation, however, the advantages of experiencing the nuances of voice along with facial expressions add depth to qualitative data which cannot be captured through

transcripts and audio files alone outweigh the potential disadvantage. The case could be made that the researcher's positionality could be a hindrance to the collection of the fullest picture of a student's experience. Pressure to answer in a favorable way or in way that will please the researcher could impact student responses; however, this is mitigated by the relationship of trust which is created between all adults, including the researcher who works with the children in the Montessori middle school. This was corroborated by pilot interviews which included both positive and negative views of the program. The interview protocol for these pilots emphasized the benefit of honest answers as a way in which to help the researcher continue the development of the program. The pilot interviewees' inclusion of negative feedback and their ease during the interviews indicated that they felt their answers would be used to help future students as the protocol stated. These interviews also strengthen the argument that the advantages of the researcher's firsthand experience capturing the facial expressions and body language of the students outweigh the risks of positionality of the researcher at the research site.

CHAPTER FOUR: RESULTS

The study identified, collected, and analyzed the lived experiences of six seventh-grade students during a six-month period of time. Students were interviewed separately three times during a seven month period. Using self-determination as the theoretical framework, the researcher used narrative analysis and analysis of narrative to give voice to students in their first year of Montessori middle school. The question that guided this study was:

In what ways, if any, does attending a Montessori middle school learning environment influence an adolescent's development of self-determination?

In order to capture these experiences, these secondary questions were explored:

What do adolescents say which indicates the influence of attending a Montessori middle school learning environment on their development of self-determination?

What do adolescents do which indicates the influence of attending a Montessori middle school learning environment on their development of self-determination?

In the first quantitative phase, all seventh graders attending MJH were invited to participate in the study. Of the 48 students invited, 18 students returned consent and assent forms. A modified version of the BSNW-S was used to measure SDT constructs in adolescents based on the work of researchers in the United Kingdom who successfully used a modified school with adolescents transitioning to high school (Gillison, Standage & Skevington, 2008).

Quantitative Analysis

Table 4.1 Descriptives

Participant	MeanSDT	Total SDT
G3	3.1	75
G1	3.9	93
M4	4.2	100
G9	4.4	106
G4	4.5	108
G2	5.2	125
G11	5.3	129
G8	5.5	131
M3	5.8	138
G7	5.8	140
G5	6.4	154

Table of Mean SDT and Total SDT used to choose participants for the qualitative phase. Two subjects below the expected median, at the expected median and above the expected median were chosen. When possible, one male and one female were chosen from each band.

Chart 4.1 Mean SDT

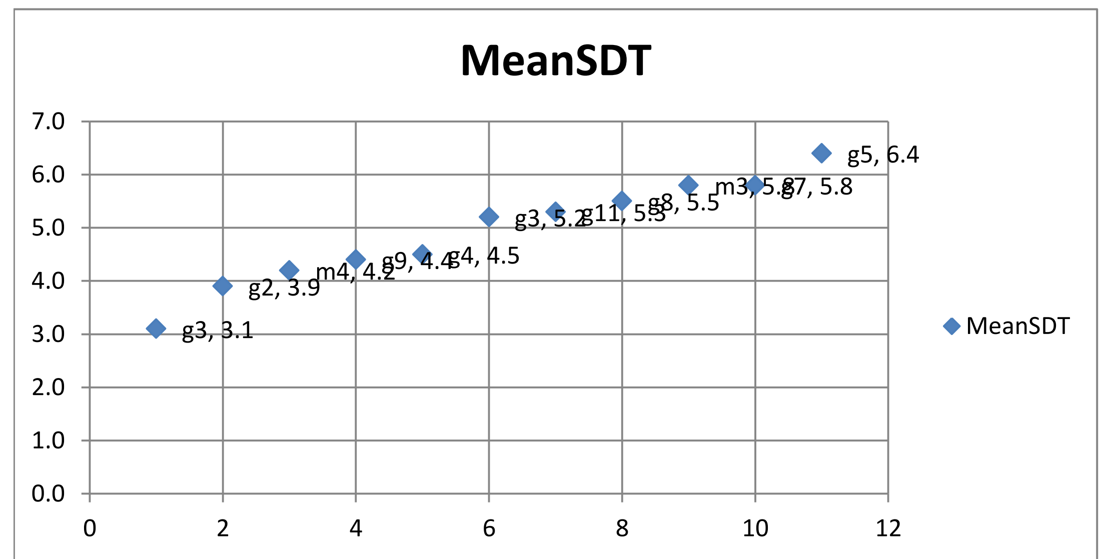

Chart of MeanSDT used to choose participants

Due to the small sample size, descriptive analysis was performed using SPSS v.20. Based on descriptive analysis the mean was calculated and three clusters of students were identified. A mean score of 4.9 showed that students in the sample represented medium to high SDT. This finding will be further discussed in Chapter Five. While the intent of the study was to capture the lived experience of a variety of students from clusters representing student with low, medium, and high SDT, none of the individuals who volunteered to participate fell into the low range. As is essential to qualitative research, the researcher adapted to the results and decided the importance of capturing the voices of these students would still add to the literature existing on the adolescent lived experience and provide insight into practical implications for practice. Three clusters emerged from the analysis of the BSNW-S and the researcher invited two students from each grouping for a total of six participants. All of the original six participants identified by descriptive analysis agreed to participate in the second qualitative phase.

Narrative Analysis Results

The participant group included two males and four females. Each student was given a code corresponding to their gender and the order in which they submitted their consent form. The students chosen were called by their coded names throughout the interview and focus group process. Each participant was interviewed separately at selected times during the school day. Teachers were consulted in order to determine the times of the day that would be least disruptive to student productivity. From this discussion, students were asked to choose between a one hour period in the morning

designated for independent work and a twenty-five minute period after lunch called Personal World. Independent Work time is a time when students can choose work from a list of work assigned for the coming week. This time was deemed appropriate because students are given the opportunity to design their work day. Personal World is a time when students may choose from a variety of activities designed to help them transition from lunch and recess back to class.

The researcher recorded the audio from each interview. Audio recordings were professionally transcribed. Transcriptions were checked for accuracy. In vivo coding was used to develop themes. This process was repeated for each cycle of interviews which occurred in November, February and May. The researcher compiled codes from each participant's interviews in order to gather a narrative of the student's experience. While the intent was to collect the lived experiences of the students throughout their seventh grade year, upon examination of in vivo codes, the researcher noted that their overall feelings of autonomy, competence, and relatedness did not change. The following sections give a summary of student experiences.

Below the Median

G3: Portrait of the Artist. G3 was a friendly white female who laughed or giggled at several points during our interviews. She was eager and happy to be selected for the qualitative phase of this study. While this was her first year of MJH, she had attended the MS program for her sixth grade year.

MJH was the fourth school which G3 had attended throughout her academic career. She started in a traditional public school. At this school, she was bullied and

teased which she attributed to her love of sports. Her parents decided to homeschool her through an online independent study charter school. G3 reported that she missed going to school with other students. In addition, she felt that the online program was disorganized. Because she enjoyed working on her own, her parents sought out a program that had both independent study and on-site class components. MS was a good fit. G3 entered the MS program in sixth grade. She reported that she enjoyed the format which included three on-site class days as well as the two homestudy days. She and her parents chose to continue with MJH because the MS program worked so well for G3. When asked how she felt about MJH, G3 reported that she liked it and that she felt the structure helped her to get her "work done better". When asked to explain, she mentioned that she liked being able to try new strategies on her own to plan her day. She also liked the chart that teachers at MJH use to help students plan out their work week.

She reported that it was helpful to plan in her own planner while the teacher wrote down a sample work plan on the large laminated chart. This was done at the beginning of the day on Mondays. She also liked the "big packet" of work that she received at the beginning of each cycle. She mentioned responding well to these study guides which are color coded by subject and contain all the work expected in Language Arts, Mathematics, Social World (social studies), Natural World (science), Personal World (electives, *7 Habits of Highly Effective Teens*, leadership activities and free choice). G3 mentioned Community Meeting. Community Meeting is a thirty minute period at the beginning of the day which includes group sharing, Brain Gym (exercises that are meant to help students wake up their brains), games and, at times, whole community lessons. She mentioned that she enjoyed hearing what students had to share and that Brain Gym really

helped her focus. She attributed the fact that she felt she knew everybody to sharing during Community Meeting.

The researcher asked G3 to explain difference and similarities between MJH and the last traditional public school she attended. For the purposes of this study, it was more appropriate to ask G3 to compare these two school environments. She mentioned three things that were different between MJH and her traditional public school experience. At the traditional public school, teachers gave students assignments that they had to do. G3 liked the choice of assignments presented to her in her study guides at MJH. She also mentioned that at her old school, "if you didn't finish it, then they just marked you off as zero and you just didn't get credit". When asked how she felt G3 responded "It was really stressful 'cuz if I needed help with something, I couldn't just go to the teacher and get one-on-one help like I can here".

G3 readily answered affirmatively when asked if she had choice and freedom in the work she does at school. When she answered this question, she smiled. She mentioned three ways in which she had choice and freedom at school. She liked the ability she had to choose the work she would do each day. In addition to the choice she had in planning her day, she enjoyed the ability she had to choose between different types of work within a subject area. She mentioned writing several times during interviews two and three. In interview two, G3 said that she like writing and was thinking about writing. "I take the time to write more and write more detail as much as I possibly can". As a result, she chose to do her language arts work first, when given a choice of ways in which to demonstrate knowledge she chose tasks that required writing, she chose to write more for all tasks across curricular areas, and during group work, she chose to write the

text and type for PowerPoint presentations. The third way that G3 said she had choice was in the number of tasks to complete within subject areas. She said that some study guides gave you the choice to choose three out of 10 tasks to complete in order to demonstrate understanding.

G3 felt that people at the school cared about her to varying degrees. She said that she could tell that some students cared for her and some did not care as much. When asked how she knew, G3 reported that there had been times when she tried to join a group or table at lunch or recess and that the group of girls would stop talking or move away. She laughed when she relayed this and that said that it didn't hurt her feelings because she had been told by her parents that you "have to be nice to everybody but you don't have to be friends". She mentioned, again, her bullying experiences at the old school in relation to the fact that at this school everyone could become friends with each other because it was small.

> "At my previous school it was a lot bigger, so it was a lot different, so there was more kids. But this school is a lot smaller so everybody kind of knows everybody. At the last school, I didn't have very much friends so it was kind of different."

When asked about teachers, G3 mentioned four ways in which teachers showed they cared. Teachers offered after-school tutoring, checked on student productivity, helped students who did not finish enough work "get back on track" by creating homework contracts and filling out orange slips, and providing one-on-one help during class.
She felt that after a few cycles of work that she had the skills to do well at MJH. When asked to expand on her feelings she said "Because I try and try until I can do it and I don't really stop trying until I get it right." She also mentioned that she had the ability to

get her work done, however, sometimes she didn't get it done because she had made so many friends that sometimes she did too much talking and not enough work. G3 will continue at MJH for her eighth grade year.

M4: Free to Be You and Me. M4 was a white male. He was soft-spoken throughout the three cycles of interviews. This caused some difficulties because some parts of the audio recording simply could not be transcribed.

Like the other participants, M4 discussed enrollment at MJH with his parents. M4 transferred from MS which he attended for his sixth grade year. He liked the part-time MS school structure because it gave him the opportunity to work on his own. Previous to MS, he attended Margarita Academy (MA) another independent study charter school with a two-day onsite program and three days of homeschool.

When asked if he liked the school, M4's response went from really like to love. He had several reasons for this. In all three interviews, M4 included freedom to wear what he wanted. At the previous independent study charter, M4 had to wear a uniform on his two days of on-site instruction. He mentioned his dislike for uniforms in responses throughout his interviews. He mentioned this dislike as a reason he like MJH, as an example of freedom and choice and as an example of a difference between MJH and his previous independent study charter experience. M4 mentioned four other reasons why he liked MJH. He felt that the teachers "were more understanding of kids" and that the community was safer. In addition he liked that he had the freedom to choose his work. Finally, M4 said "I love how we're free to have and open-mind".

As mentioned in his response to how he felt about MJH, M4 felt that he did have freedom and choice in the work he did at school. Freedom meant that M4 could "express

stuff", "express the way you are", and wear the clothes he wanted. At MA, freedom was inhibited by uniforms.

Choice meant that he could choose the type of work, the order in which work was completed, to do class work at home, to complete work on the weekends, and to re-take tests for a higher grade. This differed from MA because he was assigned work, had to complete work during class, and had to do homework when he did not complete work at school. He told the researcher that he had to leave MA because he could not keep up with the amount of work. M4 felt that the ability to choose affected the quality of his work. He liked to program his schedule and felt that because he liked this system, he completed more work.

M4 felt that people at the school cared for him. Teacher care was expressed in a number of different ways. Like other participants, M4 mentioned that teachers cared by helping students complete work. "Um, well, basically in work, they help you to finish it so you get a better grade." In his third interview, M4 said "I feel that I'm free to do whatever I want. So, like, it makes me happy, so, I kind of show my…like [sic] finish my work". He said that homework and orange slips meant that teachers cared if students achieved their goals. M4 also mentioned test re-takes as another form of caring. To him, the ability to re-take meant that teachers cared if the students had mastered concepts. He explained that during intercession, students could participate in study groups, re-take tests or complete work while other students were able to do fun activities. When asked how he felt about some students doing fun activities while he was in a study group, he said "it's cool because we get a second chance".

Teachers showed they cared about students' opinions. M4 cited two example of this type of caring. At the beginning of the year, teachers facilitated a discussion about how behavior expectations. The result of this discussion was a rule chart with rules that were in the students' own words. Another way teachers showed care about students' opinions occurred shortly after school started. Teachers noticed that the microwaves were not being cleaned. It was also noted by noontime supervisors that some students were heating up objects such as gum wrappers and plastic bags during lunch. At one point, a gum wrapper caught fire. Teachers facilitated a discussion of the problem and the solution. The students agreed to prohibit microwave privileges for the rest of the cycle.

M4 stated as early as the first interview that he had the skills to do well at MJH. He stated in each interview that he was unsure if he could keep up but that by the end of the first cycle he knew he could do it. He also mentioned in his last interview that he had fewer assignments on his orange slips. The fact that he still received orange slips did not trouble him. He appreciated his ability to complete more work. M4 also said that he knew he had the skills to do well because students asked him for help in math. When he spoke about helping other students, M4 smiled broadly. M4 will return to MJH in the fall for his eighth grade year.

At the Median

G2: I walk by faith. G2 was a soft-spoken Hispanic girl with thick-framed black glasses. During the first cycle of interviews, her glasses were unadorned and she wore a solid colored t-shirt and a pair of jeans. The researcher noticed that her clothing and her

glasses changed beginning with the second cycle of interviews in February. G2 began to decorate her glasses and wear t-shirts with sayings. Her speech volume increased. The researcher noted that her voice on the recording was much louder than during the first interview. When the researcher listened to audio while reading her transcript, fewer corrections had to be made on the second interview as compared to the first.

G2's account of coming to MJH did not change throughout the year. She was enrolled in the independent study homeschool program the previous year. G2 began homeschooling based on the recommendation of a woman who attended her church. The woman from church suggested the independent study charter because she was pleased that she had more time with her children and church activities. This coupled with parent and student worries led to enrollment in the homeschool program of the independent study charter school. At the time, G2 was attending a traditional public school. Her parents were concerned about the quality of the education at the school. G2 was concerned about bullying and bad language. This school year, due to a shift in her mother's employment, her parents decided to transfer from the homeschool program to MJH based on geographic proximity to their home and the fact that MJH was a five-day per week program.

In addition to her worries about physical and verbal bullying and bad language which she witnessed at the traditional public school she attended, G2 mentioned a few more significant differences with MJH. In the first two interviews, she noted "if you didn't understand too bad". G2's voice elevated and her face crumpled when she said this. The researcher noted this negative reaction to this statement both times that G2 said it. In contrast, she noted that she liked MJH because the teachers helped her and took

time to get to know her. She felt comfortable to "put herself out there". When asked what she meant, G2 responded that she was willing to share during Community Meeting and to speak up during Group Work Time.

G2's answers regarding the specific components of SDT were positive. She felt that she had choice and freedom. She mentioned that she was able to put "first things first". When the researcher asked G2 to clarify, G2 talked about weekly reading and assignments from *7 Habits of Highly Effective Teens* by Steven Covey. She said that she used this concept daily to plan her work. She also mentioned this in relation to her church activities. G2 said she chose to work hard at school so that she would have time for and would not worry during evening church groups which she and her family attended several times a week. She mentioned that church was a "big thing" for her and that she could make more time for these evening events by finishing all her work at school.

G2 reported that she felt that people at the school care about her. When asked about specific groups of people at the school, she mentioned that classified staff such as noontime supervisors showed caring by enforcing the rules and "taking care" of "bad language" when they heard it. Teachers showed they cared by offering afterschool tutoring, explaining work, giving mini-lessons and providing opportunities to re-take tests. To G2, the ability to re-take tests for a higher grade meant that the teachers were interested in her learning the concepts. She was very positive about teachers. Her feelings can be summed up in the following quote "I feel that, um, if I'm doing work for someone who cares about me and is, and is going to be there for me when I fall behind, um, then it's worth it to do my work".

In regards to her perceived competence, G2 reported that she had the skills to do well at school as early as the first interview. She talked about the fact that in the first few months of school, she had some work that was incomplete and that she received "orange slips". She explained that orange slips were filled out on Thursdays and sent home on Fridays. Students filled out orange slips if they had not completed the agreed upon amount of work during the week. Orange slips were a detailed list of assignments that had to be completed over the weekend. When the researcher asked about orange slips and how G2 felt about them, she responded that they were "no big deal" and that the teachers told her that orange slips were ways of helping students re-focus as well as a way to inform parents of student progress.

G2 still received orange slips at the time of her interview in May. Her tone and mannerisms when she spoke about orange slips indicated to the researcher that she did not mind receiving them. G2 also reported during her May interview that she had been asked the previous day for help during math class. She smiled as she spoke about helping the student. She said she was happy because she had ever been asked by another student for help in math. G2 said she was proud that she could help. Although she could not help the other student complete the problem, G2 was still happy because she said that this person believed she could do the math.

At the end of the school year, G2's family situation changed. Her mother was able to work a different schedule and would be able to homeschool G2 full-time. G2 expressed that she would miss all the friends she made and the teachers. She also said that she was happy to be homeschooled full-time.

G11: Freedom. G11 was an Asian female student. G11 applied for MJH and made follow-up calls to the school to ensure that she would be accepted. Her father was an English language learner who relied on G11 to speak on his behalf, ask questions and answer questions for him. She had a ready smile and was very friendly during interviews. She along with several other students enrolled at MJH from Oak Charter School (OCS) in an adjoining city. Many of the sixth grade students transition from this charter school because the charter does not continue past sixth grade and MJH is geographically close. Historically, students from OCS do well at MJH. OCS curriculum and instruction model matches the model at MJH. Students work on group projects and individual work much like students at MJH.

G11's story of how she came to MJH varied slightly throughout the year. The main points stayed the same. Several OCS graduates who now attended MJH as seventh graders visited OCS. These students told the sixth graders that they like MJH and that everyone was really friendly. Based on these recommendations as well as G11's desire to go to a school with students who had attended OCS, she told her parents that she wanted to apply.

G11 said that MJH was "the same and different" as her old school. Both schools had really nice people and students had choice in work. Differences included homework, group meetings and teaching style. At OCS, students were assigned homework while at MJH homework was work that was not completed during the school day. At OCS whole school met once per week for an assembly while at MJH the entire middle school community met every morning. Finally, at OCS teachers "taught as they went along". When asked to explain, G11 said that at OCS teachers taught a lesson and then students

completed follow-up work. At MJH lessons were given all at once, students had a choice of when and how they would complete follow-up assignments. She said she really liked the school because the people were nice, she had the freedom to choose her work, she enjoyed Personal World during which she could have free time, and she had the opportunity to meet other people.

When asked if she had choice and freedom, G11 noted there were three ways in which she had freedom. She said that students at MJH "had the freedom to do what we want". She explained that students could choose assignments. She said that getting a "packet" at the beginning of the cycle allowed her to "choose the time" when she would complete work. The packets referred to the color-coded study guides which are mentioned throughout participant interviews. G11 also noted that she had the ability to choose if she had homework. She told the researcher that sometimes she chose to have homework because "there's nothing to do at home".

G11 believed that people at the school cared about her. She mentioned three different ways that teachers showed they cared. Teachers used homework contracts to show they cared that students were on track and productive. They allowed students to re-take tests which G11 said meant that teachers cared if the students mastered the concepts taught. She also enjoyed the one-on-one attention that she received from teachers. The researcher asked if this affected or didn't affect the quality of the work she produced at MJH to which G11 responded "It actually does. To know that people actually care about you, I can do better". Students cared by helping finish group projects during group work time. She reported that "group member share all the credit and stuff and it makes you feel a little bit lighter". During this last statement, G11 smiled broadly. In her last

interview, G11 mentioned that she like community meeting because students all got to see each other, talk about their day and hang out.

G11 noticed a difference in her ability to so well at MJH. She said that she had been scared that she wouldn't get everything done when she first received her study guides in cycle one, however, now, she knew she could do it. She said that she understood how to prioritize. G11 also mentioned that she had learned about "win-win". During her reading of *7 Habits of Highly Effective Teens*, she learned about working with others to create solutions to problems that benefited all people involved. G11 reported that she could see how this would help her solve conflicts. G11 will return to MJH in the fall for her eighth grade year.

Above the Median

G5: Birth of a Social Butterfly. G5 was a white female. She had attended MS from second through sixth grade. Only one other student in seventh grade had more Montessori experience as G5. Her mother was an instructional aide for MS and her brother was attending MS at the time of G5's interviews.

G5 came to MS as a second grade student. She had progressed through both lower elementary (ages six to nine) and upper elementary (ages nine to twelve). During her three interviews, her story of how she came to attend MJH did not change. The decision to attend MJH was based on her mother's employment with MS, her brother's enrollment at MS and the proximity to her home and swim club. G3 reported that she liked MJH because it was more organized, she had three different teachers and that MJH students could use the microwave and had more privileges than younger MS students.

G5 shared another experience during interview two which further illustrated a reason why she liked MJH. She relayed that she was shy at the beginning of the year and that she felt more comfortable. She did not like or want to present in front of teachers or the group. She shared that the week following interview two she would be presenting a lesson which she designed in front of the entire MJH community. When the researcher asked her what made the difference, she said "I'm safe in the middle school and know that the people around me know me and that they, um, they're comfortable around me and that I don't need to be…I don't feel in danger".

She reported that she did feel she had choice and freedom and cited four ways in which she had choice and freedom. In the first interview, G5 mentioned a lesson entitled "first things first" (a lesson which was referred to by G2 and G3). G5 mentioned this again in interviews two and three as a way to illustrate choice and freedom. In her opinion, the concept of "first things first" gave her the ability to prioritize her work. She also mentioned that students could choose how to organize their work. Besides choosing jobs and their priority, G5 mentioned the ability to choose where she wanted to work. She liked this ability and said she enjoyed choosing students with whom to work. She went in to detail about a friend with whom she used to sit during independent work time. This friend was someone she had known in MS. She realized in the first cycle of work that this friend talked a lot "and not about work". G5 was concerned about getting work done, so, she chose not to sit with this friend during work time. The researcher asked if she and the girl were still friends. G5 said that they still "hang out" but only at recess and lunch.

G5 was very positive about her experience in MJH. When asked if people at the school cared about her, she stated emphatically “Yes”. Her answer was so positive that the researcher and G5 laughed after she said it. She mentioned several ways in which teachers showed they cared which included tutoring, re-teaching lessons, and helping students “stay on top of things”. She mentioned that she had been sick a few times during the school year and that teachers helped her fill out orange slips in order to help her catch up. One teacher also deleted some assignments which would not affect her understanding of the concepts she missed or inhibit the successful completion of projects. G5 also mentioned work check-off as another caring behavior. G5 explained that when teachers checked off work, it showed that they cared whether or not students were productive and that students understood work. G5 said that students were part of a community and that they showed they cared for each other by reminding each other of assignments and presentations. Students also cared for each by asking to study for tests with each other. The PE teacher showed he cared by listening to suggestions and asking for student input on games and activities.

G5 believed she had the skills to do well in every interview during the year. She mentioned in interviews one and two that at the beginning of the year, she was scared that she would not be able to keep up. She made special mention of her social skills in both interviews two and three. In interview three, G5 said “I feel more strongly about it now, because I know that everybody in my class will support me…I was very shy and didn’t really love to hang out with a lot of people”. She reported that she was much more talkative now and that her circle of friends had gotten bigger. G5 smiled throughout this last section of the interview. Her animated behavior at this time indicated to the

researcher that the development of her friendships was important to her. After the interview, G5 stated that she was excited to return for her eighth grade year in the fall.

M3: Where Everybody Knows Your Name. M3 was a white male. He was very confident and outgoing. When the researcher first introduced the project to the seventh grade students at MJH, M3 approached the researcher to request that he be selected. He was excited to be chosen.

M3's story of how he came to MJH was consistent throughout the interview cycles. He transferred to MJH from another independent study charter program which included two days of on-site instruction and three days of homeschool. Previous to his sixth grade year, M3 attended his local public school from kindergarten through fifth grade. He relayed that he and his parents chose the independent study charter school for sixth grade because they were concerned with reports that they had heard about the local middle school. M3 had experienced bullying in fifth grade which he attributed to the fact that he chose to spend time at recess with girls. His parents were concerned that this type of bullying would continue or intensify in a large middle school. M3 enjoyed the hybrid homeschool program but longed to attend school five days of the week. He also reported that his parents chose the five day program because "Mom's math skills stop at sixth grade". He laughed made this last statement.

M3 reported that he like MJH because he liked making his own schedule and "being in charge". He experienced some difficulty adjusting to choosing his own work, however, he adapted quickly. M2 also liked that the school was smaller than his local middle school and that the teachers all knew his name. He stated that teachers at MJH were kind, thoughtful, were trusting. When asked to explain what he meant by trusting,

M3 responded that teachers gave student privileges and allowed them to choose their own workload.

This experience differed from his fifth grade year at the local public school in a few ways. In fifth grade, work was assigned, it had to be completed in the allotted class time, and some teachers were rude to M3. When asked how he felt about the work he was assigned, M3 said that there were a few times when he was really frustrated. He did not understand homework procedures. Specifically, he did not understand why the teacher sent home work that was not completed in class when M3 didn't understand the work during class time. He relayed that one time; he was so frustrated with a difficult math concept that he had to learn at home, that he slammed his pencil into the table. The pencil missed the table and M3 hit his leg. He said that he had a "mark in my knee to prove it".

M3 believed strongly that he had choice and freedom in his work at school. Choice was very important to M3. He mentioned it when the researcher asked about the difference between the traditional public school and Montessori, when the researcher asked how felt about MJH, and during the story of how he and his parents chose MJH. He was emphatic when he said he liked "to be in charge" of his work. He said he had the choice of what work to do, how to spread it out over the week, and how to pace his work over class days. M3 believed that the ability to choose made for "a better quality of work…by doing you own work, you learn how to make it better and you take it up to the teacher so the teacher can look at look at it and make certain corrections and try to make it better". When asked to explain, M3 said that he often chose to start writing assignments in the beginning of the week so that he could have time to have it checked

before it was due. He noticed that if he did not begin writing assignments in the beginning of the week, his work was sloppy and mentioned that he had been asked to re-do assignments because he did not complete them to the expectation.

When asked if people at the school cared about him, he answered affirmatively. To him, "knowing my name is a big thing. Uh, I like it when, when teachers know my name and say 'Hi, M3 (name coded)' and stuff". Teachers showed they cared by knowing his name, taking the time to talk things out, offering tutoring after school, giving him individual attention, and offering the chance to re-do work. Classified staff members such as noon-time supervisors were very nice and knew his name. When asked about students, M3 said that he had a good group of friends who cared about him and that students at MJH were nice to him.

M3 stated that he had the skills to do well at the MJH. Like other participants, he mentioned that he wasn't sure he could keep up with work at the beginning of the year, but that he felt he could do so now. This feeling was reported as early as the first interview which occurred in November. M3 belief in his skills did not differ from his feelings at the traditional public school from kindergarten through fifth grade. He felt that he could succeed anywhere.

Analysis of Narratives

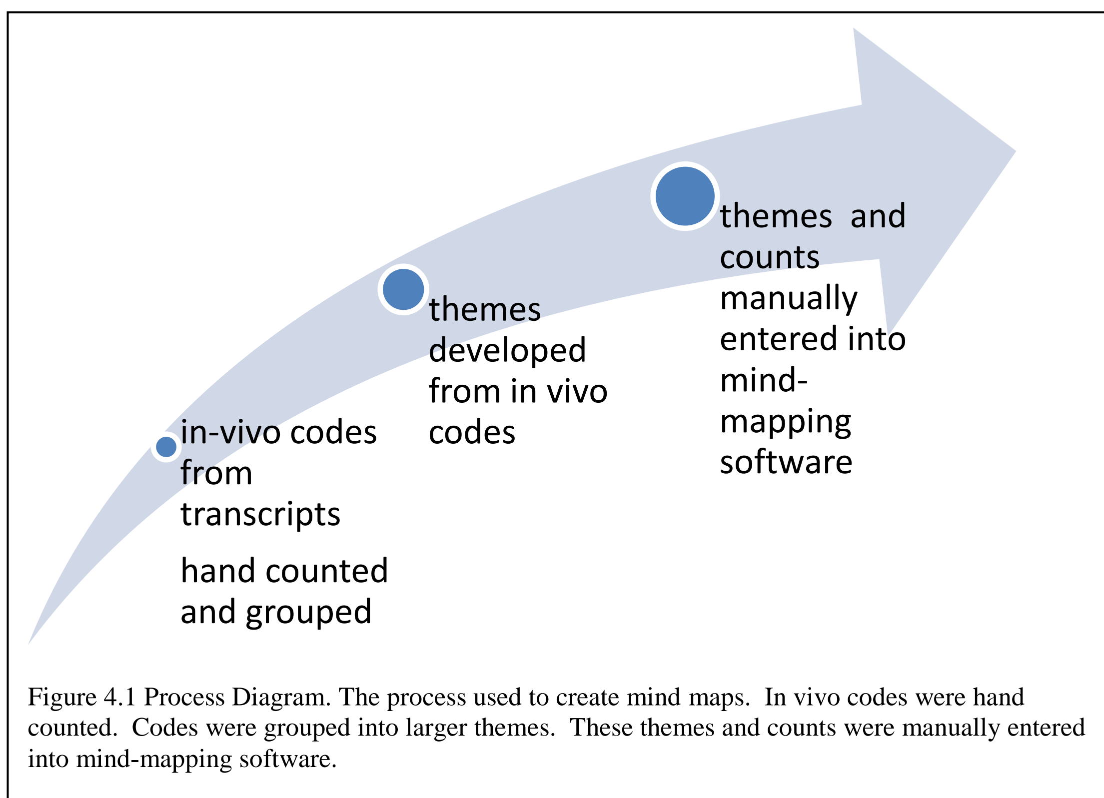

Figure 4.1 Process Diagram. The process used to create mind maps. In vivo codes were hand counted. Codes were grouped into larger themes. These themes and counts were manually entered into mind-mapping software.

After completion of narrative analysis, the researcher grouped in-vivo codes into themes found throughout the narratives of all participants for all interview cycles. These themes were entered manually into mind-mapping software in order to produce graphic representations of data (Figure 4.1). This analysis produced a rich, multi-layered approach to the codes and themes identified through the entire body of narrative text. A combination of in-vivo coding and cluster coding was used in order to group words that were similar such as the cluster for choose/choice/chose and free/freedom. In Chapter Five, the themes are discussed, correlated to current research, and extrapolated to future research.

As noted in the first section of this chapter, the small sample size of students returning an assent form affected the types of quantitative analysis which could be performed. Descriptive analysis yielded an interesting result. The analysis of narrative yielded results which illustrated the study group's overall SDT. While these students scored high in their initial survey, analysis of the narratives showed an increase in feelings of autonomy, competence, and relatedness. Themes related to choice, skill, and care were developed as detailed below.

Table 4.2 Themes Identified, Grouped by SDT Component

SDT Component	Themes Identified	Utterances: Students
Autonomy	Choose Type of Work	48:6
	Choose Order of Tasks	24:6
	Choose Clothing	9:1
	Free to Express Yourself	3:1
	Choose with Whom to Work	3:3
	Choose Where to Work	2:2
	Choose to Re-take Tests	1:1
Competence	Scared at First…Now I Can	18:6
	Organize Time	10:6
	More Social Confidence	5:3
	Capability to Do Well in High School	3:3
	First Things First	1:1
	Perseverance	1:1
	Think Win-win	1:1
Relatedness	Teacher Care: Help Me Stay on Top of Things	30:6
	Student Care: Community Meeting	11:3
	Student Care: Nice to Me	6:5
	Student Care: Academic Help	5:3
	Teacher Care: Offer Fun Activities	3:3
	Teacher Care: Conflict Resolution	3:2
	Student Care: Not Bullying	3:1
	Teacher Care: Respect Opinions	2:2
	Staff Care: Make Sure…	2:1
	Student Care: Some Students Care	2:1
	Teacher Care: Provide Challenging Work	2:1
	Staff Care: Help When Hurt	1:1
	Staff Care: Take Care of Bad Language	1:1
	Staff Care: Take Ideas	1:1
	Student Care: Don’t Care Who I Hang Out with	1:1
	Teacher Care: Good Connection	1:1

Themes Identified through Analysis of Narrative. Themes are presented based on descending number of utterances represented in each theme. Ratios represent number of utterances to number of students.

Autonomy: Freedom of Choice

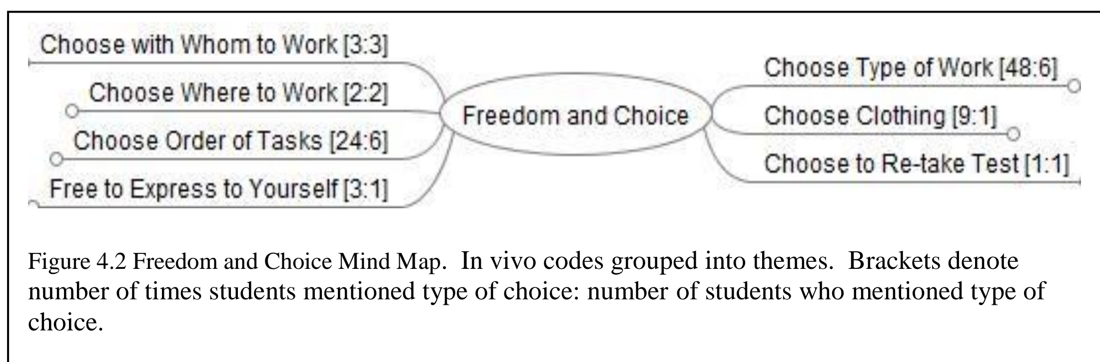

Figure 4.2 Freedom and Choice Mind Map. In vivo codes grouped into themes. Brackets denote number of times students mentioned type of choice: number of students who mentioned type of choice.

***Major themes within SDT component of autonomy*.** Words or phrases related to choice appeared multiple times by every student throughout the narratives. Participants included choice in their answers regarding feelings about the middle school program, differences between the middle school program and their last school environment, and feelings about choice and freedom in their work at school. Figure 4.1 illustrates the way in which in vivo codes were grouped into types of choice. "Choose type of work" included "we get to do what we want", "can choose work", and "can choose level of work". This theme incorporated in vivo codes representing 48 utterances related to "choose type of work". Furthermore, "choose type of work" was mentioned by all students. The number of times "choose type of work" was mentioned coupled with the fact that all students mentioned it is important. "Choose order of tasks" included "first things first," "prioritize," "choose what we want to do first," "do what's important first," and "make my own schedule". This theme also included longer phrases which related to choosing to save work for home, choosing to save work for the weekend, and choosing to re-do work during intercession week. This theme incorporated in vivo codes representing 24 utterances related to "choose order of tasks". Every participant mentioned "choose

order of tasks". The number of times "choose order of tasks" was mentioned coupled with the fact that all students mentioned it is important.

Minor themes within SDT component of autonomy. The researcher noted seven minor themes in the category of autonomy through analysis of narratives. Four students mentioned that they enjoyed choosing with whom they would work. Two participants mentioned choice of where to work and ability to choose pace. One student mentioned the ability to choose his clothing nine times during the interview cycles. While "ability to choose clothing" was not mentioned by every student, this last finding is included because this study is framed by critical theory with an emphasis on student voice. The researcher sought to give voice to the study participants which can only be achieved if each student's entire narrative is represented.

Competence: Skills

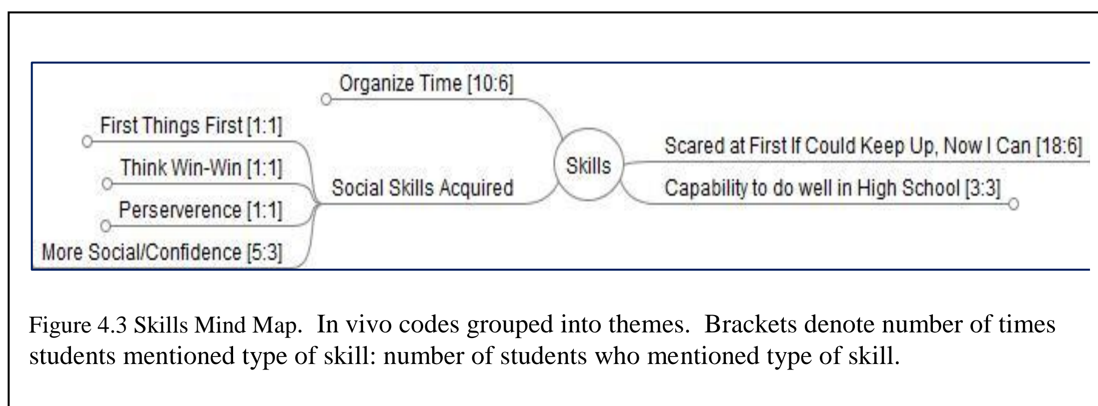

Figure 4.3 Skills Mind Map. In vivo codes grouped into themes. Brackets denote number of times students mentioned type of skill: number of students who mentioned type of skill.

Major themes within the SDT component of competence. Figure 4.2 illustrates the themes identified through analysis of narrative for the SDT component of competence. Two major themes emerged. The first major theme was found in all three

cycles and mentioned by all group members. Participants mentioned that they had negative feeling about their ability to finish all assignments and do well. Emotions about academic work included being scared, anxious, and worried. All participants noted that at the time of the interview they felt confident that they could in the words of G11 "get all the work done'. Positive feelings about ability to complete work occurred as early as the first cycle of interviews. Belief in ability to complete work was mentioned a total of 18 times throughout the complete narratives of all participants over all three cycles of interviews. The second major theme was the ability to manage/organize time. All six participants mentioned this for a total count of 10 utterances.

Minor themes within the SDT component of competence. Two minor themes within the SDT component of competence were discovered through analysis. The first, social skills, included four distinct sub-themes. This theme included in vivo codes "first things first" and "think win-win" and longer phrases that related to perseverance and increased social confidence. Increased social confidence included "express themselves better", be "more open", "put myself out there" and that they had become "more talkative" and "more comfortable with teachers". "More social confidence" represented five utterances by three different participants. The inclusion of these unique utterances serves to create a more robust description of the seventh grade experience.

Relatedness: Caring

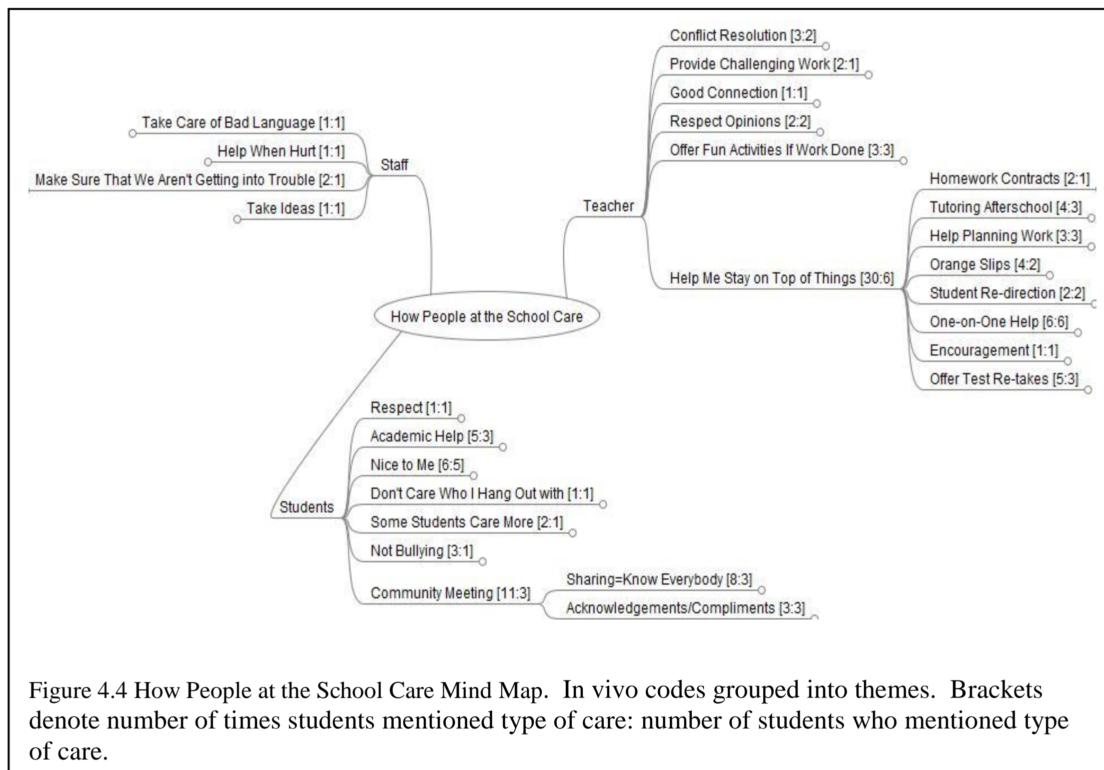

Figure 4.4 How People at the School Care Mind Map. In vivo codes grouped into themes. Brackets denote number of times students mentioned type of care: number of students who mentioned type of care.

Major themes within the SDT component of relatedness. Caring by teachers, staff, and/or students was a recurring theme throughout all interviews. Figure 4.2 illustrates the ways in which students felt people at the school cared for them. Participants mentioned caring in their responses to questions about how they felt about MJH, the differences between MJH and their previous school experience, and if they felt people at the school cared about them. The major themes were: how teachers care, how staff members care, and how students care.

Teachers showed they cared in thirteen distinct ways. The largest major theme for teacher was “helping me stay on top of things” which included behaviors such as re-direction of off-task behavior, help with task organization and planning, creation of

homework contracts, and issuing orange slips. Homework contracts were created at the end of a day during a one-on-one conference between a teacher and a student. If a student failed to complete work on the homework by the end of the week, she was given an orange slip which was a detailed report of all the work that would be expected on Monday. Students were directed to return work with a signed orange slip. Parents were noticed via email generated by the on-line gradebook. When the researcher asked students about homework contracts and orange slips, students responded that neither was punitive. In fact, a few participants mentioned choosing homework and choosing to receive an orange slip so that they could spread work out over the weeknights or weekends. The theme "helping me stay on top of things" represented 30 utterances by all six participants.

Minor themes within the SDT component of relatedness. Five minor themes were identified which included examples of how teachers cared, how staff members cared and how students cared. The minor themes for teacher behaviors included providing challenging work, encouragement, help resolving conflict, and tutoring. One participant mentioned that teachers "know my name" in every interview. Staff members showed care by applying first aid, "making sure we don't get into trouble", "taking care of bad language", and "taking ideas for PE (physical education activities)". Students showed they cared by low incidences of "bad language", bullying, physical and verbal fights. Students also showed care by providing academic help as well as help with social concerns. One student said students "treat me like a brother or sister".

Summary of Results

Quantitative Analysis. The students represented in the initial quantitative phase of the study represented a group with a mean score of 4.9, range of 3.1 to 6.4. The group as a whole fell into a range close to expected mean of 5.0. Students with mean scores of 0 to 2.0 would have been considered low SDT. Students in this group fell into the mid to high SDT category which means that they had fair to high feelings of autonomy, competence and relatedness. Because none of the students who chose to participate in the study had low SDT, the voices of students with negative feelings of autonomy, competence, and/or relatedness could not be gathered. Chapter Five will include a discussion of implications for future research stemming from this result.

Narrative Analysis. The students represented in the qualitative phase included students within the bottom, middle, and high band of the quantitative results. Students expressed feelings of relatively high autonomy, competence and relatedness. While students came from varied backgrounds, there were several common themes which will be discussed in the next section.

Analysis of Narrative. In vivo codes from the body of narratives were grouped into common themes. Several major and minor themes were identified for autonomy, competence, and relatedness. A few of the minor themes were mentioned by a single participant with multiple utterances and in two cases a single utterance by one participant. While these themes were not generalized throughout the participant sample, they were included in order to honor the student voice and the intent of this study.

Based on the analysis of narrative, the major themes which represented all participants in all cycles were indicators of the importance of autonomy and relatedness.

The biggest theme, “choose type of work”, included in-vivo codes such as “can choose level”, “can choose challenging work”, choosing type of assignments, choosing which assignments to complete as well as other unique sub-themes. Participants mentioned “choose type of work” in various ways 48 times. The second largest theme, “choose order of tasks”, included codes for “choose to have homework”, “prioritize”, “choose to re-take tests”, “do what I want to do, when I want to do it” and other similar codes. Participants mentioned “choose order of tasks” in various ways 24 times. The last major theme highlighted the importance of relatedness to the study group. Participants mentioned the teacher care theme, “help me stay on top of things,” 30 times in responses to how they felt about the school and if they felt that people at the school cared for them. These three themes are discussed further in Chapter Five.

.CHAPTER FIVE: DISCUSSION

Chapter five summarizes the previous chapters, presents the conclusions drawn from the study, and discusses implications derived from the study results and conclusions. The chapter begins with a summary of the problem, the research question, the theoretical framework, methodology, and results of the study. The conclusions drawn from the results are discussed in relation to the literature review as well as current research which echoes or supports the conclusions. The conclusions lead to the implications for educators, educational leaders, and researchers. Finally, contributions to the study of Montessori, middle level education, and student voice are presented.

Summary

Overview of the Problem

Adolescence is a time of great upheaval and change. Beginning in 1985, public education systems determined that the creation of separate junior high or middle schools would help address the unique needs of the adolescent. Supported by human development theorists such as Erikson (1993[1950]), educators (AMLE, 2000), and private research institutions (Carnegie, 1989), middle schools were designed to support students and provide academic preparation for high school. Further, a vast body of Self-Determination Theory (SDT) research illustrates that when the needs for autonomy, competence, and relatedness are supported, humans are empowered, successfully plan for, and meet their goals (Deci & Ryan, 2000). These findings were confirmed in research on adolescents which points to a positive correlation between inclusion of SDT

supportive practices and increased student achievement (Anderman, 1998; Roeser, 1998; Field & Posh, 1997)

Montessori middle schools are intentionally designed based on the work of Dr. Maria Montessori to meet the needs of adolescents. Her work details characteristics of this intentionally designed community which includes supports for autonomy, competence, and relatedness (Montessori, 1936). After her death in 1952, Montessori practitioners continued her work and developed the Montessori Middle School (Coe, 1996).

Research points to a positive correlation between usage of Montessori practices such as individualized instruction, mastery learning and academic achievement (Dohrmann, 2007; Hanson, 2009; Hobbs, 2009; McCladdie, 2006. Peng, 2009). These studies are helpful in confirming the effectiveness of Montessori practices, however, none included middle school students. Further, this current research includes a study of autonomy and competence support. A hallmark of Montessori education is its focus on creating community within each classroom and throughout each school. Chapter Two highlighted the lack of literature examining Montessori education's inclusion of the aforementioned relatedness supports. This study sought to examine all three constructs and their supports through the lens of SDT and student voice.

This study captured and analyzed student experiences throughout their first year of Montessori middle school. The overarching question that guided this study was: What is the lived experience of seventh grade students throughout their first year of an intentionally designed Montessori middle school?

Theoretical Framework

Critical theory and student voice were the bedrock of this study and were the foundation upon which the overarching question was laid: What is the lived experience of the seventh grade student throughout their first year of an intentionally designed Montessori middle school?

Phase One, the quantitative phase, was embedded in Self-Determination Theory (SDT). Student surveys were used to determine the total SDT of the participant group which, in turn, was used to select participants for the second qualitative phase. Student voice provided the lens through which the overarching question was examined. The second phase was a narrative inquiry. All interview transcripts for each student's responses throughout the year were examined through narrative analysis. Analysis of narrative examined the combined narratives of all participants in order to identify major and minor themes. These themes inform the discussion in this chapter and point to further study, implications for middle level teachers, and implications for educational leadership with an emphasis on social justice.

Methodology

A participant-selection variant of an explanatory sequential design (Creswell & Plano-Clark, 2011) was used. Figure 3-1 shows the design of the study which includes both quantitative and qualitative phases. The quantitative phase served to identify participants for the qualitative phase. The overarching question dictated a greater emphasis on the qualitative phase. Results from qualitative phase were used to give voice to the lived experiences of the participants.

In the first phase of the study, fourteen students completed a modified Basic Physiological Needs Scale (BPNS). This survey was modified to incorporate school-related terms specific to the middle school student (Gillison, Standage & Skevington, 2008). Student demographic data, specifically gender was combined with total SDT in order to identify students for the qualitative phase. Six students from phase one were identified through descriptive analysis. The students invited to participate in phase two included two students from three bands discovered through descriptive analysis. Two students from below the mean, at the mean, and above the mean bands were chosen. Gender was also considered in the selection process. A male and female student from each band was invited when possible. Students were interviewed three times over a seven month period. Audio transcripts were analyzed to capture the lived experience of each student using narrative analysis. In the analysis of narrative phase, audio transcripts from all participants for all interview cycles were analyzed. Major and minor themes were identified through in vivo coding.

Results

Phase one quantitative analysis was restricted by small sample size. Fourteen students of 38 seventh grade students who attended MJH returned assent forms. Three of the fourteen surveys were incomplete which left only eleven surveys for analysis. Due to the limited sample size, only descriptive analysis could be performed. Descriptive analysis yielded an interesting result. Mean SDT was 4.9. Two participants from the following clusters were invited to participate in the qualitative phase: below the expected median, at the expected median and above the expected median. A male and a female

from each grouping was invited when possible. Students in the at the expected median group did not include a male, therefore, both participants in that band were female. All six participants agreed to participate in phase two.

Narrative analysis in Phase Two created stories for each of the six participants. Below is a summary of each cluster of students.

Below the Expected Median

- G3 will continue at MJH in the fall as an eighth grader. Through the year, she identified her interest in writing and used her interest to choose the type of work and the order in which she completed tasks. She focused her work on written assignments, increased the amount of writing she did for written assignments, and volunteered to write the text for group presentations.
- M4 will continue at MJH in the fall as an eighth grader. M4 was very positive about MJH stating as early as the first interview, saying "I love this school". He enjoyed the ability to express his opinions and to choose what he wore to school.

At the Expected Median

- G2 will return to full time homeschool next year for her eighth grade year. Through the year, G2 discovered that her faith was important to her. She chose to work hard at school in order to alleviate the stress of homework. Because she finished all her work at school and, thus, did not have

homework, she felt free to concentrate on the evening activities at her church.

- G11 will return to MJH in the fall as an eighth grader. G11 appreciated all the freedoms that MJH had to offer including the choice to complete work at school, to save it for homework, and to re-take tests.

Above the Expected Median

- G5 will return to MJH in the fall for her eighth grade year. G5 attended Montessori schools since second grade. She enjoyed the rigor of the work at MJH. As the year progressed, she expressed that she had more social confidence and that she had a wider circle of friends.
- M3 will return to MJH in the fall for his eighth grade year. M3 was very confident in his abilities. M3 appreciated the ability to set his schedule and prioritize. He appreciated that all the teachers knew him by name.

The analysis of narratives generated three major themes that are listed here using the students' own words:

- "choose type of work"
- "choose order of tasks"
- "help me stay on top of things"

These major themes will be discussed as they apply to implications for social justice, middle level educator practice, and future research.

Summary of Findings

Phase One results yielded a sample of six participants for the qualitative phase. While none of the eleven participants in the quantitative phase represented students with low measured SDT, the importance of capturing the voices of the participants represented mitigated this finding. Phase Two explored and told the stories of the six participants and identified three major themes. These themes will be further discussed as they relate to future research and implications for social justice and middle level educator practice. Themes are discussed as they relate to SDT component and linked to current research.

Autonomy

Choose Type of Work

Participants mentioned the ability to "choose type of work" throughout their responses to questions about how they felt about MJH, the differences between MJH and their previous traditional school learning environment and if they felt they had choice and freedom in their work at MJH. This theme represents 48 responses from all six participants.

Choose Order of Tasks

Another theme was the ability to "choose order of tasks". As in the "choose type of work" theme, participants mentioned choice of order of work throughout their responses to questions about how they felt about MJH, the differences between MJH and their previous traditional school learning environment, and whether they felt they had choice and freedom in their work at MJH. This theme represents 24 responses from all six of the study participants.

Among the codes grouped into this theme were "prioritize", "freedom to do what I want", "choose to have homework", "choose to work on the weekends", "choose to re-take tests", and "pace". The fact that "choose order of tasks" was mentioned by every participant in several different ways illustrates the significance of autonomy in the lived experiences of the study participants. Students felt that they had choice and freedom in the work they did at school and readily were able to cite specific examples. These examples were found in responses to how the students felt about the school, what was different about MJH as compared to their previous traditional school experience and if they felt they had choice and freedom at MJH.

Connection of Autonomy Supports to Current Literature

As noted in Chapter Two, existing literature points towards a positive correlation between school environments which support autonomy and student achievement. The student voices captured during this study echo previously cited work on autonomy within SDT literature (Chirkov, 2009; Chirkov & Ryan, 2001; Soenens & Vansteenkiste, 2005), student voice literature (Mitra, 2004), motivation literature (Miserandino, 1996; Vankeenkiste, et al., 2004; Wetzel, 1999) as well as Dr. Montessori's work (Montessori, 1964).

The student voices captured during this study give a more robust quality to the existing quantitative international studies and illustrate the inclusion of autonomy support in the Montessori methodology and practice at MJH. While the study does not make a direct correlation between autonomy support and student achievement, G3's comment that "I'm getting my work done better", G2's comment "and here they give you orange

slips and that helps you to improve, like, what you're doing", and M4's comment that "I get my work done quicker" suggest a possible correlation.

Relatedness

Help Me Stay on Top of Things

The teacher care theme "help me stay on top of things" included codes mentioned 30 times by all six participants. This theme occurred in responses to questions about the how students felt about MJH as well as if students felt that people at the school cared about them. Teacher care fell into six different sub-themes. The converse was also mentioned in responses to how MJH was different than their last traditional school experience. The most telling theme within the responses to the question about the difference between MJH and their last traditional school environment was "if you didn't get it, too bad for you". Students felt that the format of direct instruction with guided practice in their previous traditional public school experience showed that teachers who followed that model did not care. Students mentioned that when they fell behind or couldn't do the work, "they just marked you as zero and you just didn't get credit" and "had to leave the school" as well as other unique responses which echoed the same sentiment. MJH teachers took the time to help students individually, provided afterschool tutoring, monitored progress, designed homework contracts, and helped students create plans to complete work.

This finding illustrates the importance of the teacher in both the positive and negative lived experiences of the middle school student. Teachers at MJH facilitated the process of auto-education mentioned in Dr. Montessori's descriptions of her

methodology (Montessori, 1972). The fact that all students cited this type of teacher care illustrates the importance of this form of teacher care. This finding also adds to the literature regarding Montessori education. Previously, researchers have evaluated usage of Montessori methodology components such as mastery based learning (Hanson, 2009) and student choice (Dohrmann, et al., 2007). Teacher care in the form of "help me stay on top of things" sheds light on the importance of relatedness in the Montessori learning environment. The following quote from G11 points to a possible effect of teacher care on student achievement "It actually does. To know that people actually care about you, I can do better". M4 had a similar comment "I feel that I'm free to do whatever I want. So, like, it makes me happy, so, I kind of show my…like [sic] finish my work". Further, G3 stated "I feel like at this school, they give you a chart and they let you and kind of like help you know what you're gonna do, so, it helps me be better and if I need help on something, I know I can get help." G11, M4, and G3 smiled broadly when they made these comments. The feelings behind these comments suggest that research into this possible link could be warranted. The implications for teachers will be discussed in a later section.

Community

Community was another theme identified through analysis of narrative. Students mentioned community meeting 11 times when asked if people at the school cared about them. Community meeting is a time at the beginning of the school day where all MJH students meet in a large circle. Students are given an opportunity to share events in their lives and compliment and acknowledge students or staff who have helped them. In

addition, community meeting includes teacher announcements and large group lessons. When they mentioned that they felt students cared for them, they explained that all the students knew one another. G3 said "I think it's a little different 'cuz this is a little smaller school than the other school and you get mixed with a bunch of other kids, so, you seem to become friends with everybody". G3's comments relate to the fact that students do not stay with the same group throughout the year. In traditional public schools, students are assigned to classes and stay with the same group of students throughout the year. At MJH, students are assigned to a teacher randomly every six weeks. This gives each student the opportunity to work with all teachers at MJH as well as every student.

When asked to expand on this answer, participants mentioned that through daily sharing, compliments, and acknowledgements which are specific parts of the morning community meeting, they felt they knew all of the students at MJH. M4 said "the community is comfortable". G2 made a similar comment: "it's like I feel more like I could talk freely amongst my…amongst my school". G5 stated "I'm safe in the middle school and that the people around me know me and that they, um, they're comfortable around me and that I don't need to be…I don't need to feel in danger". Again, relatedness adds to the literature on Montessori education and points towards future research. As mentioned in Chapter Two, Dr. Montessori's writing (Montessori, 1964, 1972 reprint of 1949 original) and articles written by Montessorians (Coe, 1996; Enright, 2008; Gillespie, 1994; Rule & Kyle, 2009) describe relatedness supports. Studies examining their effect on students have not been conducted. This study adds to this gap in the literature.

Competence

All participants noted as early as the first interview cycle that they believed they had the skills to do well at MJH. Students noted that they were scared at first that they could not keep up with the workload, however, after finishing a few cycles of work, they felt they had the skills to complete work on time. Their feelings of skill may lie in the ability to prioritize work, receive individual attention, re-take tests, and ask for after school tutoring. When asked to explain why they felt they could complete their work, students mentioned that they understood how to organize their time. G11 said " I think I have the skills to do well at the school because, um, even though we have a lot of work here and it challenges me a lot, I, I still figure that I do all of that stuff in at least one week". M4 and G2 made similar comments which led the researcher to conclude that skill meant work completion not mastery or academic achievement.

The only student who linked skills to academic achievement was G5. In her third interview which was conducted in May, G5 stated that she had the skills to do well in high school. When asked how she knew she had the skills to do well in high school, G5 replied that she had re-taken some tests and scored well. She felt that the opportunity to re-take Algebra I tests increased her mastery of mathematical concepts. This unique and intriguing finding could be the basis for future research.

Implications

The findings presented in Chapters Four and Five have implications for future middle level educator practice, educational leadership, and middle level education reform. The following section presents a discussion of these implications.

Implications for Educators of Middle School Students

Personalized Learning. Reform at all levels spearheaded by the adoption in 45 states of the Common Core Standards focuses on deep learning which can only be fostered through empowered learning. Personalized learning as defined by the National Education Technology Plan (NETP, 2010) is:

> **Personalization** refers to instruction that is paced to learning needs, tailored to learning preferences, and tailored to the specific interests of different learners. In an environment that is fully personalized, the learning objectives and content as well as the method and pace may all vary (so personalization encompasses differentiation and individualization). (USDE, Office of Education Techonology, 2010, p.12)

This learning strategy is a foundational characteristic of Montessori methodology and practice. Furthermore, personalization supports the development of autonomy. As noted in the findings, the theme "choose type of work" is important to student satisfaction at MJH. Student examples of this theme included "you can choose what other activities you wanna do" and "you get to have full choice of what you want to do". G3 mentioned that her interest in writing led her to choose writing assignments, choose to write more for each assignment, and choose to write the text for group assignments. The voices of the participants in this study add to what has been quantified in international studies.

Support for personalized learning is further corroborated by domestic and international studies. Studies on Montessori practice (Dohrmann, 2007; Hanson, 2009; Hobbs, 2009; McCladdie, 2006; Peng, 2009) include the same learner-centered approaches such as differentiated instruction and auto-education cited in general education studies (Alfassi, 2004; Weinberger & McCombs, 2010). These findings are also found in SDT literature which point to a possible positive correlation between

autonomy supports and student achievement (Chirkov, 2009; Chirkov & Ryan, 2001; Niemic, et al, 2006; Shi, 2008; Soenens & Vansteenkiste, 2005).

Individualized Instruction. Another key to success for all students is the inclusion of individualized instruction. Mastery-based learning and auto-education, longtime components of Montessori methodology and practice, provide a time-tested model which is supported by the NTEP:

> **Individualization** refers to instruction that is paced to the learning needs of different learners. Learning goals are the same for all students, but students can progress through the material at different speeds according to their learning needs. For example, students might take longer to progress through a given topic, skip topics that cover information they already know, or repeat topics they need more help on. (USDE, Office of Education Techonology, 2010, p.12)

Participants in this study indicated the importance of this approach in the comments about individual help, choice of work, ability to re-take tests, and choice of order of work. Students appreciated these characteristics of MJH and included them not only in their responses regarding autonomy but in their responses regarding relatedness. As M4 noted, "re-takes mean that teachers care whether or not we learn things". Mastery-based learning supports competence which has been studied internationally and domestically. Results of these studies suggest a link to perceived competence and student achievement (Jang, et al., 2009; Miserandino, 1996; Niemic & Ryan, 2009).

Creating Caring Communities. Participants in this study mentioned the various manners in which caring individuals supported them. Students used the term community freely and expressed their feeling that they were cared for by students, teachers, and staff. Domestic and international studies point toward a positive correlation between increased relatedness and student achievement (Dee, 2004; Goddard, et al., 2001; Goddard, et al.,

2009, Jang, et al., 2009; Musial, 1986; Roessingh, 2006; Sahlberg, 2007; Wentzel, 1991). Dr. Montessori's writings, as well as articles written by current Montessorians detail and illustrate the importance of building relational trust to creating an authentic Montessori learning environment (Coe, 1996; Enright, 2008; Gillespie, 1994; Montessori, 1972 reprint of 1949 original; Rule & Kyle, 2009). Teacher care was most felt in the ways in which teachers supported learning through one-on-one help, creation of homework contracts, afterschool tutoring, and test re-takes. M4 stated, "It makes me feel like they care about us achieving all our work and getting it done because on other school that I went to they didn't seem like they cared whether we got all our work done or not. If we didn't have it done, they would automatically give us a grade". This was echoed in similar ways by G5, M3, and G2. In the students' minds, they wanted to do well in their previous learning environments but were not given the help to do so. This hampered their ability to do well and feel good about their work. Incorporating time for individual help, tutoring, and re-takes were actions that showed teacher care. These practices can occur if teachers have the will to provide these structures and the support to do so. These small changes could have a big impact on student motivation and achievement.

Personalized learning and individualized instruction practices require teachers to shift their teaching practices and classroom management. Teacher care requires that teachers invest time in better understanding their students. These paradigm shifts can only occur in environments that are risk-supportive. This implication for educational leaders will be further discussed later in this chapter.

Implications for Educational Leaders

Social Justice Implications. Montessori methodology and practice includes supports for autonomy, competence, and relatedness. Domestic and international studies point towards a positive correlation between self-determination supports and increased student achievement. Student narratives gathered for this study illustrate the lived experience of seventh grade students at MJH. These students consistently felt they had freedom and choice, that they had the skills to do well, and that they were cared for by teachers, staff, and students. Their voices captured during this study point towards a positive feeling of self-determination.

The findings in this study indicated the practices and program characteristics most valued by students. Teacher practices such as offering re-teaching, individualized instruction, personalized learning, offering re-takes, helping students create plans to catch-up on work or skills, and providing afterschool tutoring. These same practices are detailed in foundational material which detail middle level reform (Carnegie, 1989; AMLE, 2000) and recent reform (NETP, 2010). While these are common features in Montessori learning environment, these supports do not require that teachers complete Montessori training.

Descriptive analysis showed that participants in the quantitative phase had fair to high feelings of self-determination. This impacted the ability of the researcher to capture the lived experiences of students with low-SDT. This result echoed the result of a previous researcher (Glassett, 2012) who was unable to interview students with low SDT due to incarceration or withdrawal from court schools. The voices of students who could

benefit most from a learning environment intentionally designed to support the development of self-determination has yet to be heard.

***Creating High-Trust Collaborative Schools*.** The characteristics and practices listed in the previous section require two things: the will of teachers to shift their practice from teacher-centered to student-centered and support from administration. This is echoed in another study on trust and improvement in schools which found that teachers in schools that successfully implemented reforms repeatedly pointed toward the relationships of trust that were built amongst faculty as a reason for these successes (Louis, 2009). Administrative support can come in the form of providing staff development and training, including collaboration time, and offering release time for teachers to observe colleagues who can serve as mentors and models.

Student Voice. The findings and conclusions of this study confirm that “Because of who they are, what they know, and how they are positioned, students must be recognized as having knowledge essential to the development of sound education policies and practices” (Cook-Sather, 2002, p. 12). The lived experiences of the seventh grade students included in this study add a deeper dimension to the quantitative research in the field. While numbers can tell educators and researchers which students feel autonomy, competence, and relatedness support, only qualitative measures provide a thicker description of how students feel, what supports are perceived, and which supports mean the most to students.

Further Research

Relatedness. Narrative analysis uncovered a general feeling of care amongst study participants. Students expressed the feeling that people at the school cared for them in a variety of ways. Gaps regarding relatedness were identified in Chapter Two. While autonomy and competence have been studied domestically and internationally, the link between relatedness and student achievement remains a gap in SDT as well as in Montessori literature. This study sought to uncover a possible link within the student narratives between relatedness supports and student achievement.

Only one student made this link. The link mentioned was part of response to follow-up question which could have been influenced by the phrasing of the follow-up. The gap in the literature was not fully explored by this study. Further research might be conducted using quantitative and qualitative methods. Relatedness could be measured by survey and compared to achievement data. Interviews could be designed to capture feelings of relatedness and their possible support of student achievement.

Student Voice. This study did not include students with low measured self-determination. Students who submitted assent forms and completed the survey did not have low measured SDT. This affected the qualitative phase. This result was echoed in a larger study conducted on students in court schools (Glassett, 2012). In that study, students with low measured SDT could not be included in the qualitative phase due to incarceration or disenrollment from court schools at the time of the qualitative phase. The voices of these students have not been heard. Further research to specifically include this group would add to the SDT field, point to education reform, and give voice to these currently unheard students.

Study Limitations

This section focuses on the limitations presented in Chapter Three. The purpose of this section is to provide reflection on the research study, its design, and the effect of limitations on the results and conclusions.

Generalizability

This study was conducted in one Montessori middle level program in one southern California school. The small number of Montessori middle school programs throughout the United States and worldwide vary in their implementation and their development. While certain characteristics are foundational to Montessori methodology and practice, the degree to which they are authentically represented varies. In addition, while care was taken to intentionally sample the seventh grade students at MJH, it was noted that the participants in the quantitative phase represented students with medium to high overall SDT. The voices of students with low SDT were not captured. The six stories presented and analyzed give the reader a taste of the lived experience of seventh grade students at MJH but cannot possibly be extrapolated to its entire seventh grade community much less seventh graders who attend Montessori middle school programs.

Narrative inquiry does not seek to generalize findings. Rather, the purpose of narrative inquiry is to capture stories of individuals or groups. The researcher is called to faithfully re-tell through analysis the authentic voices of study participants. Without bias, the researcher put aside knowledge of the individuals and remained open to the perceptions and meanings in each participant's narrative. The purpose was to give voice

to the voiceless. The voices of the students add to existing literature on Montessori methodology, middle level education reform, and SDT.

Positionality

The researcher is the current Director at the research site. This position led to an increased access to the study participants. Conversely, this positionality had the potential to influence student responses. Students wanting to please the director could have been overly positive about the program. Through the interview process this concern was diminished by the honest answers about MJH, its program, and its staff. Their honesty and inclusion of changes illustrated the degree to which trust between students and adults in the Montessori learning environment is fostered. Students were eager to compliment the program as warranted and offer critique when necessary. The researcher was also able to ask follow-up question, read body language and gather more extensive data. The ability to create a thick description of the seventh grade experience of these participants would not have been possible if the interviews were conducted by another researcher.

Conclusion

This study was guided by the research question: In what ways, if any, does attending a Montessori middle school learning environment influence an adolescent's development of self-determination? The voices of the participants in this study give a thicker description of the lived experiences of these students over a seven month period. Their responses clearly indicate an overall feeling of autonomy, competence and care. The same supports described by Dr. Montessori and designed by Dr. Coe are mentioned by students in their own words. While their feelings did not change over the time of the

study, their repetition of themes and responses provided a robust narrative description of their seventh grade year. Each recurring code and theme corroborated the inclusion of autonomy, competence and relatedness supports at MJH.

The supports mentioned by students are part of Montessori program design and staff development; however, they could be implemented in any school. These same reforms have been lauded for more than two decades by the Carnegie Institute (1989), the National Middle Level Education Association (2000) and the U.S. Department of Education (2010). This level of change can only be implemented by teachers who have the will to shift an age-old paradigm. Administrators must lead the reform through inclusion of practices that support teachers and the creation of high-trust schools. If we are to address the achievement gap and affect real reform, we must include these supports in order to provide the education that all children deserve.

APPENDIX A: CONSENT FORM
Consent to Participate in Research

Invitation to Participate
Luz Casquejo Johnston, a graduate student in the joint doctoral program at California State University San Marcos (CSUSM) and University of California, San Diego (UCSD), is conducting a study that seeks to identify the influence, if any, of enrollment in a Montessori middle school on a student's feelings of autonomy, competence and relatedness relationship. You are being contacted because you have been identified by your principal because you are student in the Montessori Middle School Academy.

This study has two principal objectives:

1. To identify students who have strong, medium and weak feelings of autonomy, competence, and relatedness.
2. To identify how enrollment in Montessori Middle School may or may not influence students' feelings of autonomy, competence and relatedness over the course of six months.

Description of Procedures
There will be two phases of the study. In the first phase of the study, you will take a 28 question survey which will ask you to rate your feelings of autonomy, competence and relatedness. After the survey results are examined, a second interview and observation phase will begin.

If you are selected for the second qualitative phase, you will be interviewed individually. The conversational style interview regarding your feelings of autonomy, competence and relatedness will take one hour and, with your permission, will be audio taped and transcribed. You will be provided a transcript of the interview for checking and clarifying any information.

The second phase will also include observations at lunch and recess time. The researcher will not interact with you but will simply take notes. You will be provided with a copy of the notes to check and to clarify.

Risks and Inconveniences
There are minimal risks to participating in this study. These include:

1. loss of personal time necessary to participate in the survey, interview and review of the transcript
2. loss of instructional time while you take the survey or are interviewed
3. feelings of discomfort caused by interview questions
4. potential breach of confidentialit

Safeguards
Safeguards put in place to minimize risk include:

1. The survey has 28 questions and is designed to take no more than 10 minutes, therefore, the loss of instructional time for this phase is minimal.
2. Interview sessions will be restricted to 1 hour; if it persists longer than this duration, it can be stopped at your request.
3. You may have strong emotional reactions to the survey and interview. You do not have to complete the survey or interview questions if you feel uncomfortable. If needed, the guidance counselor has been contacted and will be available to talk with you.
4. Your interview data will be kept confidential, available only to the research team for analysis purposes. Only the research team will listen to and transcribe the information you provide. The audio tapes will be destroyed following final analysis; no later than June 15, 2014

Pseudonyms for schools, districts, and teachers will be used to minimize the risk of *identification*. You will be given the opportunity to review the transcribed interview and to eliminate any comments or references you feel may be identifiable or have negative connotations with respect to the district or school leadership. Your responses will not be linked to your name or address, and there will be no follow-up sessions.

Voluntary Participation
Your participation is entirely voluntary, and may be withdrawn at any time. If the length of the interview becomes inconvenient, you may stop at any time. There are no consequences if you decide not to participate. In particular, your grades will not be affected if you choose not to participate.

Benefits
Although your participation will yield minimal or no direct benefits to you, we believe that the study has the potential to positively affect how middle school programs are designed.

Questions/Contact Information

This study has been approved by the California State University San Marcos Institutional Review Board (IRB). If you have questions about the study, you may direct those to the researcher, Luz Casquejo Johnsotn, johns01@cougars.csusm.edu, (951) 415-0122, or the researcher's advisor/professor, Edaniels@csusm.edu, (760) 750-8547. Questions about your rights as a research participant should be directed to the IRB at (760) 750-4029. You will be given a copy of this form to keep for your records.

☐ I agree to participate in this research study.

☐ I agree to have the interview audiotaped.

____ ____________________

Participant's Name Date

____

Participant's Signature

☐ I agree to allow my child to participate in this research study.

☐ I agree to have my child's interview audiotaped.

____ ____________________

Parent of Participant's Name Date

____

Parent of Participant's Signature

____

Researcher's Signature

APPENDIX B: SURVEY INSTRUMENT

My Feelings About School How do you feel about your school? This survey is designed to help you express your feelings about your school. If you want to, please fill out the survey and return it to you teacher. Your feedback will not be shared with your teacher or anyone else. It is confidential	Survey ID:

Please read each statement. Think about how true it is for you. Put an "x" in the box that seems to match what you think.		**RATINGS**						
		1 not at all true for me	2	3	4 some-what true for me	5	6	7 very true for me
1	I feel a sense of choice and freedom in the things I undertake.							
2	I feel that decisions reflect what I really want							
3	I feel my choices express who I really am							
4	I feel I have been doing what really interests me							
5	Most of the things I do feel like "I have to"							
6	I feel forced to do many things I wouldn't choose to do							
7	I feel pressured to do too many things							
8	My daily activities feel like a chain of obligations							
9	I feel that the people I care about also care about me							
10	I feel connected with people who care for me, and for whom I care							
11	I feel close and connected with other people who are important to me.							
12	I experience a warm feeling with the people I spend time with							
13	I feel excluded from the group I want to belong to							
14	I feel that people who are important to me are cold and distant towards me							
15	I have the impression that people I spend time with dislike me							
16	I feel the relationships I have are just superficial							
17	I feel confident that I can do things well							
18	I feel capable at what I do							
19	I feel competent to achieve my goals							
20	I feel I can successfully complete difficult tasks							
21	I have serious doubts about whether I can do things well							
22	I feel disappointed with many of my performance							
23	I feel insecure about my abilities							
24	I feel like a failure because of the mistakes I make							
25	How old are you? (circle one)	11 12 13 14						
26	What grade are you in?(circle one)	6 7 8						
27	What is your gender? (circle one)	Male Female						
28	How many years have you been attending this school? (circle one)	1 2 3 4 5 6 7 8						

APPENDIX C: INTERVIEW PROTOCOL

1. Introductions and Warm-Up.
2. Lead-Off Question: "If you agree, I'd like to ask you a few questions. Is that okay?"
3. Safeguard Statement: "I want to remind you that your participation in this interview is voluntary. Your grades will not be affected. I will not use your name in my study. I will only use your answers and I will keep all transcripts of this interview and the audiofiles in a locked cabinet at my home. Your name will be coded as an extra measure to protect your identity. If you feel uncomfortable or want to stop the interview you can do so, at any time."
4. Background Question: "Tell me the story of how you or your parents chose this school for you. Tell me where you went to school before and how long you have been at this school."
5. "How do you feel about this school?"
6. "Tell me how this school is the same or different than the last school you attended."
7. "Do you feel that you have choice and freedom in the work you do at school?" "How is this the same or different from your previous school?"
8. "Do you feel that the people (teachers, students, staff) at this school care about you? Tell me how you know this." "How is this the same or different from your previous school?"
9. "Do you feel that you have the skills to do well at this school?" "Tell me why you feel this way." "How is this the same or different from your previous school."

REFERENCES

Anderman, L.H. and Midgley, C. (1998). Motivation and middle school students. *ERIC Digest. n.p.:1-2.*

Arnone, M.P, Reynolds, R, and Marshall, T. (2009). The effect of early adolescents' psychological needs satisfaction upon their perceived competence in information skills and intrinsic motivation for research. *School libraries worldwide, 15*(2), 115-134.

Association for Middle Level Education (2000). *This we believe: Successful school for Young adolescents.* Westerville: National Middle School Association.

Bauer, J.J., and McAdams, D.P. (2000). Competence, relatedness, autonomy in life stories. *Psychological Inquiry,* 11(4), 276-279.

Bryk, A.S. and Schneider, B. (2003). Trust in schools: A core resource for school reform. *Educational Leadership,* 60(6), 40-44.

Carnegie Council on Adolescent Development (1989). *Turning points: Preparing American youth for the 21st century.* Washington, D.C.: Carnegie Corporation.

Charmaz, K. (2005). Grounded theory in the 21st century: applications for advancing social justice studies. In N.K. Denzin and Y.S. Lincoln, (Eds.), *The handbook of qualitative research*. Thousand Oaks, CA: SAGE. (3rd edition, pp. 507-535).

Chase, S.E. (2008). Narrative inquiry: multiple lenses, approaches, voices. In N.K. Denzin and Y.S. Lincoln (Eds), *Collecting and interpreting qualitative materials.* Los Angeles, CA: SAGE (pp 57-94).

Chase, S. (2005). Narrative inquiry: multiple lenses, approaches, voices. In N.K. Denzin and Y.S. Lincoln, (Eds.), *The handbook of qualitative research*. Thousand Oaks, CA: SAGE. (3rd edition, 651-679).

Chirkov, V.I. (2009). A cross-cultural analysis of autonomy in education: A self-determination theory perspective. *Theory and Research in Education,* 7(2), 253-262.

Chirkov, V.I. and Ryan, R.M. (2001) 'Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation', *Journal of Cross-cultural Psychology* 32(5), 618–35.

Clandinin, D.J. and Connelly, F.M. (2000). *Narrative inquiry: Experience and story in qualitative research.* San Francisco: Jossey-Bass Publishers.

Claxton, S.S. (1982). A comparison of the student achievement, student self-concept, and the parental attitude toward traditional and Montessori programs in a public school setting. Educat.D., study, University of North Texas, United States—Texas. Retrieved October 30, 2011, from the Studys & Theses: The Humanities and Social Sciences Collection. (Publication No. AAT 8217619).

Coe, E.J. (1988). Creating an holistic, developmentally responsive learning environment that empowers the early adolescent. Ph.D study, The Union for Experimenting Colleges and Universities, United States—Ohio, Retrieved November 5, 2011, from Dissertations & Theses: The Humanities and Social Sciences Collection. (Publication No. AAT 8906565).

Coe, E. J. (1996). Montessori and middle school. *Montessori Life,* 8(2):26-29, 40.

Cook-Sather, A. (2006). Sound, presence, and power: "Student voice" in educational research and reform. *The Ontario Institute for Studies in Education of the University of Toronto, 36*(4), 359-390.

Cook-Sather, A. (2002). Authorizing students' perspectives: Toward trust, dialogue and change in education. *Educational Researcher, 31(*4), 3-14.

Creswell, J.W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* Columbus: Pearson.

Creswell, J.W. and Plano-Clark, V.L. (2007). *Designing and conducting mixed methods research.* Thousand Oaks: SAGE Publications.

Daly, A.J. (2009). Rigid response in an age of accountability: the potential of leadership and trust. *Education Administration Quarterly*, 45(2), 168-216.

Daly, A.J. and Chrispeels, J. (2008). A question of trust: Predictive conditions for adaptive and technical leadership in educational contexts. *Leadership and Policy in Schools*, 7(1), 30–63.

Daniels, E.(2011). Creating motivating learning environments: Teachers matter. *Middle School Journal, 43*(2), 32-37.

Daniels, E., and Arapostathis, M. (2005). What do they really want?: Student voices and motivation research. *Urban Education, 40*(1), 34-59.

Dawes, N.P, and Larson, R. (2011). How youth get engaged: Grounded-Theory research on motivational development in organized youth programs. *Developmental Psychology, 47*(1), 259-269.

Deci, E.L. (1975). *Intrinsic motivation.* New York: Plenum Press.

Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality,* 62(1), 119–142.

Deci, E.L., Koestner, R., and Ryan, R.M. (2007). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research. 71*(1), 1-27.

Deci, E.L. and Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11(4), 227-268.*

Deci, E.L., Ryan, R.M., and Williams, G.C. (1994). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences, 8*(3), 165-183

Deci, E.L., Vallerand, R.J., Pelletier, L.G., and Ryan, R.M. (1991). Motivation and Education: The self-determination perspective. *Educational Psychologist*, 26(3&4), 325-346.

Dee, T.S. (2004). The race connection. *Education Next,* 4(2), 52-59.

Dohrmann, K.R., Nishida, T.K., Gartner, A., Lipsky, D.K and Grimm, K.J. (2007). High school outcomes for students in a public Montessori program. *Journal of Research in Childhood Education,* 22(2): 205-217

Elkind, D. (1994). *Sympathetic understanding of the child: birth tosixteen.* Boston: Allyn and Bacon.

Enright, M.S. (2008). Building a just adolescent community. *Montessori Life*, 20(1), 36-42.

Erikson, Erik H. (1993) [1950]. *Childhood and society*. New York, NY: W. W. Norton & Company.

Fielding, M. (2004). Transformative approaches to student voice: Theoretical underpinning, recalcitrant realities. *British Educational Research Journal, 30*(2), 295-311.

Fielding, M. (2001). Students as radical agents of change. *Journal of Educational Change 30(2), 123-141.*

Field, S., Hoffman, A. and Posch, M. (1997). Self-determination during adolescence: A developmental perspective. *Remedial and Special Education 18(5), 285-293.*

Gillespie, T. (1994). You start with trust. *Montessori Life*, 6(2), 18-21.

Gillison, F., Standage, M. and Skevington, S. (2008). Changes in quality of life and psychological need satisfaction following the transition to secondary school. *British Journal of Educational Psychology,* 78(1): 149-162.

Glassett, S. (April 2012). Using self-determination theory in participant selection for narrative inquiry: A methodology for the participant-selection variant of an explanatory sequential design. Unpublished paper presented at the American Educational Research Association Conference, Vancouver, Canada.

Goddard, R. D., Salloum, S. J., & Berebitsky, D. (2009). Trust as a mediator of the relationship between poverty, racial composition, and academic achievement. *Educational Administration Quarterly*, 45(2), 292–311.

Goddard, R.D., Tschannen-Moran, M., Hoy, W.K. (2001). A multilevel examination of the distribution and effects of teacher trust in students and parents in urban elementary school. *The Elementary School Journal,* 102(1), 3-17.

Guay, R., Assor, A., Kanat-Maymon, Y., and Kaplan, H. (2007). Autonomous motivation for teaching: how self-determined teaching may lead to self-determined learning. *Journal of Educational Psychology. 99*(4), 761-774.

Guay, F., Ratelle, C.F., Roy, A., and Litalien, D. (2010). Academic self-concept, autonomous academic motivation, and academic achievement: Mediating and additive effects. *Learning and Individual Differences, 20* (6), 644-653.

Hanson, B.(2009). An exploratory study on the effectiveness of Montessori constructs and traditional teaching methodology as change agents to increase academic achievement of elementary Black students. Ph.D. study, Capella University, United States -- Minnesota. Retrieved October 23, 2011, from Studys & Theses: A&I.(Publication No. AAT 3371732).

Hobbs, A.(2008). Academic achievement: Montessori and non-Montessori private school settings. Ed.D. study, University of Houston, United States -- Texas. Retrieved October 23, 2011, from Studys & Theses: A&I.(Publication No. AAT 3309550).

Hurley, R. (2006). The decision to trust. *Harvard Business Review,* 84(9), 55-62.

Jang, H., Reeve, J., Ryan, R.M., Kim, A. (2009). Can self-determination theory explain what underlies the productive, satisfying learning of experiences in collectivistically oriented Korean students? *Journal of Educational Psycology.* 101(3), 644-661.

Johnston, M.M., and Finney, S.J. (2010). Measuring basic needs satisfaction: Evaluating

previous research and conducting new pscyhchometric evaluations of basic needs satisfaction in general scale. *Contemporary Educational Psychology* 35(2010), 280-296.

Kincheloe, J.L. (2005). On to the next level: Continuing the conceptualization of the bricolage. *Qualitative Inquiry, 11*(2005), 323-350.

Kincheloe, J.L. and McLaren, P. (2005). Rethinking critical theory and qualitative research. Denzin and Y.S. Lincoln, (Eds.), *The handbook of qualitative research*. Thousand Oaks, CA: SAGE. (3rd edition, pp. 303-342).

Kroeger, S., Burton, C., Comarata, A., Combs, C., Hamm, C., Hopkins, R., and Kouche, B. (2004). Student voice and critical reflection: Helping students at risk. *Teaching Exceptional Children, 36*(3), 50-57.

Kruse, S. (2000). Student voice: A report from focus group data. *National Association of Secondary School Principals Bulletin, 84*(7), 77-85.

Lincoln, Y. S. (1995). In Search of Student Voice. *Theory into Practice* 34(2), 88-93.

Lopata, C., Wallace, N.V., and Finn, K.V. (2005). Comparison of academic achievement between Montessori and traditional education programs. *Journal of Researh in Childhood Education.* 20(1), 1-9.

Louis, K.S. (2009). Trust and improvement in schools. *Journal of Educational Change*, 8, 1-24.

McCladdie, K. (2006). A comparison of the effectiveness of the Montessori Method of reading instruction and the Balanced Literacy Method for inner city African American students. Ed.D. study, Saint Joseph's University, United States—Pennsylvania. Retrieved October 30, 2011, from Studys & Theses: The Humanities and Social Sciences Collection. (Publication No. AAT 3213419)

McDurham, R.(2011). A comparison of academic achievement for seventh and eighth grade students from Montessori and non-Montessori school programs. Ed.D. study, Tarleton State University, United States -- Texas. Retrieved October 23, 2011, from Studys & Theses: A&I.(Publication No. AAT 3462630).

McLaren, P.L. & Giarelli, J.M. (1995). Introduction: Critical theory and educational research. In P.L. McLaren and J.M. Giarelli (eds.), *Critical theory and educational research.* Albany: State University Press.

Miserandino, M. (1996). Children who do well in school: Individual differences in

perceived competence and autonomy in above-average children. *Journal of Educational Psychology, 88*(2), 203-214.

Mitra, D.L. (2004). The significance of students: Can increasing "student voice" in schools lead to gains in youth development? *Teachers College Record, 106* (4): 651-688.

Montessori, Maria (1972). *The discovery of the child.* New York: Schocken Books.

Montessori, Maria (1964 [1917]). *Dr. Montessori's own handbook*. Massachusetts: Robert Bentley, Inc.

Montessori, Maria (1972). *Education and peace.* Chicago: Henry Regnery Company.

Montessori, Maria (1973 [1948]). *From childhood to adolescence*. New York: Schocken Books.

Montessori, Maria (1964 [1912]). *The Montessori method.* New York: Schocken Boooks.

Montessori, Maria (1936). *To educate the human potential.* Thiruvanmiyur: Kalakshetra Press.

Montessori, Mario (1976). *Education for human development: Understanding Montessori.* New York: Schocken Books.

Mouratidis, A. and Michou, A. (2011): Self-determined motivation and social achievement goals in children's emotions, Educational Psychology: An International Journal of Experimental Educational Psychology, 31:1, 67-86

Musial, D. (1986). In search of excellence. Applying the principles of trust to education. *Contemporary Education*, 58(1): 42-44.

Niemiec, C.P., Lynch, M.F., Vansteenkiste, M., Bernstein, J., Deci, E.L. and Ryan, R.M. (2006). The antecedents and consequences of autonomous self-regulation for college: A self-determination theory perspective on socialization. *Journal of Adolescence.* 29(2006), 761-775

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and Research in Education, 7*(2), 133-144. doi:10.1177/1477878509104318

Owens, T.J., Mortimer, J.T. and Finch, M.D. (1996) Self-determination as a source of self-esteem in adolescence. *Social Forces* 74(4), 1377-1404.

Peng, H. (2009). A comparison of the achievement test performance of children who

attended Montessori schools and those who attended non-Montessori schools in Taiwan. Ph.D. study, Indiana State University, United States—Indiana. Retrieved October 30, 2011, from Studys & Theses: The Humanities and Social Science Collection. (Publication No. AAT 3394721).

Reeve, J.M., and Sickenius, B. (1994). Development and validation of a brief measure of the three psychological needs underlying intrinsic motivation: The AFS scales. *Educational and Psychological Measurement 54*(2), 506-515.

Robinson, C. and Taylor, C. (2007). Theorizing student voice: Values and perspectives. *Improving Schools, 10*(1), 5-17.

Roeser, R.W. and Eccles, J.S. (1998). Adolescents' perceptions of middle school: Relation to longitudinal changes in academic and psychological adjustment. *Journal of Research on Adolescence, 8(1), 123-158.*

Roessingh, H. (2006). The teacher is the key: building trust in ESL high school programs. *The Canadian Modern Language Review,* 62(4), 563-590.

Rule, A.C., Kyle, P.B. (2009). Community-building in a diverse setting. *Early Childhood Education Journal,* 36, 291-295.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology,* **57,** 749–761.

Ryan, R.M., and Deci, E.L. (2000a). Intrinsic and extrinsic motivations: Classic definitions and new directions: *Contemporary Educational Psychology, 25*(1), 54-67.

Ryan, R.M. and Deci, E.L (2000b).Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist.* 55(1), 68-78.

Ryan, A.M., and Shim, S.S. (2008). An exploration of young adolescents' social achievement goals and social adjustment in middle school. *Journal of Educational Psychology,100*(3), 672-687.

Sahlberg, P. (2007). Education policies for raising student learning: the Finnish approach. *Journal of Educational Policy,* 22(2), 147-171.Scribner, J.P. (2005). The problems of practice: Bricolage as a metaphor for teacher's work and learning. *The Alberta Journal of Educational Research, 51(4), 295-310.*

Sheldon, K.M, Abad, N. and Omoile, J. (2009). Testing self-determination theory via

Nigerian and Indian adolescents. *International Journal of Behavioral Development, 33*(5), 451-459.

Shih, S. (2008). The relation of self-determination and achievement goals to Taiwanese eighth graders' behavioral and emotional engagements in schoolwork. *The Elementary School Journal 108(4), 313-334.*

Soenens, B. and Vansteekiste, M. (2005). Antecedents and outcomes of self-determinations in 3 life domains: The role of parents and teachers' autonomy support. *Journal of Youth and Adolescence.* 34(6), 589-604

Standing, E.M. (1998). *Maria Montessori: Her life and work*. New York: Plume.

U.S. Department of Education (2010). *Transforming American Education: Learning Powered by Techonology.* Alexandria: U.S. Department of Education.

Vallerand, R.J., and Bissonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. *Journal of Personality, 60*(3), 599-620.

Van Maele, D. and Van Houtte, M. (2009). Faculty trust and organizational school characteristics : An exploration across secondary schools in Flanders. *Educational Administration Quarterly*, 45(4), 556-588.

Van Maele, D. and Van Houtte, M. (2010). The quality of school life: Teacher-student trust relationships and the organizational school context. *Social Indicators Research,* 100(1)*,* 85-100.

Vansteenkiste, M., Lens, W., and Deci, E.L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist, 4*(1), 19-31.

Vansteenkiste, M, Ryan, R.M., and Deci, E.L. (2008). Self-Determination theory and the explanatory role of psychological needs in human well-being. In L. Bruni, F. Comim and M. Pugno (Eds.), *Capabilities and happiness (pp. 187-223).* Oxford: Oxford University Press.

Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K.M., and Deci, E.L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology,* 87(2), 246-260.

Vansteenkiste, M., Sierens, E., Soenens, B., Luyckx, K., and Lens, W. (2009).

Motivational profiles from a self-determination perspective: The quality of motivation matters. *Journal of Educational Psychology, 101*(3), 671-688.

Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., and Matos, L. (2005). Examining the motivation impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development, 72*(2), 483-501.

Vygotsky, L. (1962[1934}). *Thought and Language*. Boston: The M.I.T. Press

Wahlstrom, K.L. and Seashore Louis, K. (2008). How teachers experience principal leadership: The roles of professional community, trust, efficacy, and shared responsibility. *Educational Administration Quarterly,* 44(4), 458-495.

Wentzel, K.R. (1999). Social-Motivation processes and interpersonal relationships: Implications for understanding motivation in school. *Journal of Educational Psychology, 91*(1), 76-97.

Wentzel, K.R. (1991). Relations between social competence and academic achievement in early adolescence. *Child Development,* 62(5), 1066-1078.