

2022

## The Relationship Between Community College Instructors' Perception of Andragogical Orientation and Instructional Style.

Renea P. Coley  
*Walden University*

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# Walden University

College of Psychology and Community Services

This is to certify that the doctoral dissertation by

Renea Coley

has been found to be complete and satisfactory in all respects,  
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Walden University  
2022

Abstract

The Relationship Between Community College Instructors' Perception of Andragogical  
Orientation and Instructional Style.

by

Renea Coley

MA, Walden University, 2016

BS, Christopher Newport University, 2002

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Teaching Psychology

Walden University

July 2022

## Abstract

Community colleges in Northern and Southeastern Virginia have struggled with enrollment and retention of adult learners. Addressing adult learners' needs is an important focus for instructors, yet few studies have addressed how instructors can use andragogy, the art and science of adult learning, to influence their instructional practices to support adult learners. Based on self-determination theory, this quantitative, cross-sectional study examined the extent that 75 community college instructors' perceived andragogical orientation predicted an autonomy-supportive instructional style controlling for instructor years of teaching, highest degree earned, and gender. Instructors from 10 community colleges in Northern and Southeastern Virginia teaching in the 2021-2022 academic year were asked to complete an online survey including the Principles of Adult Learning questionnaire and the Problems in Schools questionnaire to measure their self-reported andragogical orientation and autonomy-supportive instructional style, respectively. Results from a multiple hierarchical regression revealed that the constructs of andragogy: (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development, predicted an instructional style that is more autonomy-supportive, particularly the assessing learner needs construct. Results of this study may contribute to positive social change by helping community college instructors make more informed decisions about course design to address the needs of adult learners.

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## Dedication

I would like to dedicate this dissertation to my mother, Delphine Clarice Page, and to my father, Gale Eugene Page, who passed away in 2009. Thank you for your unconditional love and support. Thank you for helping me raise Patrice while I went back to college and thank you for all the many prayers that carried me through the years. I hope I have made you and our family proud.

## Acknowledgments

There are many people I would like to thank who helped me to reach this point in my educational journey. First and foremost, I thank God for blessing me throughout my entire life with angels on Earth protecting and watching over me. One of those angels is my husband, Alonzo G. Coley, III. Thank you, Alonzo, for standing by my side and being patient and supportive with me through my emotional ups and downs, for being a social hermit, for going to bed before the sun went down, and for getting up before dawn to get my schoolwork done. You are the best and I am grateful to have you in my life!

I would like to thank my daughter Patrice for all our talks and for allowing me to share my ideas, hopes, and goals with you. I hope you realize that everything I have done was to make a better life for you and our family. Additionally, thank you to my friends and family for your encouragement and support. I appreciate all the texts, phone calls, and encouraging words.

I extend my heartfelt appreciation to my committee members, Dr. Silvia Bigatti, Dr. Anthony Perry, and Dr. Donna Heretick. Your suggestions, feedback, and guidance through this process were invaluable. Thank you for seeing me through this journey. When at first I felt many anxieties over having a new committee, those worries quickly turned into confidence and appreciation.

Finally, I would like to thank Dr. Kimberley Cox, Dr. Stacy Bjorkman, and Walden University for the opportunity to be a part of the inaugural class of PhD psychology fellows. If not for the fellowship program, the fellowship scholarship, and the teaching assistantship opportunity, I would not have started this PhD journey. Through

the fellowship, I have not only gained worthwhile experience teaching in higher education working alongside a phenomenal mentor, but I also acquired new meaningful lifelong friendships. For that, this PhD journey has forever positively and significantly changed my life.

## Table of Contents

List of Tables .....	v
List of Figures .....	vi
Chapter 1: Introduction to the Study.....	1
Introduction.....	1
Background .....	3
Problem Statement .....	7
Purpose of the Study .....	8
Research Question and Hypotheses .....	8
Theoretical Framework.....	9
Nature of the Study .....	11
Definitions.....	12
Adult Learner .....	12
Andragogy.....	13
Andragogical Orientation.....	14
Teacher-Centered Instructional Style .....	14
Learner-Centered Instructional Style .....	14
Autonomy-Supportive Instructional Style .....	15
Controlling Instructional Style.....	15
Assumptions.....	15
Scope and Delimitations .....	16
Limitations .....	18

Significance.....	19
Summary.....	20
Chapter 2: Literature Review.....	22
Introduction.....	22
Literature Search Strategy.....	25
Theoretical Framework.....	26
Key Variables.....	34
Adult Learners .....	34
The Need to Support Adult Learners .....	36
Learner-Centered and Teacher-Centered Instructional Styles.....	38
Constructs of Interest .....	40
Andragogy.....	40
Andragogy to Guide Instructional Practices .....	44
Andragogical Orientation.....	45
Autonomy-Support .....	45
Autonomy-Supportive vs. Controlling Instructional Style .....	47
Instructor Characteristics and the Link to Instructional Style .....	49
Recent Studies in Andragogy in Meeting Adult Learners Needs .....	51
How Andragogy Relates to Self-Determination Theory .....	57
Rationale for the Variables and Constructs .....	59
Community Colleges in Virginia.....	60
Summary.....	61

Chapter 3: Research Method.....	64
Introduction.....	64
Research Design and Rationale .....	64
Methodology.....	66
Population.....	66
Sampling and Sampling Procedures .....	66
Power Analysis .....	68
Procedures for Recruitment, Participation, and Data Collection.....	68
Instrumentation .....	69
Andragogical Orientation.....	70
Autonomy-Supportive Instructional Style .....	71
Operationalization of Variables .....	72
Data Analysis Plan.....	76
Research Question and Hypothesis.....	76
Threats to Validity .....	79
Ethical Procedures .....	81
Summary.....	82
Chapter 4: Results.....	84
Introduction.....	84
Data Collection .....	85
Demographic Characteristics .....	87
Results	87

Descriptive Statistics.....	87
Evaluation of Statistical Assumptions .....	90
Hierarchical Multiple Regression Analysis .....	93
Covariates Influence on Instructional Style.....	94
Constructs of Andragogical Orientation Influence on Instructional Style.....	94
Summary .....	97
Chapter 5: Discussion, Conclusions, and Recommendations.....	98
Introduction.....	98
Interpretation of the Findings.....	101
Limitations of the Study.....	105
Recommendations.....	107
Implications.....	108
Conclusion .....	109
References.....	111
Appendix A: Permission Email to Modify PIS.....	125
Appendix B: Q-Q Plots of Variables .....	126
Appendix C: Scatterplots for Homoscedasticity.....	134
Appendix D: P-P Plots .....	135

## List of Tables

<b>Table 1</b> <i>Instructor Demographics</i> .....	87
<b>Table 2</b> <i>Descriptive Statistics for the Predictor Variables (n = 78)</i> .....	88
<b>Table 3</b> <i>Descriptive Statistics for the Outcome Variable Autonomy-Supportive Instructional Style</i> .....	89
<b>Table 4</b> <i>Test of Normality for Variables</i> .....	91
<b>Table 5</b> <i>Collinearity Diagnostics for Predictor Variables</i> .....	91
<b>Table 6</b> <i>Model Summary Durbin-Watson d test</i> .....	92
<b>Table 7</b> <i>Cronbach Alpha Coefficients for Study Instruments</i> .....	93
<b>Table 8</b> <i>ANOVA Results for Autonomy-Supportive Instructional Style</i> .....	95
<b>Table 9</b> <i>Hierarchical Multiple Regression Model Summary</i> .....	95
<b>Table 10</b> <i>Coefficients: Predictors of Autonomy-Supportive Instructional Style</i> .....	96

## List of Figures

<b>Figure B1</b> <i>Normal Q-Q Plot Weighted Average: Autonomy-Supportive Instructional Style</i> .....	126
<b>Figure B2</b> <i>Normal Q-Q Plot Personalizing Instruction</i> .....	128
<b>Figure B3</b> <i>Normal Q-Q Plot Relating to Experience</i> .....	129
<b>Figure B4</b> <i>Normal Q-Q Plot Assessing Needs</i> .....	130
<b>Figure B5</b> <i>Normal Q-Q Plot Climate Building</i> .....	131
<b>Figure B6</b> <i>Normal Q-Q Plot Participation in the Learning Experience</i> .....	132
<b>Figure B7</b> <i>Normal Q-Q Plot Flexibility in Personal Development</i> .....	133

## Chapter 1: Introduction to the Study

### **Introduction**

More and more nontraditional students are enrolling in college to pursue higher education opportunities. The National Center for Education Statistics (n.d.) defines nontraditional learners as those who possess any of the following characteristics: delayed enrollment, meaning not enrolling in college immediately after high school completion, part-time enrollment, financially independent from parents, having dependents other than a spouse, parents themselves, employed full-time, and or did not receive a standard high school diploma. The nontraditional student or adult learner is referred to by several terms in the literature to also include lifelong learner and mature learner (Carlson et al., 2018). The term adult learner is used in this study. Regardless of the term to describe them, adult learners experience different challenges unique to being considered financially independent than traditional college students who embark on postsecondary education immediately following high school graduation and may still be considered financially dependent on their parents. Adult learners have work and life experiences, a different mindset, and often different motivational factors driving their educational pursuits different than traditional college students (Chawla, 2019). Adult learners thus require a different type of pedagogy to motivate them to persist in completing their educational goals (Knowles, 1968, 1980; Knowles et al., 2015).

Community colleges often attract adult learners for various reasons (Remenick, 2019). Community colleges offer flexibility in course scheduling, lower tuition cost, and varying degree options such as certificate programs and noncredit workforce courses.

Yet, with completion rates among community college students being under 40% (McFarland et al., 2019), this signifies a social problem important to college administrators, instructors, students, and the greater community.

Nationally community colleges are struggling to retain and graduate students. The National Student Clearinghouse is a non-profit organization that reports annual statistical information on enrollment and outcome data for institutions of higher education. Since 2012-2013, the number of students earning an associate degree or a certificate from a community college has steadily declined (Huie et al., 2021). The number of students earning a degree or certificate for the first time (first time graduates) age 25 and older has declined each year from 961,000 in 2012-2013 to 723,000 in 2019-2020, while the number of first-time graduates age 25 and under has increased during the same time period (Huie et al., 2021). Attrition rates have been attributed to adult learners needing remedial classes (Fernandez et al., 2017) and their struggle to integrate into the higher educational environment (Chawla, 2019; Kenner & Weinerman, 2011). Therefore, it is important to understand the community college instructor's role in creating an instructional environment that helps integrate adult learners and addresses their needs.

This study examined the relationship between community college instructors' perception of andragogical orientation and instructional style. Malcolm Knowles first introduced andragogy to the United States in the 1970s. Andragogy is a learning concept that assumes adults learn differently than children (Knowles et al., 2015). Andragogy refers to "the art and science of helping adults learn" (Knowles, 1980, p. 43). Andragogical orientation in this study refers to the tendency to apply adult learning

principles in a learner-centered teaching approach versus an instructor-centered teaching approach (Knowles et al., 2015). When principles of andragogy are considered in the design of lessons, andragogy can address the learning needs of adults, which are different from the learning needs of children (Brookfield, 1986). In their literature review of evidence based instructional strategies, Carlson et al. (2018) found support for increasing adult learners' success through instructors using andragogical or adult learning principles that better align with the unique challenges that adult learners face. When instructors better support adult learners in the classroom, there is the potential for positive social change by increasing best practices for instructors, trainers, or other mentors working with adult learners.

This chapter includes background information, the problem statement, and purpose of this study. It also includes the research questions, hypotheses, and theoretical framework, which outlines self-determination theory (SDT). Additionally, the nature of the study, definition of variables, and assumptions are explained. Finally, I conclude with the scope and delimitations, limitations, significance, and an overall summary.

### **Background**

Adult learners have a dominant presence in higher education but few are earning a degree or credential. In the United States, only 47.6% of American adults possess a credential beyond a high school diploma despite an estimated two-thirds of all U.S. jobs that require some form of formal education beyond high school (Lumina Foundation, 2019; Mews, 2020). From 2012 until 2020, the number of first-time graduates earning a degree or credential in the United States over age 25 has steadily declined compared to

the steady increase of first-time graduates among students age 24 and younger (Huie et al., 2021). In Virginia, according to the Virginia Community College System (VCCS) website, there was a steady increase of community college students who earned a graduation credential from 2009-2013; however, the graduation rate declined in 2014, slightly increased in 2015, and gradually declined from 2016-2020. There were 8,407 fewer students who earned a degree from a community college in Virginia from 2009 and 2020 (Virginia Community College System, n.d.). It is important for adult learners to have a degree or credential beyond high school to compete for higher paying jobs. There is a need to support adult learners in completing their educational goals.

Addressing the needs of adult learners is an important focus. Throughout history, institutions of higher education, especially community colleges, have provided campus wide support to adult learners to bolster their success (Remenick, 2019). In fact, in the late 1800s and early 1900s, the creation of normal schools that eventually turned into teacher's colleges served a population of students who enrolled part-time, were older in age, were lower in socioeconomic status, had families, and were women (Remenick, 2019). Campus wide supports undertaken to assist adult learners included accelerated curriculums, new student orientation programs, and pairing students with academic advisors during the enrollment process (Pierce, 2015). Campus wide intervention strategies are important and discussed heavily in the literature; however, few studies specifically discuss how instructors can use principles of adult learning, such as andragogy, to influence their instructional style to motivate adult learners.

Andragogy is a framework put forth by Malcolm Knowles as the science of teaching adult learners (Knowles, 1968). Two important attributes of andragogy are that adult learners are autonomous and self-directed and the role of the instructor is as a facilitator who emphasizes learner autonomy (Knowles et al., 2015). When compared to pedagogy, the following differences are noted. Pedagogy has been described as the method of teaching children most familiar in the K-12 educational setting (Knowles, 1968). The assumption is that children are more dependent learners and from the pedagogical framework, the teacher is the focus of the attention. Students learn solely from the material the teacher presents and there is very little autonomy on the part of the student. The pedagogical method describes a teacher-focused instructional style. Conversely, andragogy posits the following six assumptions: that adults need to know the purpose of their learning, have an autonomous and self-directing self-concept, have rich experiences that are contributable to the learning experience, have a readiness to learn based on life circumstances, are problem-oriented, and are primarily intrinsically motivated (Knowles et al., 2015). Andragogical orientation is thus defined as the tendency of instructors to focus on the process of adult learning rather than strictly on the content of the material and includes elements of learner-centered activities, personalizing instruction, relating to experience, assessing student needs, climate building, participation in the learning process, and flexibility for personal development (Knowles et al., 2015). An andragogical orientation is considered having a learner-centered instructional style.

An adult learning environment has been described in the literature as one that supports autonomy and some freedom of choice (Murray & Mitchell, 2013). According

to SDT, the need for autonomy is an important motivational factor for learning (Deci et al., 1994). An autonomy supportive instructional style is one that promotes self-determined behavior and includes providing a reasonable and meaningful rationale for a learning activity, acknowledging the learner's perspective and feelings, and providing a reasonable amount of choice within the learning environment (Deci et al., 1994).

Autonomy-supportive instructional strategies complement the andragogical framework in that one of the assumptions of andragogy is that adults have an autonomous and self-directing self-concept. Likewise, providing a reasonable and meaningful rationale for a learning activity aligns with andragogy's first assumption that adults need to know why they are learning a particular task. A controlling instructional style is defined as one that does not support self-determined behavior, puts pressure on students, and decreases the amount of choice and autonomy (Deci et al., 1994). While an autonomy-supportive instructional style has been shown to be effective with college students (Almusharraf, 2018; Jacobi, 2018; Ryan & Deci, 2017; Vanslambrouch et al., 2017; Yuan & Kim, 2018) it is still underused in the classroom setting (Ryan & Deci, 2020).

Previous authors have suggested how colleges can provide campus-wide institutional supports for adult learners (Osam et al., 2017; Peterson, 2016; Remenick, 2019); however, few authors report on how instructors can use andragogy to influence instructional strategies, such as autonomy-supportive strategies, that will support adult learners. The specific research problem addressed through this study was that it was not known if the perceived andragogical orientation of instructors at the community colleges

in Northern and Southeastern Virginia predicted a more autonomy supportive or a more controlling instructional style.

The current study contributed to the literature by focusing on andragogy and autonomy-supportive instructional strategies of community college instructors in Northern and Southeastern Virginia. The current study was significant in that it added to the body of literature in understanding community college instructors' use of autonomy-supportive instructional style with the adult learning principle of andragogy and the extent to which andragogy predicted their instructional approaches. The results of this study will help community college instructors make more informed decisions about course design to address the needs of adult learners.

### **Problem Statement**

Community colleges in Northern and Southeastern Virginia have struggled with enrollment and retention of adult learners. In a 2019 statement made in the local newspaper and reported on one of the VCCS college's website (Thomas Nelson Community College, 2019), enrollment in community colleges across the state of Virginia had fallen 17% over the past 5 years. Attrition of adult learners is a challenge that some researchers attribute to the adult learner's lack of ability to integrate into a collegiate learning environment (Chawla, 2019; Kenner & Weinerman, 2011). In their literature review of evidence based instructional strategies, Carlson et al. (2018) found support for increasing adult learners' success through instructors using andragogical or adult learning principles that better align with the unique characteristics of adult learners. The next step in the scholarship of teaching was to address the limited research in

understanding how instructors use andragogy to develop instructional practices to better support adult learners. The current study added to the limited research on the extent to which community college instructors' perceived andragogical orientation predicted their use of autonomy-supportive instructional style after controlling for experience, education, and gender.

### **Purpose of the Study**

The purpose of this quantitative study was to examine the extent to which community college instructors' perceived andragogical orientation predicted their use of autonomy-supportive instructional style after controlling for instructor background characteristics. Instructor background characteristics included years of teaching experience in higher education, highest degree obtained, and gender. The predictor variables in this study were the constructs of andragogical orientation: (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development. The outcome variable was autonomy-supportive instructional style.

### **Research Question and Hypotheses**

The research question for this study was as follows: To what extent do the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development) predict an autonomy-supportive instructional style among community college instructors, controlling for

instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender?

*H<sub>0</sub>*: The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development) do not predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

*H<sub>a</sub>*: The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development) predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

### **Theoretical Framework**

The theory that grounded this study was Deci et al. (1991) and Ryan and Deci's (2020) SDT. SDT suggests that engagement is maximized when the following psychological needs of the individual are met: the need for autonomy and choice, the need to feel competent, and the need to be connected or having a sense of relatedness (Ryan & Deci, 2017). According to Deci and Ryan (1985), an individual's level of motivation exists on a continuum with intrinsic motivation (the desire to complete a task for the sheer pleasure of it) on one end and amotivation (a complete lack of desire) on the

opposite end. Relatively speaking, extrinsic motivation is similar to amotivation (Deci & Ryan, 1985). With extrinsic motivation, individuals are motivated by sources outside or external to the individual, such as grades, rewards, or praise (Deci & Ryan, 1985), which are given by the teacher. Intrinsic motivation is a desire to complete a task for pure enjoyment (Deci & Ryan, 1985). SDT makes a distinction between behavior that is self-determined and behavior that is controlled. Self-determined behavior is a matter of one's own volition or choice, whereas behavior which is controlled is a matter of compliance (Deci et al., 1991).

Within the classroom setting, it is not necessary for students to be entirely motivated by intrinsic desires for the experience to be meaningful (Deci & Ryan, 1985). According to SDT, there are two stages of extrinsic motivation called integration and identification in which learners find ways to integrate purposefulness into an uninteresting activity to satisfy their need for autonomy and personal volition (Deci & Ryan, 1985). However, intrinsic motivation to learn has been associated with adult learners (Knowles et al., 2015). Instructors who use autonomy-supportive instructional strategies are fostering intrinsic motivation (Ryan & Deci, 2017). Research has shown that students have an increased level of intrinsic motivation to learn when instructors provide autonomy-supportive instruction (Horverak et al., 2020; Lin, 2020). Instructors who are aware of the benefits of providing autonomy within the classroom are indirectly promoting adult learners' intrinsic motivations.

The logical connections between the framework presented and my study's approach include Ryan and Deci's (2020) theoretical work on psychological needs and

intrinsic motivation, which have been used in educational research. One of the psychological needs Ryan and Deci posited as necessary for intrinsic motivation is autonomy. Several assumptions of andragogy coincide with SDT, including the assumptions that adults are independent, have an autonomous self-concept, and are intrinsically motivated. It was hypothesized in this study that the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development) significantly predicted an autonomy-support instructional style among community college instructors. SDT supports the constructs of andragogy and will be further explored in Chapter 2. The theoretical approach of SDT provides a facet of self-determined behavior dealing specifically with addressing the adult learners' need for autonomy.

### **Nature of the Study**

To address the research question in this quantitative study, the specific research design included a non-experimental design and the survey method to explore whether andragogical orientation predicted an autonomy-supportive instructional style. The predictor variables were the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development). The outcome variable was instructional style (autonomy-supportive). To measure andragogical orientation, I used Conti's (1979) Principles of Adult Learning Scale (PALS) to measure instructors' learner-centered activities, personalizing

instruction, relating to experience, assessing student needs, climate building, participation in the learning process, and flexibility for personal development. To measure instructors' perceived instructional style, I used Deci et al.'s (1981) Problems in School (PIS) questionnaire. I adapted the wording of the vignettes and responses in the PIS appropriate for the use of college instructors instead of the K-12 teachers for whom the PIS was originally designed. I analyzed the data using IBM SPSS v. 25 (IBM, 2017) statistical software to run a multiple regression to determine if the constructs of the andragogical scale predicted instructional style while controlling for instructors' years of experience teaching in higher education, highest degree obtained, and gender. In a multiple regression, it is possible to predict an outcome using a model with several factors (Allen, 2017). According to Warner (2013), using a multiple regression with multiple predictor variables was appropriate when considering theories that have multiple predictors suspected to influence behavior such as the SDT.

## **Definitions**

### **Adult Learner**

Adult learners are those who possess any of the following characteristics: delayed enrollment, meaning not enrolling in college immediately after high school completion, part-time enrollment, financially independent from parents, having dependents other than a spouse, parents themselves, employed full-time, and/or did not receive a standard high school diploma (The National Center for Education Statistics, n.d.). Carlson et al. (2018) found that the term nontraditional student or adult learner is referred to by several terms

in the literature to include nontraditional student, adult learner, lifelong learner, and mature.

### **Andragogy**

Andragogy is an adult learning principle put forth by Malcolm Knowles as the science of teaching adult learners (Knowles, 1968). Andragogy posits the following six assumptions: (1) adults need to know the purpose of their learning (adults need to be given a reason or explained the benefits of learning or an awareness of their own learning gaps); (2) adults have an autonomous and self-directing self-concept (adults want to be shown respect as having personal choice over the decisions regarding their life including their education); (3) experience plays a critical role in adult learning and adults have rich experiences that make up their identity (adults may also have learning gaps that require a more individualized approach); (4) adults have a readiness to learn based on life circumstances yet these circumstances create barriers unique to adults which need to be considered (children are more future-oriented towards their learning goals while adults need to be able to immediately apply new knowledge and skills to their real-life circumstances); (5) adults are problem-oriented or task-oriented (material should be presented based on real-life scenarios); and (6) adults are primarily intrinsically motivated (adults are still driven by some external factors such as job requirements and income, however their primary desires are rooted internally such as for personal growth, job satisfaction, and quality of life; Knowles et al., 2015).

**Andragogical Orientation**

Andragogical orientation is defined as the tendency of instructors to focus on the process of adult learning rather than strictly on the content of the material and includes elements of learner-centered activities, personalizing instruction, relating to experience, assessing student needs, climate building, participation in the learning process, and flexibility for personal development (Knowles et al., 2015).

**Teacher-Centered Instructional Style**

A teacher-centered instructional style is what most individuals think of as a traditional lecture style in which students have a passive role in the learning process (Conti, 2004). Information is provided to the students from the teacher in a stimulus response format. It is assumed that learners are stimulated by the instructor, therefore the instructor's goal is to create an environment where desired behaviors are encouraged while undesired behaviors are discouraged. Learning is defined as a change in behavior measured by criterion or norm-referenced tests. This condition response type of learning environment is of a controlling nature (Conti, 2004).

**Learner-Centered Instructional Style**

The learner-centered style is defined by trust. The instructor trusts that students will take responsibility for their learning and they serve more as a facilitator and guide. The focus of learner-centeredness is more on the learner and their development of a personal awareness or self-actualization than on the subject. The learner's experience and perception of the process are considered important factors (Conti, 2004).

### **Autonomy-Supportive Instructional Style**

Autonomy-supportive instructional style supports students' volition of choice rather than attempt to control their behavior. Autonomy-supportive instructional style is operationally defined as a type of instructional style that provides learners with a reasonable and meaningful rationale for learning, acknowledgement of the learners' perspective and feelings, and use of noncontrolling language (Deci et al., 1994). Additionally, contemporary researchers have added providing choices (Williams et al., 1999) and nurturing intrinsic motivations (Reeve et al., 2004) to the constructs of autonomy-supportive instruction.

### **Controlling Instructional Style**

A controlling instructional style is one that pressures learners to behave in a particular way that when more salient, decreases intrinsic motivations (Deci et al., 1991). Emphasizing extrinsically motivated values and incentives such as grades and rewards are examples of a controlling instructional style (Deci et al., 1991). A controlling instructional style is one that is more oriented towards rewards and communication that is more controlling and does not include the elements of an autonomy-supportive instructional style (Deci et al., 1991).

### **Assumptions**

It was assumed that the PALS (Conti, 1979) was an accurate measurement of andragogical orientation. While no instrument exists yet to measure andragogy specifically, the PALS measures teaching practices that strongly resemble the constructs of andragogy (Knowles et al., 2015). The PALS has been used in over 100 studies as a

measurement of adult teaching style (Yoshida et al., 2014). It was assumed that instructors' personal educational philosophy is consistent over time (Conti, 2004) and is oriented either more towards teacher-centered pedagogical standards or learner-centered andragogical standards. It was important to assume that instructors had developed a method of instruction that works for their personality and fits the learning environment to capture a true representation of their andragogical orientation. Additionally, it was assumed that the adapted version of the PIS (Deci et al., 1981) was an accurate measurement of perceived autonomy-supportive instructional style. Yasué et al. (2019) adapted the vignettes in the PIS for their study to better fit the context of engagement between the university instructor and student. Their adapted version of the PIS was important in the current study because of the similar context of college instructors versus K-12 classroom teachers for whom the PIS was originally designed. Additionally, Clabaugh (2013) used the PIS in an unpublished dissertation and adapted it for use with community college instructors. It was also presumed that the community college instructors participating in this study were honest in reporting their perceptions of their andragogical orientation and autonomy-supportive instructional practices.

### **Scope and Delimitations**

The scope of this study involved collecting self-reported information from the targeted population of community college instructors in Northern and Southeastern Virginia who taught in the social and behavioral sciences department, which includes for example academic disciplines of psychology, sociology, anthropology, and political science to name a few. I chose social and behavioral sciences instructors because

psychology is the major I am most familiar with and teaching within the social and behavioral sciences department is my desired profession. Social and behavioral sciences instructors might also be familiar with learning theories and theories of motivation from previous training either in the field or through their educational journey. However, I had to expand beyond social and behavioral sciences to achieve my recruitment goals to all fields which expanded the original scope of the study. The sociodemographic data I collected were gender, years of teaching in higher education, and highest degree obtained. The sociodemographic data collected were used as control variables or covariates in the current study.

The theoretical framework for this study was SDT. SDT explains an individual's motivation to participate in intrinsic activities and activities which are extrinsically motivated within the framework of psychological needs. The main psychological need that seems to facilitate competence and relatedness is autonomy (Deci et al., 1991). While the need for competence and relatedness are additional components of SDT critical to motivation, those areas were not explored in this study because perceived autonomy is necessary for motivation to be intrinsic (Deci & Ryan, 2000). The topics explored in this study were andragogy, andragogical practices, self-determined behavior, especially related to autonomy, and the differences between teaching techniques that demonstrate autonomy-support and ones that demonstrate control.

The goal of this study was to produce results that can be generalizable to instructors at community colleges who instruct adult learners with the intentions of improving delivery of instruction to these unique learners. The results of this study were

not generalizable to instructors in higher education who teach traditional learners or those that teach outside of the community colleges in Virginia.

### **Limitations**

A challenge to this study was finding enough faculty members who would agree to participate. To address this limitation, additional faculty members outside of the behavioral and social science departments were surveyed. Issues that could affect external validity of this study include the community college faculty who agreed to participate may differ from the population of community college instructors as a whole. Their volunteerism to participate may suggest an inclination or bias towards research studies, implying these instructors have different perspectives and perceptions towards the constructs of this study. Demographic differences may separate this sample from the general population of community college instructors. To mitigate this limitation, this study controlled for years of teaching experience in higher education, highest degree earned, and gender. Issues that could affect internal validity of this study include the use of the measurement instruments. The PIS was initially designed by Deci et al. (1981) to measure the adult's perception of autonomy-supportive instructional style with children. It was modified for this study to reflect an adult population. Modifying the instrument may have affected its construct validity. Likewise, no instrument exists to date to measure andragogy. It is assumed that the PALS is an acceptable measure of the constructs of andragogy (Knowles et al., 2015). To mitigate the threats to construct validity, Chapter 2 will cover an in-depth explanation of how the constructs of andragogy and the SDT are correlated.

### **Significance**

This study was significant in that it added to the body of literature in understanding community college instructors' use of andragogical principles and the extent to which it guided their instructional approaches. Autonomy-supportive instructional approaches have been shown to improve academic engagement (Deci et al., 1981), increase autonomous motivation (Abula et al., 2018), and increase intrinsic motivation (Manninen et al., 2020; Ryan & Deci, 2017). Potential contributions of this study include informing community college instructors and academic leaders of how andragogical orientation can predict an autonomy-supportive instructional style. College administrators might consider professional development opportunities related to promoting andragogy and autonomy-supportive instructional strategies to better support adult learners since the literature suggests andragogy supports adult learners (Carlson et al., 2018; Kenner & Weinerman, 2011; Knowles, 1968, 1980; Knowles et al., 2015) and autonomy-supportive instructional strategies positively influences intrinsic motivation (Ryan & Deci, 2017). An andragogical based level of attention to instructional design that makes content relevant in the lives of adults may indirectly influence adult learner retention by enhancing their transition into higher education (Kenner & Weinerman, 2011) and increasing intrinsic interest in the material (Knowles et al., 2015). The findings from this study might inform how community college administrators take an andragogical background into consideration when hiring faculty members, while departmental leaders may consider professional development in andragogy for their current faculty to support adult learner retention.

## Summary

Adult learners have a dominant presence in higher education. Yet, graduation rates for adult learners, especially those attending public community college, are less than their counterparts in other higher education institutions (McFarland et al., 2019). By their nature, adult learners face different obstacles, have different learning needs, and face complex circumstances more often than traditional learners. It has been suggested that adult learners struggle because some adults require remediation and some adults do not integrate successfully into the higher education learning environment (Chawla, 2019). Andragogy is one learning principal that applies specifically to the needs of adult learners and thought to bridge those hinderances. It is assumed that adults learn differently than children and so they should be taught differently within the classroom setting. Instructors who use andragogy to meet the psychological needs of autonomy within the classroom through autonomy-supportive instructional practices, have the potential to positively influence adult motivation according to SDT (Deci & Ryan, 1985). Autonomy-support has been shown to increase learners' psychological needs (Edmunds et al., 2008), autonomous motivation (Abula et al., 2018), intrinsic motivation, and skilled performance (Manninen et al., 2020). Instructors of adults, particularly those at community colleges, may not be aware of their own teaching style to differentiate between andragogical strategies and pedagogical strategies. The aim of this study was to examine the perceptions of community college instructors andragogical orientation and whether these predicted their instructional style.

The implications for social change are far reaching. Bringing awareness to the community college community on the relationship that andragogical orientation has on autonomy-supportive instructional style will help instructors make better decisions on course design. This study highlighted the importance of using adult learning principles and supporting the need for autonomy for instructors who work with adult learners. Additionally, supporting adult learners within the classroom with andragogy and autonomy-supportive instructional practices will help adult learners complete their educational endeavors, supporting the community as a whole.

A literature review on SDT describing what it is and what it looks like in the classroom is explored in Chapter 2. Likewise, an understanding of adult learners, their preferences for learning, and supports known to assist them are covered. A thorough overview of andragogy and how it is different from pedagogy is outlined. Finally, Chapter 2 further defines autonomy-supportive instruction and the benefits of using an autonomy-supportive instructional style.

## Chapter 2: Literature Review

### **Introduction**

A higher proportion of adult learners attend community colleges than traditional learners (McFarland et al., 2019). Despite the numbers, community colleges in Virginia have seen a 17% decline in general enrollment over the past 5 years (Thomas Nelson Community College, 2019). Additionally, student retention has declined as there were over 8,000 fewer students who earned a degree from a community college in Virginia from 2009 to 2020 (Virginia Community College System, n.d.). Research has suggested that adult learners struggle with integrating into the higher learning environment (Chawla, 2019; Kenner & Weinerman, 2011). Adult learners often pursue higher education due to life events such as divorce, job loss, job promotions, and retirement (Hayes, 2016) or self-fulfillment (Bengo, 2020). Adult learners may experience a gap in foundational skills due to delayed entry from graduating high school (Kenner & Weinerman, 2011) and a low self-efficacy may cause adult learners to feel anxious or a lack of autonomy or control (Hayes, 2016). Consequently, it has been found that adult learners are more successful when instructors use andragogical, or adult learning principles, that better align with their unique characteristics and learning preferences (Carlson et al., 2018). Adult learners have different characteristics such as work and family experiences and different educational motivations unique to students who are financially independent and thus require a different style of instruction to meet their needs (Knowles, 1968, 1980; Knowles et al., 2015). Andragogy is the science of adult learning put forth by Malcolm Knowles (Knowles, 1968, 1980; Knowles et al., 2015) to

mitigate the challenges adults face integrating into a collegiate environment. The six principles that categorize andragogy, discussed further in the chapter, were designed to give educators of adults a frame of reference to support adult learners by understanding their needs. In the same regard, the SDT of motivation has been heavily used in educational research and posits that individuals are intrinsically motivated to complete their goals when their psychological needs for competence, autonomy, and relatedness are met (Ryan & Deci, 2020). According to SDT, individuals who are intrinsically motivated, those completing tasks for the sake of doing it, are more likely to persist to degree completion (Ryan & Deci, 2020). Yet, the problem remains that theories of motivation which can support adult learners, are underused within the college classroom setting (Almusharraf, 2018; Ryan & Deci, 2020).

Classroom instructors are a primary support for students and a strong influence over student retention (Ryan & Deci, 2017). Hence, instructors can either support students' natural growth or stifle it (Jeno et al., 2018). Specifically, within the classroom, SDT proposes that instructors who use autonomy-supportive instructional strategies rather than controlling strategies, are inherently promoting intrinsic motivation (Ryan & Deci, 2017). Moreover, andragogy has been described as the art and science of adult learning (Knowles, 1968). It is considered an adult learning framework with specific assumptions that will be further explained in the chapter. Together, andragogy and SDT align to foster the support adult learners need to persist. The purpose of this quantitative study was to examine the extent that community college instructors' perceived

andragogical orientation predicted their use of autonomy-supportive instructional style after controlling for instructor background characteristics

Andragogical practices within the community college setting better support adults because adults have a need to know, have an autonomous self-concept, have experiences (work and personal) that can contribute to the learning process, are ready and oriented to learn, and are intrinsically motivated to learn (Knowles et al., 2015). Through a meta-analysis, autonomy-support has been shown to increase learners' psychological needs (Edmunds et al., 2008), autonomous motivation (Abula et al., 2018), intrinsic motivation, and skilled performance (Manninen et al., 2020) by addressing the psychological need for autonomy. Addressing instructors' perceived andragogical orientation, which directs their instructional style, is important in improving the classroom experience of adult learners. The contextual environment adults experience in class related to autonomy-support could foster their intrinsic motivation to persist to degree completion. The findings from the current study may improve the delivery of instruction from community college social and behavioral sciences instructors to adult learners by supporting their integration into the collegiate learning environment. Supporting adults in the classroom with andragogical practices may also indirectly improve retention of adult learners by supporting the adult learner's unique characteristics and learning preferences and strengthening their intrinsic motivation to persist.

In this chapter, I provide an explanation of SDT, with a particular focus on the role of autonomy and how SDT has been applied to educational research related to the current study. I also describe characteristics of adult learners and the need to support

them. A brief discussion on learner-centered and teacher-centered instructional style leads into a comprehensive overview of andragogy. The assumptions of andragogy are discussed and linked with SDT to provide a rationale for its use in the current study. Autonomy-supportive and controlling instructional styles in the classroom are further defined and described. Finally, I discuss the demographics of the community colleges in Northern and Southeastern Virginia.

### **Literature Search Strategy**

An extensive literature review was conducted using books, textbooks, reports, and peer reviewed articles. The seminal work of Malcolm Knowles on andragogy, Gary Conti on teaching philosophy as it relates to instructional style, and the seminal work of Richard Ryan and Edward Deci on the SDT were used. These authors have conducted peer reviewed studies as well as written and co-authored textbooks pertaining to their theories that were used in this study. The following keywords were used in various combinations searched from 2016 to present: *non-traditional learners, community college, higher education, retention rates, attrition or retention or dropout, persistence, college professors, psychology course, online, teaching methods, constructivist learning, metacognition, adult learner, classroom assessment, self-determination theory, autonomy in the classroom, course design, andragogy or adult learning, adult learning theory or andragogy*. The following databases were used: ERIC, Education Source, ScholarWorks, Research Starters, Directory of Open Access Journals, Academic Search Complete, APA PsycINFO, and Thoreau Multi-database search.

## Theoretical Framework

SDT is an empirically based theory of motivation that originated from the work of Edward Deci and Richard Ryan (1985). Both Deci and Ryan are distinguished researchers in the field of personality and social psychology. Their research has consisted of experimental studies that manipulated social contexts to examine individuals' personal and behavioral responses towards intrinsic motivation and self-determined behaviors (Ryan & Deci, 2000b). According to SDT, individuals are intrinsically motivated towards goal-directed behavior, or activities of novel interest or challenge, when their psychological need for competence, autonomy, and relatedness are met (Deci & Ryan, 1985). Intrinsic motivation originates from an activity one finds interesting for the sake of doing it, and the level of engagement and commitment to the activity is a function of the level of psychological need fulfillment during the activity (Ryan & Deci, 2000a, 2000b). A premise of SDT is that individuals are born being intrinsically motivated; however, social contexts can either support or diminish one's natural and innate motivations (Ryan & Deci, 2000b). To this end, social contexts can either facilitate intrinsic motivation or undermine it (Deci et al., 1994; Ryan & Deci, 2000b). Motivational concepts are important to many professions such as educators because the result of motivated behavior is a product (Ryan & Deci, 2000a) such as a degree or credential. When students are motivated, they will work to achieve their goals. Research conducted by Ryan and Deci (2000b) suggest that learning and performance are enhanced by intrinsic motivation, making it an ideal theory for the current study. The current study investigated the

relationship between instructor's perceived andragogical orientation and having an autonomy-supportive instructional style.

Three psychological needs comprise SDT: the need for competence, autonomy, and relatedness (Deci & Ryan, 1985). The need for competence is described as an individual's feeling of self-efficacy in completing a task (Deci & Ryan, 1985). Nearly one third of new college students start college underprepared (McMahon, 2021), meaning that they lack the academic skill set to feel competent. Research has shown that perceived competence is a strong predictor of grade point average (GPA) in college (Jeno et al., 2018). If adults start college underprepared for the academic requirements, their need for competence may not be met which could negatively impact their GPA.

The need for autonomy is described as the individual's sense of acting out of his or her own volition or choice (Deci & Ryan, 1985). Jeno et al. (2018) studied academic achievement and dropout among biology students in higher education using SDT and found that perceived competence and autonomous motivation positively predicted academic achievement and negatively predicted drop out intentions (p. 1175), which means that perceived competence and autonomy are important factors in student retention. Regarding physical education (PE) courses, Chu et al. (2019) found that instructors who provide autonomy-support by allowing students to choose activities based on their skillset, provide individualized feedback, and vary group activities satisfied students' psychological needs, students' intentions to participate in future physical activity, and enhanced students' self-determined behavior.

Finally, the sense of relatedness is described as an individual's sense of being connected to others (Deci & Ryan, 1985). Indirectly, need-supportive instructors and the sense of belonging have been shown to positively influence academic achievement (Jeno et al., 2018). Reports indicate that a lack of feeling of belonging as one of the reasons students drop of college (Jeno et al., 2018). Chu et al. (2019) found relatedness as the most significant mediating variable between social contexts and self-determined behavior among college PE students in Hong Kong. SDT contends that all three needs (competence, autonomy, and relatedness) are necessary for self-determined behavior to occur; however, research on the social contexts influencing intrinsic motivation has focused on the effects of autonomy-support (Ryan & Deci, 2000b).

Studies using SDT as a framework include those on need-supportive instruction. Specific to autonomy-support, autonomy-supportive instruction supports students' volition of choice rather than attempt to control their behavior. Deci et al. (1994) found the following social supports facilitate an autonomy-supportive environment: providing a reasonable and meaningful rationale, acknowledging the learner's negative feelings, and providing a reasonable amount of choice. Baker and Goodboy (2018) investigated autonomy-supportive instruction by manipulating control conditions during a 50-minute college lecture. The researchers found that students in the lecture where the instructors provided a series of choices and emphasized a rationale or relevance to the material being learned, were more intrinsically motivated, put more effort and attention into completing their assignments, were more likely to take a future course with that same instructor, and provided favorable instructor ratings (Baker & Goodboy, 2018).

Adult learners have been known to struggle with integrating into the higher learning environment (Chawla, 2019). One reason that adults struggle involves being underprepared for the academic rigor of college. In working with underprepared adult learners, Brower et al. (2020) conducted a qualitative case study investigating the impact of a policy change in Florida's community college system allowing students the choice of skipping developmental educational courses, on their feelings of competence, autonomy, and relatedness towards college personnel. Results showed that students who were allowed to make the choice to skip developmental courses felt more autonomy while those who were forced to take developmental courses felt stigmatized (Brower et al., 2020). Additionally, students who were allowed to skip developmental courses felt more competent and relatedness with college personnel, which was attributed to having the choice to take more challenging coursework.

Adult learners have been known to struggle with fully online course environments (Levy, 2017). Martin et al. (2018) used SDT as a framework in their study on massive open online courses (MOOCs) to enhance student engagement. Their rationale was that SDT was an established theory of motivation and not much research has been done on instructional design for MOOCs to sustain engagement. Students who sign up for MOOCs have an intrinsic desire to learn due to the loose structure and tuition free status of the courses (Martin et al., 2018). MOOCs are becoming increasingly available; however, adult learners tend to struggle with fully online learning (Levy, 2017). The researchers used a design-based research methodology that starts with a

theory to create a framework. Going forward, the researchers hoped to use SDT as a basis for instructional design that might strengthen student retention.

Not all adult learners are completely motivated in the classroom by intrinsic desires (Amponsah et al., 2018). According to SDT, motivation exists on a continuum from amotivation or a complete lack of motivation, to intrinsic motivation (Deci & Ryan, 1985; Ryan & Deci, 2000b). Extrinsic motivation is like amotivation. Two forms of extrinsic motivation outlined in the SDT are identification and integration (Ryan & Deci, 2000a, 2000b). Identification provides individuals with a sense of autonomy in that individuals make a conscious decision to accept and participate in an action for a reason they can validate and own the responsibility such as learners identifying the usefulness of practicing a problem to gain a better understanding (Deci & Ryan, 1985). Consequently, the most autonomous or more self-determined form of extrinsic motivation is called integration (Deci & Ryan, 1985). In integration, the learner has internalized the behavior, made it a part of their self-concept, and is acting with a sense of volition and control. Amponsah et al. (2018) used the SDT as a foundation to study adult distance education students in Ghana who were more extrinsically motivated to learn. Results from this cross-sectional descriptive study indicate that class choice was associated with the adult learner's current occupations, in other words, to extend their current knowledge and relate their classes to their occupations. In accordance with SDT, this represents the need for competence and relatedness. It also corresponds to the assumptions of andragogy that adults have an orientation and readiness to learn when the timing is right for them, such as for professional development. It has been shown that motivation to persist is associated

with flexibility of course offerings, financial affordability, and tutorial support (Amponsah et al., 2018). Pursuing education was associated with professional development and retention was due to the flexibility and affordability of the program offerings. Their findings offer insight into the adult learner's motivations to take distance learning courses in that both intrinsic and extrinsic motivations were found. Adult Ghanaians were strongly motivated by occupational (extrinsic) factors. Students' self-reports of success was associated with the connection between their course selections and their related occupations. Curriculums designed to meet the needs of adults, particularly the need for autonomy, should make connections between course work and desired or current occupations (Reeve & Cheon, 2021) to tap into the intrinsic and extrinsic motivations of adult learners (Amponsah et al., 2018).

It is assumed by SDT that learners who are intrinsically motivated will persist through their educational and goal pursuits (Ryan & Deci, 2020). Ryan and Deci (2020) conducted a thorough literature review to determine the extent SDT was being used within the classroom and to determine specific strategies instructors can use to support learner's psychological needs. Their review determined that SDT is underutilized in the classroom setting (Ryan & Deci, 2020). For instance, Almusharraf (2018) conducted a qualitative study to examine the degree instructors promoted autonomy-supportive instructional strategies in a class of English foreign language (EFL) students. The authors found that the students' self-reported level of autonomy was heavily influenced by their teacher's instructional practices. Some instructors indicated they were too traditional in their instructional methodology to give up control to the students. This study faced

several limitations such as it was conducted over a short period of two months.

Recruiting students was an additional challenge, likewise, finding faculty to commit to the study was a challenge. However, the study demonstrated that the sense of autonomy is an important motivational factor for learning that is often not used within the classroom. The importance of this study emphasized SDT as a framework for supporting student success and to further advance the need to investigate whether instructor characteristics can predict the use of an instructional style based on SDT.

Jang (2019) found that teacher's intrinsic instructional goals significantly predicted autonomy-supportive instructional style. Intrinsic instructional goals are classroom goals that support the learner's needs for competence, autonomy, and relatedness such as emphasizing student's personal growth and building strong student relationships (Jang, 2019). Examples of extrinsic instructional goals are those designed to improve students' or instructors' social and public recognition or reward contingent goals (Jang, 2019). The researchers also found that instructors with more extrinsic instructional goals predicted a more controlling instructional style. Jang (2019) found gender differences related to intrinsic and extrinsic instructional goals. Also, Jang (2019) found a correlation between grade level taught and extrinsic instructional goals but not intrinsic instructional goals. The importance of this study showed how instructor characteristics, including gender differences, can influence autonomy-supportive or controlling instructional style. Instructor characteristics including gender were covariates in the current study.

Intrinsically motivated behaviors are the defining characteristics of self-determined behavior in that individuals are not coerced into the behavior and are acting on their own volition (Deci & Ryan, 2000). When extrinsic rewards become the motivating precursor to an otherwise intrinsic desire, the perceived motivation is of a controlling nature and not of one's volition therefore less intrinsic (Deci & Ryan, 2000). Rewards, threats, imposed deadlines, and pressure are examples of instructional practices that undermine autonomy and have been shown to decrease creativity and problem solving (Deci & Ryan, 2000). The most favorable social contexts for intrinsic motivation to occur satisfies one's need for competence and autonomy (Deci & Ryan, 2000). However, perceived competence underscores most motivation, meaning individuals have some perception that they can physically or psychologically complete a task before trying it; consequently, it is the perception of autonomy that is necessary for the motivation to be intrinsic (Deci & Ryan, 2000). While the literature has shown the importance for competence (Jeno et al., 2018) and relatedness (Chu et al., 2019), autonomy has been presented as the driving force behind intrinsic motivation (Ryan & Deci, 2000b). Instructors can provide adult learners with motivational support in the classroom by providing autonomy-supportive instruction.

The focus of the current study was on autonomy. To Deci and Ryan (2000), autonomy is an "essential aspect of healthy human functioning" (p. 231). Likewise, it is assumed by andragogy that adult learners have a self-concept of autonomy and want to be respected as such in the classroom (Knowles et al., 2015). The importance of autonomy-support for adult learners as presented by SDT and andragogy is the reason why the focus

of the current study was on autonomy-supportive instructional practices. Langdon and Wittenberg (2019) conducted a qualitative study and trained graduate teaching assistants (GTA) for physical education courses in autonomy-supportive instructional strategies. Feedback from the GTA's indicated they enhanced student's self-regulated learning and provided a more optimal learning environment in the following ways: by providing autonomy-supportive strategies such as allowing students the choice of yoga poses, choosing their own groups and partners, providing students with a thorough explanation of why they were performing certain skills, the use of non-controlling language, providing structure, and goal setting opportunities as well as acknowledging students' negative feelings (Langdon & Wittenberg, 2019). This study showed the importance of nurturing student's inner motivational resources and how autonomy-support training can benefit instructors without a pedagogical background in teaching, such as graduate teaching assistants or college instructors who may have experience in their subject area but not in andragogy.

### **Key Variables**

#### **Adult Learners**

Even though almost two-thirds of U.S. jobs require some type of post-secondary credential, only 47.6 percent of American adults over the age of 25 years old, possess a degree or certificate beyond a high school diploma (Lumina Foundation, 2019). Adult learners are defined by possessing one or more of the following characteristics: delayed enrollment, meaning not enrolling in college immediately after high school completion, part-time enrollment, financially independent from parents, having dependents other than

a spouse, parents themselves, employed full-time, and or did not receive a standard high school diploma (National Center for Education Statistics, n.d.). Adult learners make educational decisions for various reasons such as professional development, financial affordability, flexibility in course scheduling, and institutional supports (Amponsah et al., 2018). Life events such as divorce, job loss, job promotion, and retirement often lead adult learners into higher education (Hayes, 2016).

Lin (2020) categorized adult learners as having the following reasons for learning: cognitive interest, self-development, and social interaction. Cognitive interest has been shown to be the primary interest followed by social interaction. This survey based quantitative study investigated the relationship between the intrinsic motivation of older Taiwanese adults and two predictor variables: personal and institutional variables. Personal variables included demographics such as age, gender, educational level, health status, living conditions, family support. Institutional variables included teacher support, peer support, course type. Teacher and peer support were significantly positively correlated with overall intrinsic motivation scores. The predictor variables accounted for over 50% of the variance in cognitive-oriented and social-oriented intrinsic motivation, minimizing the impact of age, health status, and family support which can be obstacles for adult learners. Teacher support was found to influence adult learners' intrinsic motivation. This study was important in that teacher and peer support can minimize the negative impact of other educational barriers such as age and poor health.

Some adult learners pursue education just for self-fulfillment (Bengo, 2020).

Adult learners are concerned with issues that affect their personal circumstances which is

why integrating new learning ideas into their self-concept is an important task of instructors (Hayes, 2016). Adult learners engaging in new ideas might feel anxious or have a low self-efficacy which may cause them to feel threatened and a lack of control (Hayes, 2016). Adult learners can benefit from a learning environment where the instructor and learner work collaboratively together in a climate of trust and support of the learner's psychological needs. It is important for instructors to be aware of the characteristics of adult learners as to provide the best support for them.

### **The Need to Support Adult Learners**

Adult learners face different obstacles than traditional learners, which is why history shows concerted efforts established to address these nontraditional learners. Adult learners face situational, institutional, and dispositional barriers (Osam et al., 2017). Age, health status, living conditions, and the lack of family support can be seen as barriers to adult learner's success (Lin, 2020). Adult learners who may be first-generation learners could face low self-efficacy for learning at the college level, a lack of awareness that the learning process of college is different than the learning process from high school, and dealing with work-family stress (Griffin, 2020). As a result of these unique barriers, adult learners require additional support (Griffin, 2020).

As early as the late 1800s and early 1900s with the creation of normal schools, which eventually turned into teacher's colleges, normal schools served a population that was part-time, older in age, lower in socioeconomic status, had families or other obligations, and provided opportunities especially for women and minorities that were not provided in other institutions of higher education (Remenick, 2019). After World War

II, colleges made concessions for veterans such as awarding academic credit for military service, additional remedial courses, flexible admissions policies, and creating additional campus supports specifically designed for veterans (Remenick, 2019). The Higher Education Act of 1965 made possible federal funds in the form of grants, more commonly known as the Pell Grant, available to persons who qualified, namely students classified as independent. With the increased financial support to adult learners, 600 new community colleges were created between 1960 and 1984 (Remenick, 2019).

Greater access to learning began in the 1990s with the rise of online learning. However, there were complications involved with online learning especially for adult learners who were more likely to drop out (Remenick, 2019). Online courses provide adult learners with an opportunity to increase their digital readiness and workplace skills and for increased independence and self-directed learning (Levy, 2017). Yet with all the benefits associated with online learning, community college students who participate in fully online programs have overall lower academic success and lower retention rates (Levy, 2017). James et al. (2016) compared the retention rates of community college students taking fully online courses, blended courses, or fully on-ground courses and found that students in blended courses had the highest retention rates (58%) among fully on-ground (51%) and fully online (30%). Overall, this finding was important to my study because it showed that community college students taking fully online course work struggle and are less likely to continue in their studies compared to their blended and on-ground peers.

Instructor support through interpersonal connections and guidance to help increase adult learners' online competence can be mitigating factors to increase retention rates of online learners (Levy, 2017). Chawla (2019) reviewed adult learning theories, teaching strategies, and learning styles for adult learners and found that one reason for the high attrition rates of adult learners is the unsuccessful attempt to integrate themselves into a setting of higher education. Nearly one third of new college students enter higher education underprepared for the academic rigor (McMahon, 2021). Successful integration can be accomplished with instructors who have an awareness of adult learning needs, creating lessons that apply immediate usefulness of knowledge especially tacit knowledge, which is a type of knowledge that relies on experience (Chawla, 2019). A framework for educating adults where the instructor supports students with a focus on their self-concept and the role their experiences play in the learning process is called andragogy, which is a learner-centered model of instruction (Knowles et al., 2015).

### **Learner-Centered and Teacher-Centered Instructional Styles**

A learner-centered approach to instruction puts the learner at the center of attention and the focus is driven by the process of learning more than the content of what is being taught (Conti, 2004). A learner-centered approach focuses on the instructors' trust in his or her students to assume a self-directed approach and a shared responsibility in the learning process (Conti, 2004). Whether or not instructors identify with a learner-centered approach or a teacher-centered approach, can be thought of as the instructor's instructional style (Conti, 2004). Instructional style is closely related to one's personal philosophy of teaching and the role the instructor plays in the classroom (Conti, 2004). In

a learner-centered classroom, self-evaluations along with constructive feedback from the instructor play a critical role in assessment more than criterion and norm-referenced tests (Conti, 2004). Instructors provide support to students in becoming independent, self-directed learners.

A teacher-centered instructional style is what most individuals think of as a traditional lecture style in which students have a passive role in the learning process and information is provided to students from the instructor in a stimulus response behavioral format (Conti, 2004). In a teacher-centered instructional style, learning is defined as a change in the behavior as measured by criterion or norm-referenced tests. This condition response type of learning environment is of a controlling nature (Conti, 2004). Beck and Blumer (2016) identified the following reasons why understanding an instructor's instructional practice is important: to see if it aligns with student perceptions, to determine inquiry-based instructional practices, and to determine how it affects student outcomes. The researchers found an instructor-centered construct was negatively correlated with an inquiry-based teaching style in which problem-solving scenarios and active learning are the defining characteristics (Beck & Blumer, 2016).

Conti (1979) created an instrument to measure an instructor's instructional style called the Principles of Adult Learning Scale (PALS), which I used in the current study. The PALS has been shown in numerous studies to measure teaching style (Yoshida et al., 2014). Additionally, according to Knowles et al. (2015) it is one of the best instruments to measure andragogical orientation. The PALS measures seven factors most closely associated with andragogy: learner-centeredness (extent to which instructors favor

control over the class versus encouraging students to be self-directed), personalizing instruction (the extent to which instructors personalize instruction based on students abilities and use a variety of instructional methods), relating new learning to prior experiences (the extent to which instructors create problem-centered activities where students relate their experiences to new material), assessing student needs (extent to which instructors assist students in establishing short and long-term goals), climate building (the extent to which instructors encourage collaboration and problem-solving in an informal setting), student participation in the learning process (the extent to which students are involved in deciding course content), and flexibility for personal development (the extent to which the instructor is a facilitator of knowledge) .

### **Constructs of Interest**

#### **Andragogy**

Andragogy is the art and science of adult learning (Knowles, 1968). The term andragogy was first used in 1833 by Alexander Kapp, a German teacher, and was found in many European publications in the 1950's (Knowles et al., 2015). Malcolm Knowles is credited for making andragogy an American term used to describe adult education. Even in 1968, Knowles recognized that adults need to have a framework for learning due to ever changing technologies, social attitudes, culture, and the survival of American society depended upon it (Knowles, 1968). Knowles (1968) contended that the disadvantage to the current model of adult education was that adult educators learned their teaching practices from either their learning experiences in childhood or from the teaching practices of children, otherwise known as pedagogy. Pedagogy was the dominant

educational model in the past because it was the only educational model (Knowles, 1968).

Andragogy and SDT complement each other. According to Knowles (1968), the most important distinction between adult and younger learners is the adult self-concept of being autonomous and self-directing. SDT posits that when social contexts support the individuals' needs for autonomy, competence, and relatedness, then individuals function at their best. Autonomy is one of the connecting concepts. Adults do not depend on others the way children do to dictate their lives and decisions. Adults are self-directing in that the responsibility of life decisions are their own. To this end, Knowles (1968) believed the social contexts of learning should support and respect the adult need to be self-directing and autonomous. There are six assumptions of andragogy that differentiate it from pedagogy, which is what most lecture-based college instruction emulates.

**Need to Know.** The first assumption is that adults need to know. Adults need to understand the purpose and value of what is being asked of them (Knowles et al., 2015; Mews, 2020). Providing adults with the answer to the question of why they should learn is an important step to connecting short-term objectives to long-term goals (Mews, 2020).

**Self-Concept.** The second assumption of andragogy is the self-concept of the adult learners. Adults have a self-concept of being autonomous and self-directing (Knowles et al., 2015). Children and adolescents are dependent upon a parental figure for care. Likewise, the traditional model of pedagogy relies on the teacher as the disperser of knowledge in which students are dependent upon to receive the knowledge. Andragogy posits that adult learners want to be respected as responsible, autonomous beings capable

of making decisions for themselves (Knowles et al., 2015). The assumption is that adults may resent situations perceived to be psychologically controlling (Knowles et al., 2015). Knowles et al. (2015) suggest this as a possible reason for the high dropout rate of adults from higher education. Since adult learners may also experience anxiety and a lack of control over a situation they feel is threatening, establishing an informal and collaborative classroom environment is an important consideration (Hayes, 2016). Mews (2020) suggests that when adults learn collaboratively and through autonomy-supportive means, that creates a self-directed environment for retention. Vanslambrouck et al. (2017) investigated the relationship between background characteristics of adult learners and expected performance, satisfaction with online blended learning (OBL), and intent to persist. The researchers found self-regulated learners were more satisfied with OBL when they were able to control their learning environment and needed less help from others. They also found that autonomous motivation was positively correlated with expected performance and intent to persist. SDT provides the social contexts necessary to support andragogy's assumption that adult learners need to be autonomous and have some perception of control over their learning environment.

**The Role of Experience.** Prior experience is the third assumption of andragogy. Unlike children, adults come to the learning experience with qualitatively different and unique experiences which can be beneficial in the classroom (Knowles et al., 2015). Adult educators should use the experiences of the learners to capitalize on their similarities and differences (Mews, 2020). Knowles et al. (2015) contend that the experiences of adults make them who they are and to ignore these experiences in the

classroom is counterproductive in establishing classroom environment of trust and respect. The challenge of adult educators is to also effectively handle biases brought on by the wealth of experience adults bring into the classroom, which is why collaborative learning and sharing new ideas in the form of discussions, simulations, and case studies are important andragogical instructional strategies (Knowles et al., 2015; Mews, 2020).

**Readiness and Orientation to Learn.** The fourth and fifth assumptions of andragogy are that adults have a readiness to learn and an orientation towards learning (Knowles et al., 2015). Adults are situationally motivated to learn to successfully handle their present life situation. Knowles et al. (2015) emphasized that introducing adults to new learning concepts is heavily influenced by timing. Situations in life such as job loss or advancement, or divorce often influence the timing of and readiness for adults to learn new things (Knowles, 1980). Adults know when they are developmentally ready to learn new skills to advance their goals and instructors can assist this timing by making lessons situationally relevant. Amponsah et al. (2018) found almost 70% of adult learners in their study were motivated to take higher education courses by professional development and career objectives, making the need to link courses with situationally relevant material highly important. Likewise, adults have an orientation towards problem-focused learning in order to apply what they learn to relevant situations (McCauley et al., 2017). Because adult learners are situationally oriented to learn, they need to be able to immediately apply material to their current social context opposed to the delayed applicability that younger learners may experience (Knowles et al., 2015).

**Intrinsic Motivation.** The sixth assumption of andragogy is that adults are more intrinsically motivated than younger individuals. As SDT suggests and Knowles et al. (2015) supports, intrinsic motivation as being more influential over adult learners than extrinsic motivations. Adults are motivated by self-esteem, personal and professional advancement, or the personal rewards of knowledge obtainment (McCauley et al., 2017). Highly motivated adult learners are more likely to persist in an online-blended learning environment (Vanslambrouck et al., 2017). Additionally, self-efficacy and autonomous motivation are positively correlated with expected positive performance in an OBL environment (Vanslambrouck et al., 2017). The intrinsic motivation assumption of andragogy makes SDT a complementary framework for the current study.

### **Andragogy to Guide Instructional Practices**

The andragogical model of instruction puts the instructor as a facilitator, change agent, or consultant (Adebisi & Oyeleke, 2018) of knowledge more so than the pedagogical practices of the instructor being the most knowledgeable person in the room. Andragogy supports a learner-centered approach to teaching using instructors and learners as joint collaborators in the learning process (Adebisi & Oyeleke, 2018). Andragogy has been studied in the literature in various ways related to adult learning. Griffin (2020) combined techniques used in inner-city community colleges to create an andragogical model called Cultural Empowerment Teaching Andragogy (CETA) that addressed the needs of first-generation, nontraditional minority students. The CETA model improved students' grades, class discussion, and student self-esteem (Griffin, 2020). Abeni (2020) looked at themes in the literature on how andragogy is implemented

in higher education and found it to be a preferred framework for teaching adults which complements the findings of Carlson et al. (2018) who applied andragogical learning to library science. It is yet to be seen how andragogy can be applied to autonomy-supportive instructional practices.

### **Andragogical Orientation**

An andragogical orientation put forth by Knowles et al. (2015) is the tendency of instructors to focus on the process of adult learning rather than solely on the content of the material. Andragogical orientation can be viewed as how the content is being taught (Barhoum, 2017). When considering the process of learning, andragogical oriented instructors act as facilitators that prepare adult learners, build a climate of trust, collaboration and respect, and they include the learner in the planning of learning objectives, activities, and evaluation (Knowles et al., 2015). Andragogical orientation is a learner-centered approach. Conti (2004) defines a learner-centered approach to teaching as a focus on the learner more so than the subject being taught. He contended that adults have the potential for unlimited growth in a humanistic perspective, and that the learners' experiences are an important factor in the learning process (Conti, 2004). Andragogical orientation was important to the current study as the predictor variable for autonomy-supportive instructional style.

### **Autonomy-Support**

Autonomy-support is a frequently studied instructional style based on SDT and the psychological need for autonomy. Autonomy-support originated from a learner-centered perspective and is described as an interpersonal attitude of empathy and

understanding that leads to fostering intrinsic motivation and internalization (Reeve & Cheon, 2021). Having an interpersonal tone of understanding lets the adult learner know you are there to support their educational needs and will work collaboratively together. Offering adult learners opportunities to explore their personal interests in class establishes the social contexts to support their intrinsic motivation. There are seven autonomy-supportive instructional behaviors outlined in the literature (Fong & Zientek, 2019; Reeve & Cheon, 2021). These seven instructional behaviors are similar to the six assumptions of andragogy, making it a legitimate area to explore whether andragogical orientation predicts autonomy-supportive instructional practices. They are as follows: taking the learner's perspective, inviting learners to pursue their interests, presenting learning activities in autonomy-supporting ways, providing explanatory rationales, acknowledging negative feelings, using invitational language versus controlling language, and displaying patience (Reeve & Cheon, 2021). The aforementioned instructional behaviors foster instructor empathy in that the instructor understands the classroom experience from the learner's point of view. Understanding the learner's point of view is usually accomplished by formal and informal formative assessments to gauge how the learners feel about the lesson. These strategies promote intrinsic motivation by allowing students to pursue their own interests in a way that meets the learner's need for competence, relatedness, and autonomy.

Reeve and Cheon (2021) conducted a metaanalysis of studies on autonomy-supportive instructional practices shown to be beneficial in educational studies. Out of 51 studies, only a few pertained to college students and instructors. Pertaining to college

students, autonomy-support has been shown to increase autonomous motivation (Abula et al., 2018), increase intrinsic motivation and skilled performance (Manninen et al., 2020), and increase psychological needs (Edmunds et al., 2008). Among college instructors, those who are autonomously motivated to teach, were found to be more autonomously supportive in the classroom (Yasué et al., 2019). Even in the workforce, autonomy-support has shown increased engagement and decreased amotivation among employees (Hardré & Reeve, 2009). Autonomy-support was relevant to the current study as the foundation for the dependent variable of autonomy-supportive instructional style.

### **Autonomy-Supportive vs. Controlling Instructional Style**

Autonomy support has been shown to improve academic engagement (Deci et al., 1981), and has been shown as an important factor influencing intrinsic motivation (Almusharraf, 2018; Baker & Goodboy, 2018). Learners are more intrinsically motivated when teachers provide autonomous support in the classroom (Almusharraf, 2018; Baker & Goodboy, 2018; Deci et al., 1981). Additionally, learners are more likely to engage in a tedious task if at least two autonomy-supportive techniques are used (Deci et al., 1981; Jacobi, 2018). Autonomy-supportive instructional style supports students' volition of choice rather than attempt to control their behavior. Implementing autonomy-supportive strategies in the classroom provides the social contexts Ryan and Deci discussed that facilitate self-determined behavior and intrinsic motivation. Deci et al. (1994) found the following social supports facilitate an autonomy-supportive environment: providing a reasonable and meaningful rationale, acknowledging the learner's negative feelings, and providing a reasonable amount of choice. Deci et al. (1994) found that students were

more likely to complete an uninteresting and mundane task when they were exposed to two or three of the autonomy-supportive conditions mentioned above. However, Jacobi (2018) found that among communication majors and their instructors, that perceived control, and instructors providing a reasonable rationale were primary motivators for students taking online courses opposed to differing instructional language and validating negative feelings.

Autonomy-support can take different forms. Ferlazzo (2017) identified three types of instructional practices that promote autonomy through choice: organizational choice, which supports students making decisions on how assignments are organized such as due dates and instructions; procedural choice, which supports students having a choice within the assignment such as deciding on the topic; and cognitive choice, which supports students taking ownership of the end product such as defending their position or opinion. Bonneville-Roussy et al. (2020) used a mixed methods design to investigate how autonomy-supportive or controlling instructional style influences music students' well-being. They defined well-being with three variables: passion for music, music performance anxiety, and career intentions. Autonomy-support was defined as provisions of choice (providing options for students), structure (setting clear expectations for students), rationale (explaining the learning objectives), and psychological control (being able to trust students' judgement or having to provide step-by-step directions). Provisions of choice and psychological control were related to future career intentions in music. Provisions of choice was positively correlated to future career intentions in music while psychological control was negatively correlated to career intentions in music.

Autonomy-support can take the form of peer assessment. Yuan and Kim (2018) conducted a mixed methods study to examine the use of autonomy support peer assessment on student behavioral, emotional, and cognitive engagement as well as academic performance in the peer assessment process. The researchers used the three autonomy-supportive strategies originally described by Deci et al. (1981) but also included a fourth strategy of noncontrolling or invitational language as suggested by Reeve and Cheon (2021) and Fong and Zientek (2019). Examples of noncontrolling language are stating “You may want to, or you might consider” instead of saying “You must do, or you should do.” Yuan and Kim (2018) used two peer assessment groups formed in which one group was exposed to autonomy-supportive elements which were embedded in a computer program module where the peer assessment took place. The second group used the same computer program however autonomy-supportive elements were not present in computer program module. Results showed that although both groups of students felt a sense of autonomy, students in the module with autonomy-supportive elements reported slightly higher mean scores in perceived autonomy. Students attributed the feeling of autonomy to opportunity of choices they were offered in the peer assessment module. The Problems in Schools Questionnaire (PIS) (Deci et al., 1981) was created to measure an instructor’s orientation towards autonomy-supportive instructional style and was used in the current study.

### **Instructor Characteristics and the Link to Instructional Style**

Often institution type, university position or rank, and work-place characteristics influence whether instructors feel comfortable using an autonomy-supportive

instructional style (Yasué et al., 2019). These factors are associated with basic psychological needs as outlined by SDT. For instance, part-time university instructors who are not tenured may have a lack of control over courses taught, course content, may spend less time preparing for classes, and may be less likely to have a learner-centered instructional style (Yasué et al., 2019). Additionally, instructors up for tenure at universities may feel more pressure to participate in research over improving instructional strategies (Yasué et al., 2019). Yasué et al. (2019) investigated instructor characteristics to predict autonomously motivated instructional style. The researchers found few studies investigating instructor characteristics such as tenure vs. non-tenure in various types of institutions, in relation to autonomous motivation to teach. To measure autonomy-supportive instructional style, the researchers adapted two instruments to fit an undergraduate population. They adapted the “Problems in Schools” (PIS) (Deci et al., 1981) and the “Problems at Work” (PAW); (Deci et al., 1989) questionnaires by changing the wording of the vignettes to pertain to an undergraduate population rather than a K-12 student population. Self-reports of large class sizes and large course loads were noted as reducing the instructor’s ability to make connections with students and diversify instruction in a learner-centered manner. The researchers found that many of the instructors surveyed felt pressured to choose between fulfilling research requirements which leads to job security (external regulation) over effective teaching strategies, which often were not formally acknowledged, thus leaving instructors feeling less autonomous and less competent. It was found that instructors who were autonomously motivated to teach, in turn, have an autonomy-supportive instructional style. Whereas instructors who

are more externally motivated to teach have a more controlling instructional style. Surprisingly, basic psychology needs fulfillment did not have a correlation to autonomous motivation to teach. Likewise, no significant difference was found between the tenure track of the instructors, however post hoc analysis did reveal that tenured instructors felt more feelings of autonomy than tenure-track and non-tenured instructors. The authors suggest that more research is needed on how personal characteristics can influence autonomous motivation to teach.

Additionally, Conti (2004) believed that teaching style was influenced by certain instructor background characteristics such as educational philosophy, academic training, age, and experience. Jang (2019) found gender differences in instructor's intrinsic and extrinsic instructional goal setting. Since instructor background characteristics have been shown to influence instructional style, the current study used the control variables of years of teaching experience in higher education, highest degree obtained, and gender.

### **Recent Studies in Andragogy in Meeting Adult Learners Needs**

Carlson et al. (2018) conducted a literature review of articles spanning 20 years of research on andragogical instructional strategies in higher education. The researchers found four primary themes in the research including the instructor's role as a moderator and collaborator, inclusive strategies acknowledging diversity within the classroom, and incorporating constructivist approaches, and a well-structured, collaborative learning experience. The results reiterate andragogical practices as best practices in higher education and it suggests andragogical practices as meeting the internal needs of adult learners.

Arghode et al. (2017) conducted a literature review of articles between 2007 and 2016 pertaining to the following learning theories: behaviorism, cognitivism, constructivism, humanism, and andragogy, as a set of principles under humanism. The researchers found andragogy promoted the instructor's role as more of a facilitator than a presenter, promoted individual motivation and self-awareness; but failed to consider socio-cultural differences among adult learners (Arghode et al., 2017). The researchers noted that more research is necessary on how instructors can use learning theories to improve the design of their courses, especially online coursework.

Griffin (2020) found a gap in the literature addressing the extent to which instructors understand andragogy and apply it in their preparation with a diverse population of adult learners. Griffin (2020) and Conti (2004) noted that unless instructors have a degree in education, they are often unfamiliar with techniques specifically designed to assist adult learners. In fact, Boysen (2020) found that search committees did not find having completed a teaching class an important hiring credential for faculty candidates at baccalaureate, masters, and doctoral institutions. In a pilot study on 250 behavioral science students, Griffin (2020) investigated a technique she called Cultural-Empowerment Teaching Andragogy (CTA). CTA is an instructional style that considers andragogy and the needs of adult learners along with understanding the diverse needs of first generation and minority students in a culturally response manner. The author found that teaching using andragogical principals such as providing real world examples, supplemental learning resources, varying instructional techniques, assessing learners' prior knowledge, considering and changing the contextual factors of the classroom,

providing positive affirmations, and collaborative learning yielded higher grades, higher self-efficacy for learning, and more office hour visits (Griffin, 2020). Griffin's techniques described an andragogical orientation.

Barhoum (2017) conducted a meta-analysis of 36 studies related to developmental writing courses taught at community colleges across the U.S. and why these important non-credit bearing classes were yielding little success. The author found four themes in the research involved with reforming the framework of teaching development courses: structural, curricular, andragogical, and relational themes. Structural and curricular changes are the most prominent in the literature. Structural adjustments include how courses are delivered and include some of the following strategies: accelerated remedial courses, assessments and placement options, self-placement options, co-requisite support classes versus pre-requisite courses, and enrolling directly into transfer courses. Curricular strategies describe what is being taught in the classroom. Suggestions were having students write on relatable topics, providing choice regarding paper topics and discussion topics, being able to use material developed in class for extended purposes, and having more challenging coursework. The andragogical domain refers to how the material is taught in the classroom and while it has been established as an area of importance in addressing the weaknesses of developmental writing programs, the approach is taken less often at community colleges (Barhoum, 2017). Andragogical strategies included establishing a routine in the classroom so students know what to expect, providing consistent and constant feedback, flexibility in instructional practices to be adapted to suit individualized learner needs, providing reasonable amount of choice;

assessing the learner's strengths and weaknesses early in the term and developing instruction around it, and professional development for instructors (Barhoum, 2017). Relational strategies referred to how connected students were to the faculty, other students, and the college. The relational theme is consistent with SDT and the psychological need for relatedness. Barhoum (2017) found that many articles were based on opinion and conjecture and not on empirical studies. Barhoum's (2017) research found instructors make instructional changes that are not based on empiricism and strategies proven to address the obstacles community college students face. Perhaps a lack of understanding andragogy as Griffin (2020) suggests or a lack of adequate preparation in adult learning theory (Conti, 2004) as a hiring consideration as Boysen (2020) found puts some instructors at a disadvantage in meeting the needs of adult learners. A logical course of action is to address the techniques of the instructors within the classroom to promote a more andragogical orientation, yet this approach could face resistance (Barhoum, 2017). Barhoum (2017) contends that future research should investigate how instructors are helping to meet the needs of students within the four themes and the areas especially needing further study are andragogical and relational. Barhoum's (2017) study highlights the social problem in the current study and extends support to Carlson et al. (2018) who also recommended support for increasing adult learner's success through instructors utilizing andragogical principles that better align with the unique challenges adult learners face. Instructors who are familiar with andrological principles and use them to guide their instructional practices can be an asset to community colleges and their retention efforts.

Miller (2017) offers a model using andragogy for community colleges and other institutions that offer accelerated programs to adult learners targeted at retention and completion rates. Many adults are attracted to accelerated programs because they offer a shorter amount of time to obtain a credential, but retention is a problem for accelerated programs at community colleges (Miller, 2017). The author saw a need for additional research in the area of adult education because she found a lack of substantive research not only on accelerated programs but on a model to address the retention problems. Based on Knowles's work, Miller (2017) suggests that adults validate their educational experience based on their sense of connection with faculty and the classroom environment. Miller's model includes a faculty self-assessment of their adult teaching philosophy, professional development, and a student orientation specifically for adult learners. Miller (2017) also referenced a similar notion like Griffin (2020) that often faculty are experts in a subject matter but lack training in adult education. Additionally, faculty may lack an awareness of their own teaching philosophy and therefore their instructional methods may not align to the needs of the adult learner (Conti, 2004). Miller's model addresses faculty awareness of their teaching philosophy by suggesting that all newly hired faculty take an assessment of their teaching philosophy and demonstrate a lesson during the interviewing process based on some if not all of Knowles's assumptions. Miller's (2017) model reiterates Barhoum's (2017) reform best practice of providing professional development to instructors on andragogical best practices. According to Miller's (2017) model, colleges would provide on-going professional development to faculty on the learner-centered assumptions of andragogy

and create opportunities throughout the year for students and faculty to intermingle outside of the classroom to facilitate the connection and relatedness posited by the SDT students need to create a more optimal learning environment.

Adebisi and Oyeleke (2018) argue that pedagogy and andragogy overlap and instructors need to tailor instruction to meet the needs of adults who may not be as self-directing as Knowles et al. (2015) contends. Some adult-learners may need more teacher-centered and controlled instructional practices from a pedagogical perspective. Bengo (2020) conducted a qualitative study interviewing college professors on how they adjust their instructional strategies in mixed classes of traditional and adult learners. Instructors commented that they needed to be more explicit in their directions and not assume that all learners understood what was being asked of them. Instructors also commented that a lack of good reading and comprehension skills forced certain instructional practices such as enforcing handwritten note taking. While an older study, Murray and Mitchell (2013) found similar results. The researchers studied adult learners in a second chance educational setting. The researchers found that some students did not do well with the autonomy afforded to them. Instructors complained about issues such as student lateness and irregular attendance. Students expressed concern over needing more regulation and preferred teachers who were more controlling. Additionally, a critique of the andragogical assumption that adults can draw from their wealth of experience in relation to learning by just having quantitatively more experience than children does not mean that the quality of experience leads to better learning (Merriam et al., 2007). Kennan et al. (2018) studied online learners aged 18-66 with varying class standing from freshmen to

some graduate students, and the teaching behaviors they found important, using andragogy and the self-determination theory (SDT) as models of motivation that best fit online learning. The researchers found a contradiction between what the literature suggests regarding adult learning theories and the teaching behaviors the students preferred. Instructors of adults need to be able to balance approaches that are best for their learners. Wang (2004) argues that instructors need to be familiar with both pedagogy and andragogy.

### **How Andragogy Relates to Self-Determination Theory**

Autonomy has been described as essential for individual well-being (Deci & Ryan, 2000). Autonomy has also been posited as part of the adult learner's self-concept (Knowles et al., 2015). Joshi (2017) contends that SDT and socioemotional selectivity are two motivational theories which provide support to andragogy. However, the similarities noted refer to the need for competence. Competence and experience are noted as factors contributing to learning satisfaction in blended online courses. Joshi (2017) also noted the following recommendations for instructors adapting andragogical strategies in their classrooms: 1-more participatory experiences to get adults more active 2- incorporate adult learning theories into curriculum development 3- use evidence-based teaching 4- professional development for instructors 5- policy makers emphasizing an andragogical approach.

Horverak et al. (2020) conducted an action research study exploring motivation in adult immigrant learners. The authors applied a five-step motivation method on immigrant adult learners. The five-step motivational method supported STD in that

teachers influenced learners to take a self-determined role and responsibility for learning. Learners decided upon their own goals, obstacles, and possible solutions. Horverak et al. (2020) investigated how teachers who use the five-step motivation method can support immigrants to be more motivated to take responsibility for learning. Immigrants have different obstacles to learning than other nonimmigrants (Horverak et al., 2020). Researchers found that the five-step model increased immigrant adult learner's motivation and enhanced their planning skills. Students displayed autonomy by making their own plans, goals, and finding solutions to their determined obstacles with the support of their peers. The process demonstrated how the psychological needs as posited by SDT framed the five-step model. This method used the students' prior knowledge and experience, which are andragogical principles, and expanded the learning from that starting point. This study demonstrated how teaching from an autonomy-supportive framework can enhance motivation and planning skills in adult immigrant learners.

Andragogy and SDT help bring relevancy to course work. Students have revealed frustration over taking courses which they did not find relevant (Dyrberg & Holmegaard, 2018). Students reported higher levels of motivation and self-determined behavior towards courses that more closely match their program of study (Dyrberg & Holmegaard, 2018). A possible explanation for this connects the SDT and andragogy is that courses outside of the students desired major are not relatable and students may not feel competent in learning the content. Likewise, andragogy's fourth and fifth assumptions that adults have a readiness and orientation to learn based on their current situation suggests that course work should be relevant to the adult's social role. Adults choose to

learn based on the practicality and applicability to their life circumstances (Amponsah et al., 2018). When adult learners do not perceive courses as relevant, it does not meet their needs of connecting coursework to future goals. When adult learners cannot find relevance or meaning to apply significance to, as noted by Amponsah et al. (2018) their motivation lies closer to extrinsic values (Deci & Ryan, 1985).

### **Rationale for the Variables and Constructs**

Self-determination theory and andragogy both support the adult learner's need for autonomy, which has been shown to be an important concept to the learner's well-being (Deci & Ryan, 2000) and intrinsic motivation (Almusharraf, 2018; Baker & Goodboy, 2018; Deci & Ryan, 2000). Autonomy-support improves academic engagement (Deci et al., 1981), positively predicts grade point average, negatively predicts drop out (Jeno et al., 2018) and provides the social context for intrinsic motivation (Deci & Ryan, 2000). While SDT has been widely studied in educational research, Ryan and Deci (2020) still found it underutilized in practice. Additionally, Griffin (2020) found a gap in understanding how instructors apply andragogy to diverse learners. Many college instructors may be experts in their field of study but may lack formal training in adult learning theories. Boysen (2020) found that having a background of learning theories was not a consideration for most hiring committees in higher education. Barhoum (2017) found that in reforming developmental courses that structural and curricular types of changes were more predominant than andragogical and relational types of changes. Barhoum (2017) also found that instructors did not make instructional design changes based on empirical findings. Instructors may not be consciously aware of their teaching

philosophy or orientation, which often drives their instructional practices (Conti, 2004). All of these factors contribute to the learning environment. An environment that fosters intrinsic motivations by the standards of SDT satisfies the needs of autonomy, competence, and relatedness whereas an environment that stifles those needs can sabotage intrinsic motivations (Ryan & Deci, 2017). The current study aimed to better understand the importance of andragogical orientation in supporting the need for autonomy of adult learners in the community college setting.

### **Community Colleges in Virginia**

Virginia started with the opening of two community colleges in 1966 to a current total of 23 community colleges with 40 campus locations in 2021. As of June 2021, the VCCS services 218,985 degree seeking students (VCCS, n.d.). The average age of a VCCS student is 24 years old, 57% are female, 43% are males, 18% are first generation college students, 13% are military-related, and 44% are minorities (VCCS, n.d.). In the fall of 2014-2015 school year, approximately 183,443 enrolled in a VA community college and that number has steadily declined; fall of 2015-2016 approximately 176,887 students were enrolled; fall of 2016-2017, approximately 170,869 were enrolled; fall of 2017-2018, approximately 166,866 students were enrolled; fall of 2018-2019, approximately 161,589 students were enrolled; and fall of 2019-2020, approximately 158,074 students were enrolled (VCCS, n.d.). State community colleges receive state funding which is influenced by enrollment. When enrollment numbers decrease, so does state funding, which equates to budget cuts for the colleges. Attracting new students and retaining current students is an important goal for colleges to maintain enrollment

numbers. While many factors affect college enrollment numbers, the current study examined what college instructors can control within their classrooms to contribute to student success. The current study surveyed VCCS instructors from the Northern and Southeastern region of Virginia. The Northern and Southeastern region of Virginia services ten of the 23 VCCS colleges.

### **Summary**

The literature review revealed that the SDT has been used in educational research to explain the motivation of learners from the framework of psychological need fulfillment. Specifically, the need for autonomy has been shown to be essential for motivation to be considered intrinsic (Almusharraf, 2018; Baker & Goodboy, 2018; Deci & Ryan, 2000). The theme of autonomy and an autonomous self-concept as discussed as an assumption of andragogy, was the reason why it was focused on in the current study as an important variable for the success of adult learners. Autonomy-supportive techniques have been linked with improved academic engagement (Deci et al., 1981), increased autonomous motivation (Abula et al., 2018), increased intrinsic motivation and skilled performance (Manninen et al., 2020). Likewise, the literature review revealed andragogy as the desired framework for teaching adults (Carlson et al., 2018). The literature review revealed the unique challenges adult learners face in higher education, from the struggles of integrating into the collegiate learning environment (Chawla, 2019), to retention issues in online learning (Levy, 2017). Adult barriers to success provide credence and support to using andragogy as a supporting learning principle. Adult learners have different needs from younger learners and andragogy meets those needs (Knowles, 1980). The literature

review also revealed the significance of social contexts being responsible for external regulations becoming internalized and integrated motivations for learners who are extrinsically motivated. Background information on the SDT highlighted the various levels of learner's motivation to goal-related activities such as pursuing a degree.

Furthermore, the literature review revealed many unknowns related to the use of andragogy and instructional practices to support SDT. The study presented here extended Griffin's (2020) qualitative study by examining the use of andragogical practices with diverse students, such as those attending community colleges and Barhoum's (2017) study examining best practices of reforming coursework at community colleges. Community colleges attract a diversity of adult learners, yet too often the literature review supported that instructors' instructional style may not fit the audience regarding psychological need fulfillment. It is still unknown how often community college instructors use learning principles such as andragogy to direct their instructional practices. The literature revealed that instructor characteristics, such as their position or rank, have been shown to affect their autonomous motivation to teach, which can influence their instructional style (Yasué et al., 2019). The literature also revealed the link between autonomy, intrinsic motivation, and andragogy. The current study addressed the suggested gaps put forth by Arghode et al. (2017) and Barhoum (2017) that more research is necessary to investigate the degree in which instructors use learning principles to drive instructional style and how instructors are addressing the adult learners' needs using andragogy.

In Chapter 3, I show the methods I used to measure andragogical orientation and autonomy-supportive instructional practices. To address the research question in this quantitative study, the specific research design included a non-experimental design and the survey method to see if the constructs of andragogical orientation predict an autonomy-supportive instructional style.

## Chapter 3: Research Method

### **Introduction**

The purpose of this study was to examine the extent that community college instructors' perceived andragogical orientation predicted their instructional style as more supportive towards student autonomy or more controlling, while controlling for instructor background characteristics. In this chapter, I provide the research design and rationale, and the methodology including the population and sampling procedures. I describe the instruments used to measure andragogical orientation and instructional style and operationally define the variables of interest. This chapter includes details on data collection and data analysis as well as threats to validity. The chapter concludes with a discussion on the ethical procedures used in this study.

### **Research Design and Rationale**

To address the research question in this quantitative study, the specific research design included a non-experimental design using the survey method to see if the constructs of andragogical orientation predicted an autonomy-supportive or more controlling instructional style. This study used a quantitative design. Quantitative designs are most appropriate when dealing with data that contain numbers to describe relationships between variables (Creswell & Creswell, 2018) such as the Likert scale data collected from the PALS and the PIS. Conti's (1979, 2004) PALS and Deci et al.'s (1981) PIS questionnaire are both Likert scale self-reported instruments that describe andragogical orientation and autonomy-supportive instructional styles with numerical data. Typically, in social science research, Likert scales are measured as interval level

data which is considered continuous data subject to parametric measures (Allen, 2017). Data obtained from the questionnaires were entered into a statistical software program called SPSS Statistics v25.0 (IBM, 2017) for analysis which provided inferential statistics to generalize about the population. A qualitative design could have been used if I had been examining a phenomenon or the lived experiences of instructors. A qualitative design was not appropriate for this study because the purpose was not to gain a deep understanding of an instructor's choice of instructional style but rather to collect data on trends on instructional style usage. A non-experimental approach was appropriate since the research was observational, the results were designed to be descriptive, and often the outcome variable had already occurred (Thompson & Panacek, 2007). Non-experimental quantitative designs can test a theory using data containing numbers and employing statistical procedures (Creswell & Creswell, 2018). The survey method was appropriate since the purpose of the study was to explain a relationship between two variables or constructs such as attitudes or behaviors (Burkholder et al., 2016). The survey method offered many advantages to the current study. The survey method captured the attitudes and behaviors of participants that were not overtly seen by observations alone (Burkholder et al., 2016). Likewise, this method was convenient in obtaining information from participants located in various geographic locations (Burkholder et al., 2016).

The predictor variable in the current study was andragogical orientation consisting of seven factors: (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development. The

outcome variable is instructional style (autonomy-supportive). The covariates were instructors' years of teaching in higher education, highest degree obtained, and gender.

For the current study, the participants were located at community colleges throughout Virginia; therefore, for conservation of time and practicality, it was more appropriate to collect the data via a web-based survey. This methods choice advanced knowledge in the field of andragogy because the surveys collected information directly from the instructor's perspective which assisted in explaining and describing their instructional habits.

## **Methodology**

### **Population**

The intended population for the current study included social and behavioral sciences instructors who taught at community colleges in Virginia. There are 23 community colleges in Virginia that employ more than 6,500 full-time and almost 14,000 part-time employees (Virginia Community College System, n.d.). It is unknown at this time the exact number of faculty members in the social and behavioral sciences division; however, from preliminary estimation based on a web search of each college, there are at least 100 faculty members within the 10 selected colleges to participate in this study.

### **Sampling and Sampling Procedures**

A nonprobability, non-randomized purposive sampling method was used to obtain the sample. Purposive sampling is a type of convenience sample that was used in the current study to obtain a representation of the population based on characteristics of the population (Lavrakas, 2008). An advantage of using a nonprobability convenience

sample was that it was inexpensive and easy to obtain (Frey, 2018). One weakness of using a nonprobability convenience sample was that it has a higher risk of bias (Frey, 2018). Initially in the current study, participants needed to be employed within the behavioral and social science departments at their respective community college for the 2021-2022 academic year. While each college is slightly different, the behavioral and social science department includes academic disciplines of psychology, sociology, anthropology, and political science to name a few. Purposive sampling is appropriate when using a small sample size within a limited geographic region (Lavrakas, 2008). In order to achieve the sampling frame for this study, I initially intended to contact the Office of Institutional Research division at each respective community college to obtain approval to conduct my study. This office could have provided me with a list of full-time and part-time (including adjunct) faculty members within the behavioral and social sciences departments currently employed for the 2021-2022 academic year, or they could have granted me permission to reach out directly to faculty by using their publicly displayed email addresses. Participants were contacted using their college emails. The initial inclusion criteria included being a community college faculty member (full-time and part-time) of the social and behavioral sciences department for the 2021-2022 academic year. Ten community colleges in the Northern and Southeastern region of Virginia were included in this study. In order to achieve the maximum number of available participants, I expanded beyond social and behavioral sciences and invited all full-time, part-time, and adjunct faculty members currently employed for the 2021-2022 academic year to participate in the study.

## **Power Analysis**

G\*Power is a free downloadable application used to determine statistical power and sample size in social science research (Faul et al., 2009). Cohen's (1988)  $f^2$  is used as an effect size for regression and he established the following standardized ( $f^2$ ) effect size conventions: small (.02) medium (.15) and large (.35). Using an effect size of .35, an alpha of .05, power of .80, and 10 predictor variables, G\*Power calculated a desired sample size of 57 for a multiple regression fixed model  $R^2$ . Two considerations to note when using a multiple regression procedure are sample size and effect size (Allen, 2017). In order to use a small effect size for a multiple regression, the researcher would need a large sample size (Allen, 2017). Additionally, the more predictor variables used, the larger the sample size needed (Allen, 2017). For the current study, effect size in G\*Power was adjusted to a large convention of .35. Based on previous literature on autonomy-support, Edmunds et al. (2008) found a medium effect size on autonomy supportive instructional style with the variables psychological need satisfaction, motivational regulation, exercise behavior, behavioral intention, and affect, while Lauremann and Berger (2021) estimated a large effect size in their study on self-reported teacher and student motivating styles.

## **Procedures for Recruitment, Participation, and Data Collection**

I recruited participation from faculty members by first contacting the Office of Institutional Research departments at each of the 10 community colleges through telephone and email communication. I followed the Internal Review Board (IRB) guidelines of each individual college's procedure and obtained Walden IRB preliminary

approval to share with colleges that required this before they provided their approval. I explained that I was an alumnus of the Virginia Community College System currently working on my dissertation and wanted to collect data on instructional styles from current faculty members within the social science and behavioral department which included for example academic disciplines of psychology, sociology, anthropology, and political science to name a few. I asked for a listing of faculty and their email addresses. I emailed prospective participants an explanation of the study and the link to the online questionnaires hosted in SurveyMonkey. Participants were asked to provide their consent in SurveyMonkey before they proceeded to the questionnaires. Demographic information was collected in the questionnaires. The questionnaires did not ask for names or collect email addresses. Within the email correspondence, I indicated that participation was voluntary and at any time, one could withdraw from the study by not completing the questionnaires or closing their web browser. The names of each college were not identified. I kept data confidential and stored on a password protected laptop. As a courtesy, I indicated that I would email each college's research department a brief (one to two page) summary of my findings. Deception was not used in this study; therefore, debriefing was not necessary.

### **Instrumentation**

This section contains information on the instruments used to collect data in the current study. Two instruments were used in the current study: one to measure andragogical orientation and one to measure instructional style. The PALS (Conti, 1979, 2004) measured andragogical orientation (see Appendix A). The PIS (Deci et al., 1981)

questionnaire measured instructional style (see Appendix B). The PIS was modified for use in a higher education setting. Both instruments have been validated and used in published and unpublished studies. The PIS has been modified previously in published and unpublished studies for us in higher education settings. Permission was granted by representatives of the authors to adapt the PIS (see Appendix C).

### **Andragogical Orientation**

An instrument to measure andragogy has not been formally created. However, according to Knowles et al. (2015), the PALS, created by Conti (2004), is one of the best instruments to measure a teaching philosophy with constructs closely associated with andragogical practices. Conti granted permission on his website that the PALS can be reproduced without permission for research purposes. The PALS contains 44 questions regarding behaviors instructors of adults may do in class. The questionnaire is scored on a Likert 6-point scale with “A” meaning “always” and “N” meaning “never.” Higher scores on the PALS represent a learner-centered or andragogical orientation while lower scores represent a teacher-centered or more pedagogical orientation. Mid-range scores on the PALS indicate responses from both extremes (Conti, 2004). The PALS was appropriate for the current study because it measured seven factors most closely associated with andragogy or a learner centered approach: learner-centeredness, personalizing instruction, relating new learning to prior experiences, assessing student needs, climate building, student participation in the learning process, and flexibility for personal development. Aksoy and Aksu (2020) used the PALS in their study to examine instructor’s andragogical knowledge and how they incorporated it into their classroom of

adult learners in a night school setting. Aksoy and Aksu found a Cronbach's alpha coefficient internal consistency rating of .89 for the whole instrument.

### **Autonomy-Supportive Instructional Style**

The PIS (Deci et al., 1981) was created to measure an instructor's self-reported orientation towards instructional style. The PIS authors granted permission on their website to use this instrument for the purpose of research. The questionnaire contains eight vignettes of typical problems a teacher might encounter with students in a classroom. Participants are asked to select among four possible solutions to the problem ranging from "highly controlling" to "highly autonomy-supportive"; 32-items and four subscales and was initially designed to use with K-12 teachers. The four subscales and their test reliability are as follows: high control (HC,  $\alpha = 0.82$ ), moderate control (MC,  $\alpha = 0.79$ ), moderate autonomy (MA,  $\alpha = 0.82$ ), and high autonomy (HA,  $\alpha = 0.77$ ; Deci et al., 1981). Lauermann and Berger (2020) and Yasué et al. (2019) adapted the PIS for use in a setting with instructors and students in a postsecondary setting. Lauermann and Berger (2020) adapted the PIS for use with young adults in a vocational educational program post high school. The researchers changed the wording of the vignettes to make it age appropriate and the response items to be more general to fit a vocational educational setting. Yasué et al. adapted the PIS in their study to examine if autonomously motivated college instructors predicted autonomy-supportive instructional style. Yasué et al. omitted the MC and MA responses creating a dichotomous outcome of highly controlling or highly autonomous. The researchers found a Cronbach's alpha coefficient internal consistency rating of .78 for what they called Auto-Mentor (highly

autonomous) and .64 for what they called Control-Mentor (highly controlling). Clabaugh (2013) used the PIS and adapted it for use with community college instructors. For the current study, the wording of the eight vignettes and four responses were modified for use in a community college setting. Clabaugh (2013) reported Cronbach's alpha as follows: high control (HC,  $\alpha = .88$ ), moderate control (MC,  $\alpha = .81$ ), moderate autonomy (MA  $\alpha = .74$ ), and high autonomy (HA  $\alpha = .84$ ).

### **Operationalization of Variables**

The predictor variable in this study was andragogical orientation. It was treated as ratio level data. Andragogical orientation is defined as the tendency of instructors to focus on the process of adult learning rather than strictly on the content of the material and includes elements of learner-centered activities, personalizing instruction, relating to experience, assessing student needs, climate building, participation in the learning process, and flexibility for personal development (Knowles et al., 2015). Knowles et al. (2015) suggested that andragogical orientation is closely related to a learner-centered teaching style and that the PALS is one of the best instruments to establish andragogical orientation. The PALS measures teaching style based on seven constructs: (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development. Each construct will be considered a predictor variable.

A total score of 0-145 represents a "teacher-centered" or low andragogical teaching style while a total score of 146-220 represents a "learner-centered" or high

andragogical teaching style. An example item is: “I allow students to participate in developing the criteria for evaluating their performance in class.” Respondents reply “A for Always, AA for Almost Always, O for Often, S for Seldom, AN for Almost Never and N for Never.” Question numbers 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44 are positive items. For positive questions, the following values are assigned for scoring: Always=5, Almost Always=4, Often=3, Seldom=2, Almost Never=1, and Never=0. Question numbers 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41 are negative items. For negative questions, the following values are assigned for scoring: Always=0, Almost Always=1, Often=2, Seldom=3, Almost Never=4, and Never=5.

The control variables or covariates were instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender. Conti (2004) believed that teaching style was influenced by certain instructor background characteristics such as educational philosophy, academic training, age, and experience. Jang (2019) found gender differences in instructor’s intrinsic and extrinsic instructional goal setting. Instructors reported how many years of teaching experience in higher education, and this was considered a continuous variable. Highest degree obtained was considered categorical data and consisted of 4 categories (Bachelor’s, Master’s, Master’s plus, Doctoral). Gender was also categorical data and consisted of 3 categories (male/female/non-binary).

The outcome variable was autonomy-supportive instructional style as measured by the PIS (Deci et al., 1981). It was treated as interval level data. Lauermaann and Berger

(2020) and Yasué et al. (2019) modified the PIS to fit a setting with instructors and students in a postsecondary setting. Lauermann and Berger (2020) modified the PIS to fit the age population of young adults in a vocational educational program past high school. Yasué et al. (2019) modified the PIS in their study to better fit higher education instructors. In both studies, researchers modified the wording of the vignettes and answers to make it more appropriate for higher education. Clabaugh (2013) adapted the PIS by modifying the wording of the vignettes and answers to better fit the community college setting. An example of an item and response from the original PIS is:

Jim is an average student who has been working at grade level. During the past two weeks he has appeared listless and has not been participating during reading group. The work he does is accurate but he has not been completing assignments. A phone conversation with his mother revealed no useful information. The most appropriate thing for Jim's teacher to do is:

1. She should impress upon him the importance of finishing his assignments since he needs to learn this material for his own good.
2. Let him know that he doesn't have to finish all of his work now and see if she can help him work out the cause of the listlessness.
3. Make him stay after school until that day's assignments are done.
4. Let him see how he compares with the other children in terms of his assignments and encourage him to catch up with the others.

An example of the modified PIS item and response from Clabaugh (2013) is:

Jim is an average English 250 student who has been getting Bs on most

assignments. During the past two weeks he has appeared listless and has not been participating during reading group. The work he does is accurate but he has not been completing assignments. The most appropriate thing for you to do is:

1. Impress upon him the importance of finishing his assignments since he needs to learn this material for his own good.
2. Let him know that he doesn't have to finish all of his work now and see if she can help him work out the cause of the listlessness.
3. Encourage him to stay in the writing lab until that day's assignments are done.
4. Let him see his scores compare with the class average in terms of his assignments and encourage him to catch up with the others.

According to the PIS (Deci et al., 1981), an instructor's overall autonomy-supportive score is calculated by first averaging the scores in each of the four subscales. The scores can be used separately, combined in one multivariate analysis, or as one overall score of autonomously supportive orientation. For the current study, I used one overall score of autonomously supportive orientation. The items in the subscales are: (HC) 3, 5, 10, 16, 18, 21, 27, 32 (MC) 1, 8, 9, 14, 19, 22, 28, 31 (MA) 4, 6, 11, 15, 17, 24, 25, 30 and (HA) 2, 7, 12, 13, 20, 23, 26, 29. It is suggested that calculating the scores involves weighting the average for the highly controlling responses with a -2 (minus two); weighting the moderately controlling average with -1 (minus one); weighting the average for the moderately autonomy supportive subscales with +1; and weighting the average for highly autonomy supportive subscale with +2. The total score will range

between +18 and -18. A negative score indicates a controlling instructional style, a 0 indicates a neutral instructional style, and a positive score indicates an autonomy supportive instructional style with higher scores indicating a more autonomously supportive instructional style (Deci et al., 1981).

### **Data Analysis Plan**

Data were analyzed using IBM SPSS version 25 (IBM, 2017). Statistical significance was set at  $p < .05$ . A histogram for each predictor variable and outcome variable determined if they are normally distributed (Warner, 2013). According to Conti (2004), missing answers on the PALS can be assigned a neutral value of 2.5. Outliers can be adjusted in SPSS using the Winsor Method. Winsorizing is a method similar to data trimming; however, instead of deleting outliers, the researcher transforms the data to the next highest or lowest number in the dataset that is not considered an outlier. This method will allow all of the scores to be included in the analysis to maximize statistical significance (Allen, 2017). The final decision of handling outliers was made once all data were collected.

### **Research Question and Hypothesis**

The research question for this study was as follows: To what extent do the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) predict an autonomy-supportive instructional style among community college social and behavioral

sciences instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender?

*H<sub>0</sub>*: The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) do not predict an autonomy-supportive instructional style among community college social and behavioral sciences instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

*H<sub>a</sub>*: The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) do predict an autonomy-supportive instructional style among community college social and behavioral sciences instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

Descriptive statistics for instructor background characteristics were reported. Means and standard deviations for andragogical orientation as represented by learner-centeredness were computed. Each factor of the PALS was treated as a subscale. A multiple regression was used to analyze the data. A multiple regression is a statistical procedure researchers use to explain the relationship between multiple variables (Allen, 2017). Whereas correlation procedures describe a relationship between variables, they cannot predict or infer causation (Allen, 2017). It is more appropriate to use a multiple

regression when trying to predict a relationship between variables, especially when there are multiple predictor variables as in the current study. (Allen, 2017). If the outcome variable was dichotomous, then a binary logistic regression would be a more suitable test. However, in the current study, instructional style measured from a Likert scale was measured as interval continuous data customary in social science studies (Allen, 2017). Assumptions of a multiple regression are as follows: dependent variable measured on a continuous scale, two or more independent continuous or nominal variables, independence of residuals, linear relationship between variables, homoscedasticity in the predictor variables, no multicollinearity between predictor variables, no outliers, and normal distribution of the residuals (Allen, 2017). Chu et al. (2019) conducted a similar study in which linearity was confirmed visually through scatterplots. Multivariate normality can be tested using Shapiro-Wilkes test of residuals (Chu et al., 2019). Bootstrapping is a procedure in SPSS that could have been used if any assumptions were violated (Warner, 2013). To minimize the Type I error, the Bonferroni procedure in SPSS could have been used if multiple statistical tests were used in the data analysis (Warner, 2013). Since I included control variables as covariates, a hierarchical regression was appropriate (Grand, 2015). I first tested to see if the control variables had any significant contributions in predicting instructional style. These variables were placed into Block 1 in SPSS. Then I placed the seven predictor variables in Block 2 of SPSS to see if they had any contributions above and beyond the control variables.

Andragogical orientation was interpreted as follows: A total PALS score of 0-145 represents a “teacher-centered” or low andragogical teaching style while a total PALS

score of 146-220 represent a “learner-centered” or high andragogical teaching style. Scores from each subscale of the PALS served as predictor variables in the multiple regression analysis. The control variables of years of teaching in higher education were entered as numerical values in SPSS while highest degree earned and gender were dummy coded and entered into the multiple regression as covariates. Conti (2004) believed that teaching style was influenced by certain instructor background characteristics such as educational philosophy, academic training, age, and experience, which is why instructor background characteristics were covariates.

Autonomy-supportive instructional style was interpreted as follows: Scores on the PIS range from -18 to 18, with 0 indicating a neutral orientation. Scores from -18 to -10 will indicate a high controlling orientation, scores from -9 to -1 will indicate a moderate controlling orientation, scores from 1 to 9 will indicate a moderate autonomy-supportive orientation and scores from 10 to 18 will indicate a high autonomy-supportive orientation.

### **Threats to Validity**

Measurement invariance is a threat to validity (Frey, 2018). Measurement invariance refers to an instrument’s ability to measure the same construct regardless of the place and time administered (Frey, 2018). Techniques that could be used to address measurement invariance include exploratory factor analysis on the variables. Threats to construct validity include reactivity to the assessment and timing of the measurement (Edmonds & Kennedy, 2017). Participants are likely to respond differently to a survey and change their response differently than how they would normally respond. Likewise,

if the survey is too long or administered at inconvenient times, participants may respond based on issues of timing. To mitigate these threats to validity, the survey was administered to participants near the end of the semester at their community college. Another threat was that the instrument itself might not measure the constructs of interest, which could make the results invalid (Edmonds & Kennedy, 2017). The PIS was initially designed by Deci et al. (1981) to measure adult's perception of autonomy-supportive instructional style with children. It needed to be modified for this study to reflect an adult population. Modifying the instrument might have affected its construct validity. However, the PIS has been modified by other researchers (Clabaugh, 2013; Lauermann & Berger, 2020; Yasué et al., 2019). Likewise, no instrument exists to date to measure andragogy. It was assumed that the PALS is an acceptable measure of the constructs of andragogy (Knowles et al., 2015). To mitigate the threats to construct validity, Chapter 2 covered an in-depth explanation of how the constructs of andragogy and the SDT are correlated. Finally, a low response rate and the quality of responses could have affected the statistical power of the results (Edmonds & Kennedy, 2017). Edmonds and Kennedy (2017) suggest expecting a 15-20% return response rate. It was suggested that researchers conduct a nonresponse bias analysis in SPSS to control for a low response rate (Edmonds & Kennedy, 2017).

One possible threat to external validity in survey research involves the characteristics of the sample (Edmonds & Kennedy, 2017). If the sample characteristics do not closely resemble the characteristics of the population, it could jeopardize the generalizability of the results. The initially intended population in the current study were

instructors within the social and behavioral sciences at community colleges in Northern and Southeastern Virginia who taught courses in the psychology or social sciences department. The sample included criteria that matched the characteristics of the population. Additional issues that could have affected external validity of this study included the community college faculty who planned to participate may have differed from the population of community college instructors as a whole. Their volunteerism to participate may have suggested an inclination or bias towards research studies than others, which might suggest these instructors had different perspectives and perceptions towards the constructs of this study. There could have also been demographic differences that separated this sample from the general population of community college instructors. To mitigate this limitation, I controlled for years of teaching experience in higher education, highest degree obtained, and gender.

### **Ethical Procedures**

Ethical guidelines were followed as stipulated by the American Psychological Association (APA) and the Walden Institutional Review Board (IRB). According to the APA (n.d.) Principal A: Beneficence and Nonmaleficence, researchers should strive to protect the welfare of those with whom we interact with professionally. As such, the current study did not cause physical or psychological harm to participants. Prior to conducting the current study, I sought Walden IRB preliminary approval to share with colleges that required this before providing their approval. Thereafter, official Walden IRB approval was obtained, and the proper documents provided to adhere to ethical guidelines for Walden University and for each participating community college. Prior to

the study, I obtained permission to recruit prospective participants from the partnering sites by following their IRB guidelines. Prospective participants were asked to provide consent in SurveyMonkey before accessing the survey. According to Curtis and Curtis (2011), ethical issues can develop regarding the sampling frame and anonymity of participants. In the current study, I did not ask for participants' names or collect email addresses within the surveys. Participants were reminded in the email correspondence that their participation was voluntary, and they could withdraw at any time. They were not pressured into participating. Individual colleges also remained anonymous, and names were not mentioned in the current study. Additionally, I did not have any personal affiliations with the partnering sites that would cause conflicts of interest or power differentials. I respected the participants time by sending out the survey at a convenient time for data collection that tried to have the least disruptive effect on the delivery of instruction. Data was collected anonymously, electronically, and stored on a password protected computer. Only the researcher, dissertation committee, and appropriate Walden University reviewers had access to the data and analysis. Data will only be stored for five years after completion of this dissertation and then it will be destroyed.

### **Summary**

The purpose of this quantitative study was to examine the extent that community college social and behavioral sciences instructors' perceived andragogical orientation predicted their instructional style as more supportive towards student autonomy or more controlling, while controlling for instructor background characteristics. To accomplish this, a non-experimental research design using the survey method was used. The survey

method is appropriate when the purpose of the study is to explain a relationship between two variables or constructs such as attitudes or behaviors (Burkholder et al., 2016).

Questionnaires designed to measure andragogical orientation and instructional style were made available online in SurveyMonkey to a sample of community college instructors who taught within the social and behavioral sciences departments of ten community colleges in Northern and Southeastern Virginia. The data collected was analyzed with IBM SPSS using a multiple regression. The covariates of years of teaching in higher education, highest degree obtained, and gender were first regressed to see if those variables predicted instructional style, then the seven constructs of andragogical orientation: (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development, were regressed to determine if they predicted instructional style above and beyond the covariates. The results are presented in Chapter 4.

## Chapter 4: Results

### Introduction

The purpose of this study was to examine the extent that community college instructors' perceived andragogical orientation predicted their instructional style as more supportive towards student autonomy or more controlling, while controlling for instructor background characteristics. One research question was tested in this study using a hierarchical multiple regression. In this chapter, the research question is restated, followed by the hypotheses. The data collection method and baseline descriptive demographic characteristics are outlined. A summary of the results, which includes an evaluation of the statistical assumptions and the statistical analysis for the hypothesis, is provided along with tables and figures for illustration. The chapter ends with a summary of the results answering the research question.

The research question for this study was as follows: To what extent do the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender?

$H_0$ : The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development)

do not predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

*H<sub>a</sub>*: The constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) do predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender.

### **Data Collection**

Data collection occurred over a 2-month period from March until May-2022. Study participants were recruited from 10 community colleges in Virginia using their publicly obtained email addresses. Participants were emailed an invitation to participate in the study if they fit the inclusion criteria of teaching within one of the Virginia Community College System colleges during the 2021-2022 academic year. A change in procedure was obtained to expand the pool of participants to all majors not just those in the social and behavioral sciences. Likewise, a change in procedure was obtained to suggest that instructors have experience teaching a face-to-face course in order to better answer the survey questions. A link to the survey invitation was also placed on Facebook and Twitter. The survey was presented in an online format via Survey Monkey and included an email invitation to participate along with a consent form. The consent form indicated that the purpose of the study was to investigate the relationship between an

adult learning teaching philosophy called andragogy and instructional style among community college instructors. The consent form further explained the procedures, voluntary nature of the study, risks, and benefits of being in the study, privacy information including a statement of anonymity, and the researcher's contact information. The survey was anonymous, meaning that no identifiable information regarding the participant or the participants work location, were collected. Participants were informed in the consent form to click on the "Continue" button as a form of consent to begin the study.

Respondents who consented to participate in the study were directed to the study after pressing the "Continue" button in Survey Monkey. All survey questions were set in Survey Monkey to require an answer. The forced validation procedure eliminated missing and or incomplete data, except for the respondents who indicate consent but did not complete the survey ( $N=12$ ). The total sample of completed surveys was  $N= 78$ , which was 3% of the total population sampled of 2529. The power was set at .80 and an effect size estimated at .35 based on previous literature on autonomy-support. Edmunds et al. (2008) found a medium effect size regarding autonomy supportive instructional style on psychological need satisfaction, motivational regulation, exercise behavior, behavioral intention, and affect. The current study consisted of seven predictor variables (learner-centered activities, personalizing instruction, relating to experience, assessing learner needs, climate building, participating in the learning process, and flexibility for personal development); three control variables or covariates (years of teaching experience in higher education, highest degree obtained, and gender); and one outcome variable

(autonomy-supportive instructional style) to answer the research question and hypotheses.

### Demographic Characteristics

Most of the participants were female instructors ( $n = 41$ , 53%). The majority of participants held master's degrees ( $n = 50$ , 64%), followed by doctoral degrees ( $n = 23$ , 30%), bachelor's degree ( $n = 4$ , 5%), and other ( $n = 1$ , 1%). Additionally, the mean number of years that instructors taught in higher education was 14 years ( $M = 14.42$ ,  $SD = 9.788$ ). A summary of the demographic data is present in Table 1.

**Table 1**

#### *Instructor Demographics*

<i>Variable</i>		<i>n</i>	<i>%</i>
Gender	Male	35	44.9%
	Female	41	52.6%
	Non-binary	1	1.3%
	Not listed	1	1.3%
Highest degree earned	Bachelor's	4	5.1%
	Master's	50	64.1%
	Doctoral	23	29.5%
	Other	1	1.3%

## Results

### Descriptive Statistics

Out of 90 participants who agreed to take the study, the total sample included 78 who completed the study. The means, standard deviations, minimums, and maximums for the PALS can be seen in Table 2. Table 2 also includes the means and standard deviations obtained by the instrument developer (Conti, 1979), which shows that the

sample scored slightly lower than Conti's (1979) published means in all areas except learner-centered activities.

**Table 2**

*Descriptive Statistics for the Predictor Variables (n = 78)*

Variable	<i>M</i>	<i>Min-Max</i>	<i>*Conti</i>
	<i>(SD)</i>		<i>M</i>
			<i>(SD)</i>
Learner Centered Activities	38.35 (5.89)	24.00-53.00	38.00 (8.3)
Personalizing Instruction	22.39 (6.52)	7.00-38.00	31.00 (6.8)
Relating to Experience	20.69 (5.02)	4.00-30.00	21.00 (4.9)
Assessing Learner Needs	13.24 (3.62)	3.00-20.00	14.00 (3.6)
Climate Building	15.85 (2.45)	9.00-20.00	16.00 (3.0)
Participation in Learning Experience	9.47 (3.27)	3.00-16.00	13.00 (3.5)
Flexibility for Personal-Development	10.86 (4.12)	1.00-21.00	13.00 (3.9)

*\*The developer of the PALS provided means and standard deviations as a guide for researchers using this instrument (Conti, 1979).*

In addition to providing an average score for each predictor variable, the PALS provides an overall level of andragogical orientation. According to Conti (1979), scores between 0-145 indicate a teacher-centered orientation (low andragogical) and a score between 146-220 indicate a learner-centered orientation (high andragogical). In the current study, most instructors scored on the low end of andragogical orientation ( $M =$

130.85;  $SD= 20.41$ ) with half of the instructors scoring above 130.00 and half scoring below 130.00.

The PIS measured instructor perception of autonomy-supportive instruction. The PIS measures perceived autonomy support on a scale from -18 to +18. A negative score indicates a controlling instructional style, a 0 indicates a neutral instructional style, and a positive score indicates an autonomy supportive instructional style with higher scores indicating a more autonomously supportive instructional style (Deci et al., 1981).

Overall, instructors scored moderate on autonomy-supportive orientation ( $M = 4.50$ ,  $SD = 2.48$ ). The means and standard deviations for the outcome variable, autonomy-supportive instructional style, and its subscales are reported in Table 3.

**Table 3**

*Descriptive Statistics for the Outcome Variable Autonomy-Supportive Instructional Style*

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Min-Max</i>
*Overall autonomy-Support orientation	4.50	2.48	-5.37-10.13
High control	2.63	.84	1.13-5.38
Moderate control	3.55	.95	1.38-5.75
Moderate autonomy	3.31	.95	1.25-6.00
High autonomy	5.03	.90	1.88-6.50

*\*Only this overall autonomy-supportive score was used in the hypothesis testing*

## **Evaluation of Statistical Assumptions**

The following assumptions were tested prior to running the multiple regression: normality, linearity, multicollinearity, homoscedasticity, and independence of residuals. Normality for the variables was tested using Shapiro-Wilk and Q-Q Plots. Table 4 indicates the results of the Shapiro-Wilk and shows that not all variables were normally distributed. Learner-centered, personalizing instruction, relating to experience, assessing learner needs, climate building, and participating in the learning experience were normally distributed, while flexibility in personal development was the only variable not normally distributed. In an attempt to achieve normality for that variable, Winsorizing was done in which the scores on each end of the distribution were changed to the next closest value in that part of the distribution. The Winsor technique was unsuccessful in normalizing the distribution in part because there were no extreme outliers but also because the distribution was negatively skewed. A second data transformation technique, reflect and square root, was applied based on Tabachnick and Fidell's (2013) recommendation for negatively skewed distributions. While this reduced skewness, the distribution for that variable did not achieve normality. Thus, the multiple regression analysis was done on the original data for all variables. It should also be noted that multiple regression is a robust test even when normality is partially met (Tabachnick & Fidell, 2013). Q-Q plots for all variables are provided in Appendix D. The Q-Q plots show the data points fall close to the normality line.

**Table 4***Test of Normality for Variables*

	Shapiro-Wilk		
	Statistic	df	Sig.
Sum Learner Centered	.980	78	.271
Sum Personalizing Instruction	.986	78	.575
Sum Relating to Experience	.969	78	.058
Sum Assessing Needs	.978	78	.188
Sum Climate Building	.968	78	.044
Sum Participation in Learning Experience	.976	78	.139
Sum Flexibility Personal Development	.939	78	.001

\* $p > .05$  (Sig) indicates the variables are normally distributed

Scatterplots were used to measure homoscedasticity between the predictor variables and the residuals. The data are homoscedastic as shown by the evenly distributed datapoints on the scatterplot in Appendix E.

Multicollinearity was measured by evaluating the variance inflation factor (VIF). The VIF is below 10 and the tolerance is above 0.2, ruling out collinearity (Allen, 2017). The multicollinearity assumption was met as the predictor variables were not highly correlated with each other. Table 5 displays the VIF for the predictor variables.

**Table 5***Collinearity Diagnostics for Predictor Variables*

Variable (Constant)	Tolerance	VIF
------------------------	-----------	-----

Learner Centered	.672	1.487
Personalizing Instruction	.386	2.592
Relating to Experience	.428	2.334
Assessing Needs	.734	1.363
Climate Building	.652	1.535
Participation in Learning Experience	.427	2.340
Flexibility Personal Development	.468	2.138

The Durbin-Watson  $d$  test was conducted to examine independence of residuals for the outcome variable (autonomy-supportive instructional style), using the seven predictor variables (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) in the regression analysis. The Durbin-Watson score was close to 2.0, indicating the assumption of independence of residuals was met (Lewis-Beck et al., 2004).

**Table 6**

*Model Summary Durbin-Watson  $d$  test*

Model	R	R Sq	Adj R Sq	SE	R Sq Change	Change Statistics			Sig. F Change	Durbin-Watson
						F	df1	df2		
1	.481 <sup>a</sup>	.232	.154	2.28404	.232	2.973	7	69	.009	1.896

In addition to testing the assumptions for multiple regression, Cronbach's alpha was computed to test the reliability (internal consistency) of the instruments used for the current sample. Most of the subscales with the exception of learner-centered activities,

climate building, and participation in the learning process, had acceptable internal consistency, ranging from .63 to .75 (see Table 7).

**Table 7**

*Cronbach Alpha Coefficients for Study Instruments*

<i>Instrument</i>	<i><math>\alpha</math></i>
Principle of Adult Learning Scale	.749
Learner-Centered Activities Subscale	.510
Personalizing Instruction Subscale	.700
Relating to Experience Subscale	.769
Assessing Student Needs Subscale	.665
Climate Building Subscale	.382
Participation in the Learning Process Subscale	.575
Flexibility for Personal Development Subscale	.698
Problems In Schools Questionnaire	.626
High Control Subscale	.671
Moderate Control Subscale	.629
Moderate Autonomy Subscale	.667
High Autonomy Subscale	.678

**Hierarchical Multiple Regression Analysis**

A hierarchical multiple regression analysis was conducted to examine the strength of the seven predictor variables (a) learner-centered activities, (b) personalizing instruction, (c) relating to experience, (d) assessing learning needs, (e) climate building, (f) participating in the learning process, and (g) flexibility for personal development on the outcome variable autonomy-supportive instructional style, above and beyond the covariates of gender, highest degree earned, and number of years teaching in higher education. The covariates were first tested to see if they had any significant contributions

in predicting autonomy-supportive instructional style. The literature review suggested gender, highest degree earned, and number of years teaching in higher education may influence an instructors' instructional style (Conti, 2004; Jang, 2019; Yasué et al., 2019). These variables went into Block 1 in the hierarchical regression model. Then the seven predictor variables went into Block 2 to determine the extent to which they accounted for variability in autonomy-supportive instructional style above and beyond the covariates.

### **Covariates Influence on Instructional Style**

The results of Model 1 of the hierarchical multiple regression revealed that no covariate was statistically significant  $F(3, 76) = 1.80, p = .151$ . The regression model summary is presented in Table 8.

### **Constructs of Andragogical Orientation Influence on Instructional Style**

The results of Model 2 of the hierarchical multiple regression presented in Table 8 revealed that the addition of the seven constructs of andragogical orientation produced statistically significant results,  $F(10, 76) = 2.311, p = .021$  and the entire model accounted for 25.9% of the variance in predicting autonomy-supportive instructional style. The  $R^2$  change coefficient indicated that when controlling for gender, highest degree earned, and years of teaching in higher education, 19% of the variance of autonomy-supportive instructional style was explained by learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development. Table 9 presents the regression model summary.

**Table 8***ANOVA Results for Autonomy-Supportive Instructional Style*

<i>Model</i>		<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
1	Regression	32.605	3	10.868	1.820	.151
	Residual	435.907	73	5.971		
	Total	468.512	76			
2	Regression	121.520	10	12.152	2.311	.021
	Residual	346.992	66	5.257		
	Total	468.512	76			

**Table 9***Hierarchical Multiple Regression Model Summary*

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>SE</i>	<i>R Square Change</i>	<i>Change Statistics</i>			<i>Sig. F Change</i>
						<i>F</i>	<i>df1</i>	<i>df2</i>	
1	.264 <sup>a</sup>	.070	.031	2.44363	.070	1.820	3	73	.151
2	.509 <sup>b</sup>	.259	.147	2.29291	.190	2.416	7	66	.029

The research question asked to what extent do the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development) predict an autonomy-supportive instructional style among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender? An examination of the regression weights indicated that in Model

1, the covariates were not statistically significant. For Model 2, only assessing learner needs had a positive and significant impact on autonomy-supportive instructional style,  $\beta = .274$  ( $t = 2.172$ ,  $p < .05$ ). Table 10 presents the coefficients for each predictor variable. Results lend partial support for the alternative hypothesis, that the constructs of andragogical orientation predict an autonomy-supportive instructional style among community college instructors. Results suggest that increases in assessing learner needs were associated with autonomy-supportive instruction ( $\beta = .274$ ,  $p < .05$ ).

**Table 10**

*Coefficients: Predictors of Autonomy-Supportive Instructional Style*

<i>Model</i>		<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
1	(Constant)	3.935	1.464		2.687	.009
	Gender	.462	.363	.151	1.271	.208
	Years Teaching in Higher Ed	-.049	.030	-.196	-1.663	.101
	Highest Degree	.229	.507	.053	.451	.653
2	(Constant)	-1.541	2.604		-.592	.556
	Gender	.147	.360	.048	.409	.684
	Years Teaching in Higher Ed	-.026	.030	-.105	-.885	.379
	Highest Degree	-.367	.519	-.085	-.708	.481
	Learner Centered	.092	.055	.218	1.669	.100
	Personalizing Instruction	-.021	.065	-.056	-.322	.748
	Relating to Experience	.129	.082	.259	1.564	.123
	Assessing Needs	.189	.087	.274	2.172	.033
	Climate Building	-.036	.134	-.035	-.267	.791

Participation in Learning Experience	-.145	.128	-.188	-1.135	.260
Flexibility for Personal - Development	.069	.095	.115	.723	.472

### Summary

A hierarchical multiple regression was performed to determine if learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development predicted an autonomy-supportive instructional style among community college instructors, controlling for gender, highest degree earned and number of years teaching in higher education. The regression analysis indicated that gender, highest degree earned, and number of years teaching in higher education did not influence autonomy-supportive instructional style. Of the seven predictor variables, only assessing learner needs significantly predicted an autonomy-supportive instructional style. Chapter 5 includes interpretations of the findings, limitations to the study, implications for social change and recommendations for future research.

## Chapter 5: Discussion, Conclusions, and Recommendations

### Introduction

The purpose of this study was to examine the extent that community college instructors' perceived andragogical orientation predicted their instructional style as more supportive towards student autonomy or more controlling, while controlling for instructor background characteristics. Adult learners require a different type of pedagogy known as andragogy, to motivate them to persist in completing their educational goals (Knowles, 1968,1980; Knowles et al., 2015). Andragogy is the science of adult learning that assumes adults have a need to know the purpose of instruction, have an autonomous self-concept, want to utilize their experience within the learning environment, have a readiness to learn new things pertinent to their life circumstances, are problem-oriented, and are primarily intrinsically motivated (Knowles, 1968,1980; Knowles et al., 2015).

When principles of andragogy are considered in the design of lessons, andragogy can address the learning needs of adults, particularly having an autonomous self-concept, which are different from the learning needs of children (Brookfield, 1986). Having personal autonomy is a key variable in the SDT important to an individuals' psychological well-being and intrinsic motivation (Almusharraf, 2018; Baker & Goodboy, 2018; Deci & Ryan, 2000). Autonomy-supportive instruction involves taking the learner's perspective, inviting learners to pursue their interests, presenting learning activities in autonomy-supporting ways, providing explanatory rationales, acknowledging negative feelings, using invitational language versus controlling language, and displaying patience (Reeve & Cheon, 2021). These autonomy-supportive instructional behaviors

foster instructor empathy in that the instructor supports learners' needs. These instructional strategies promote intrinsic motivation by allowing students to pursue their own interests in a way that meets their need for autonomy, competence, and relatedness.

Autonomy-supportive instruction, which supports students' sense of choice and personal volition, improves academic engagement (Deci et al., 1981), autonomous motivation (Abula et al., 2018), intrinsic motivation, and skilled performance (Manninen et al., 2020). College instructors with an andragogical orientation who can provide autonomy-supportive instruction to adult learners address both the learning preferences of adults and the intrinsic motivation adults need to persist through their educational goals, such as graduation.

Community colleges nationally and in Virginia are struggling to maintain high graduation rates (Huie et al., 2021). Evidence based instructional strategies using andragogical principles better align with the unique needs of adult learners and have been found to increase the success of adult learners (Carlson et al., 2018). The next step in the scholarship of teaching was to address the limited research in understanding how community college instructors use andragogy to develop instructional practices, such as autonomy-supportive instruction, to better support and retain adult learners. There are many research studies that examine student perceptions of autonomy-supportive teaching. The current study added to the limited research on the extent to which community college instructors' perceived andragogical orientation predict their use of autonomy-supportive instructional style after controlling for experience, education, and gender.

A quantitative nonexperimental cross-sectional survey research design was used to examine the effect of seven predictor variables on one outcome variable. An online survey was distributed to community college instructors in ten community colleges located in Virginia who were teaching during the 2021-2022 academic year. The predictor variables were the constructs of andragogical orientation as defined by Conti (1979): (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Learner Needs, (e) Climate Building, (f) Participating in the Learning Process, and (g) Flexibility for Personal Development. The covariates were instructors' years of teaching in higher education, highest degree obtained, and gender. The outcome variable was autonomy-supportive instructional style. Autonomy-supportive instructional style can take the form of providing a reasonable rationale for instruction, acknowledging the learner's negative feelings, allowing students choice within assignments (Deci et al., 1994), peer assessment (Yuan & Kim, 2018), and the use of non-controlling language (Yuan & Kim, 2018).

A hierarchical multiple regression model revealed that the covariates of gender, highest degree earned, and years of teaching experience in higher education did not predict instructional style. As hypothesized, andragogical orientation constructs provided the best model fit to predict autonomy-supportive instructional style. Out of the seven predictor variables, only assessing learner needs statistically significantly predicted autonomy-supportive instruction. This chapter will discuss the interpretation of the findings, limitations to the study, recommendations for future research, and implications for social change.

### **Interpretation of the Findings**

The research question asked to what extent do the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, assessing learning needs, climate building, participating in the learning process, and flexibility for personal development), as measured by the PALS, predict an autonomy-supportive instructional style as measured by the PIS Questionnaire, among community college instructors, controlling for instructor background characteristics of years of teaching experience in higher education, highest degree obtained, and gender? The null hypothesis was rejected, indicating that instructors with an andragogical orientation predict an autonomy-supportive instructional style. An autonomy-supportive instructional style provides the environmental context the SDT proports will motivate learners to persist through goal completion. Autonomy-supportive instruction supports adult learners by instructors taking the learner's perspective, inviting learners to pursue their own individual interests (Reeve & Cheon, 2021), providing a reasonable and meaningful rationale, acknowledging the learner's negative feelings, providing a reasonable amount of choice (Deci et al., 1994), using non-controlling language, and peer assessment (Yuan & Kim, 2018). These provisions within the classroom met the adult learner's psychological needs especially for autonomy and complements the andragogical or learner-centered teaching philosophy. Specifically, the assessing learner needs construct showed statistically significant results in the present study. Contrary to the literature review, instructor characteristics of gender, highest degree earned, and years of teaching in higher education did not show statistically significant results.

There are a few possible reasons for these findings. The covariates of gender, number of years teaching in higher education, and highest degree earned were chosen based on previous conclusions in the literature. The findings that they did not significantly predict an autonomy-supportive instructional style may be because the current study included community college instructors, which may differ from instructors in other types of higher education settings. For example, Yasué et al. (2019) found differences in instructor characteristics regarding autonomous motivation among university professors, who may be more research inclined in their responses than community college instructors. Likewise, Jang (2019) found gender differences in instructional goal setting among K-12 instructors, who tend to be more pedagogically orientated.

Results of the current study showed that instructors reported a low perception of andragogical orientation and moderate scores on autonomy-supportive instructional style. Barhoum (2017) also found that the andragogical approach is taken less often at community colleges. Results agree with Griffin's (2020) findings of a gap in instructors understanding of the assumptions of what adult learners prefer within the higher education learning environment. On the other hand, it is possible the low andragogical orientation among these community college instructors are informed by characteristics of the students they teach. Some adults return to college and are academically underprepared for the rigor (Brower et al., 2020). It is possible that instructors at community colleges in Virginia believe they need to apply more pedagogical or teacher-

centered principles to remediate adult learners who are underprepared, avoiding andragogical approaches that place more responsibility of learning on the adult.

The current study supports prior findings that community college instructors are more teacher-centered than learner-centered in their teaching. Of the six of the constructs of andragogical orientation (learner-centered activities, personalizing instruction, relating to experience, climate building, participating in the learning process, and flexibility for personal development), only assessing learner needs predicted autonomy-supportive instruction. Conti (2004) defined assessing learner needs as instructors working collaboratively with students to determine short- and long-term goals based on their current learning needs. This matches the fourth and fifth assumptions of andragogy, that adults have a readiness and orientation to learn based on their present life situations (Knowles et al., 2015).

The timing of the current study may also explain the findings. The study was conducted on the heels of the COVID-19 pandemic, which shut down face-to-face instruction at all the Virginia community colleges between 2020-2021 academic year. This major historical event could have affected instructors scores on andragogical orientation, which assesses teaching behaviors. During the pandemic, Virginia community colleges had to quickly develop a plan to address learners' short-term needs. Due to abruptly moving courses online, community college instructors had to rethink their teaching philosophy and some instructors were unsure of how to modify their instructional style (Fuller, 2021). There is a possibility that some of the assumptions of andragogy such as an autonomous self-concept and an intrinsic motivation to learn,

which complement the psychological needs supported by SDT, may not have fit with how students behaved and learned during the pandemic, which might have severely altered the way instructors reported their andragogical orientation when answering the surveys. For example, instructors may have had less control over their classes due to switching back and forth from face-to-face to online, or a hybrid mix. This would support Yasué et al.'s (2019) findings that instructors who felt more autonomy also were more inclined to use autonomy-supportive instructional strategies. The current study found that 37% of the instructors who completed the survey indicated that they were considering a combination of face-to-face instruction, virtual instruction, and a hybrid mix of both when they completed the survey. Arghode et al. (2017) found in their review of the literature on andragogy from 2007-2016 that although andragogy promoted individual motivation and self-directedness, it failed to consider socio-cultural differences among adult learners.

The lingering aftermath of the COVID-19 pandemic has created salient socio-cultural challenges for adult learners such as a lack of employment, medical challenges, daycare challenges, which were already shown to be previous obstacles for adult learners (Bird et al., 2022; Lin, 2020; Osam et al., 2017), all of which can fit into situational, institutional, and dispositional barriers to the adult learners' success (Osam et al., 2017). These barriers continued into the 2021-2022 academic year. Even though we are out of the peak of the pandemic, many community colleges in Virginia have created more online offerings as a result of the COVID-19 pandemic to address both the short and long term needs of learners. Given these circumstances, it makes sense that assessing learner

needs showed the most predictive value towards autonomy-supportive instruction. Out of the seven constructs of andragogy, assessing learner short-term and long-term goals appear to be the most appropriate way community college instructors could make their instructional style more autonomy-supportive. More research is thus needed, as Arghode et al. (2017) suggested, on how instructors can improve instructional design to assess learner needs, especially so soon after coming out of a pandemic.

### **Limitations of the Study**

This study was limited to Virginia community college instructors teaching during the 2021-2022 academic year. The results of the present study cannot be generalized beyond this sample. It could be that instructors at 4-year universities or solely online colleges may answer the survey differently based on the demographic of students they teach. Likewise, instructors teaching internationally or outside of Virginia may have different teaching experiences and could respond differently to the survey questions.

One limitation addressed in Chapter 1 was finding a sufficient number of instructors to participate in the current study. Initially in the proposal, this study called for instructors within the behavioral and social science department at ten community colleges within the state of Virginia. To increase recruitment numbers, instructors from any major within the 10 Virginia Community Colleges were invited to participate. Additionally, recruitment methods were extended to include social media outlets like Facebook and Twitter. On the one hand, this is a limitation as the sample is broad; on the other hand, it represents, community college instructors in Virginia, as a more diverse sample. Instructors teaching certificate versus degree level classes may have different perceptions

of andragogical orientation and autonomy-supportive instructional styles. Additionally, 12 participants consented to participate however did not answer any questions. One respondent emailed me that the questions were too long; another respondent emailed me that the questions were worded awkwardly. For reasons pertaining to the instrument design, potential respondents may have decided not to participate.

I assumed that instructors' teaching philosophy was consistent and that their method of instruction fit their personality and the learning environment. However, due to the aftermath of COVID-19, many instructors may have adjusted their teaching techniques from what they were accustomed to (Fuller, 2021), which could have affected how they answered the survey questions.

Students', as well as instructors', needs changed during and after the pandemic, which caused a pedagogical shift for community college instructors (Deutschman, et al., 2021). While the timing of the study may have been a limitation, it is important that the study occurred during a flux in higher education. The study occurred after the height of the COVID-19 pandemic, but before things completely settled. My findings may not generalize far into the future but may provide some insight as to what the future may hold.

Another concern is the issue of internal consistency related to the instrument/subscales used. Most of the subscales of the PALS demonstrated acceptable Cronbach's alpha values. However, a few of the subscales (learner-centered activities, climate building, and participation in the learning process) were below the acceptable range, which could have affected the results. A second measurement issue that could

impact the validity of the results is related to the one variable (flexibility for personal development) that was not normally distributed and was not a significant predictor.

Finally, I assumed that the participants answered the questions honestly; however, response bias in internet surveys is another potential limitation. One respondent sent me an email critically questioning some of the questions in the survey. A few other respondents sent me emails of encouragement and support. These respondents might be inclined towards research studies differently than other community college instructors who did not take the extra time to send me an email. As mentioned in Chapter 1, respondents' willingness to participate may have suggested an inclination or bias towards research studies, implying that these instructors may have a different perspective and perception towards the constructs of this study.

### **Recommendations**

This study had sufficient participants to achieve power. However, since twelve instructors consented to take the survey but did not actually complete it, I recommend that future studies investigate instruments that may be shorter in length to measure andragogical orientation. The length of both surveys may have been a negative determinant to potential respondents. I recommend using a larger sample size and perhaps comparing traditional face-to-face community college instructors of adults with community college online instructors of adults. The current study found that 37% of instructors indicated that they considered a mix of face-to-face, virtual, and a hybrid mix when answering the surveys. Since the COVID-19 pandemic increased the number of online offerings at community colleges, it would be interesting to examine the difference

in how instructors teaching solely online are incorporating evidence based instructional strategies in the online environment.

### **Implications**

The implications to the current study are important to the community college community. The current study sheds light on the need for instructors to be aware of andragogical concepts that will lead to an autonomy-supportive instructional style. Autonomy-supportive instructional approaches have been shown to improve academic engagement (Deci et al., 1981), increase autonomous motivation (Abula et al., 2018), and increase intrinsic motivation (Manninen et al., 2020; Ryan & Deci, 2017). Community college administrators might consider providing professional development opportunities related to andragogy and autonomy-supportive instruction to their faculty and staff. Langdon and Wittenberg (2019) found that providing autonomy-support instructional training to graduate teaching assistants who did not have pedagogical training in education, enhanced college students' self-regulated learning. Additionally, hiring managers might consider an andragogical background, not just years of teaching experience in higher education, as a hiring consideration, since years of teaching in higher education did not relate to autonomy-supportive instruction.

The results of the current study show the need for more research investigating the perceptions of community college instructors. Few studies examine how instructors perceive their andragogical orientation or their autonomy-supportive instructional style. The current study presents the importance of assessing the adult learner's need in predicting an instructional style that provides autonomy-support. Additionally, this study

shows the importance of future research investigating why the concept of assessing learner needs differed from the other predictor variables.

Callahan et al. (2012) defines the practice of social change as testing theories and applying them to real life situations. Additionally, the practice of social change involves having an awareness and understanding of knowledge. The current study contributes to positive social change by bringing an awareness to the community college community that an andragogical orientation can predict an autonomy-supportive instructional style, which has been found to increase autonomous motivation (Abula et al., 2018), increase intrinsic motivation (Manninen et al., 2020; Ryan & Deci, 2017) and increase psychological needs (Edmunds et al., 2008) of adult learners. Instructors with an andragogical orientation can better support adult learners in the classroom by using an autonomy-supportive instructional style. This type of motivational instructional style could promote institutional retention by capitalizing on the adult learner's psychological needs for autonomy, competence, and relatedness as described by SDT.

### **Conclusion**

More adults are pursuing higher education opportunities. Community colleges serve an important role in this pursuit as they are affordable, provide flexible class schedules, and reach a broad base population (Remenick, 2019). Yet completion rates among community college students is under 40% (McFarland et al., 2019). It is important for adults to complete their degree goals, yet they often need support. Andragogy and SDT have been shown to provide the learning style preferences and psychological need support of adult learners. The current study found that an andragogical orientation

predicted an autonomy-supportive instructional style among community college instructors. It is important for instructors of adult learners to understand the concepts of andragogy. Andragogy is the science of adult learning that addresses the adult learners needs and provides the intrinsic motivation needed for them to persist through goal completion. Adult learners have a different set of needs to support their learning endeavors than younger aged learners. The current study showed that assessing learners' needs was most predictive of an autonomy-supportive instructional style. Gender, years of teaching in higher education, and highest degree earned did not predict an autonomy-supportive instructional style.

It is my hope that the results of this study will be used towards positive social change within the community college system. Providing more support to the adult learner within the classroom helps the community as a whole if the adult learner persists through goal completion in the form of a degree or credential needed to make a better life for the adult learner.

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## Appendix A: Permission Email to Modify PIS

Re: PIS Questionnaire

[REDACTED] <[REDACTED]@selfdeterminationtheory.org>

Thu 9/9/2021 10:31 PM

To: Renea Coley <renea.coley@waldenu.edu>

Cc: Shannon Hoelen-Cerasoli <[REDACTED]@selfdeterminationtheory.org>

On behalf of Dr. Richard Ryan and the Center for Self-Determination Theory, you have our permission to use and adapt the SDT scales for your academic (non-commercial) purposes.

To access the SDT scales, go to: <https://selfdeterminationtheory.org/questionnaires/>

You will need to "Register" (even if you've previously registered before) and enter your name and email and accept the terms and conditions. Next you will need to check "I'm not a robot" and then Register.

If it says your email is already registered, try again and use a different email address or adapt your email address slightly and see if this works.



[Who we are](#) · [Research & Methods](#) · [Topics](#) · [Connect](#) ·

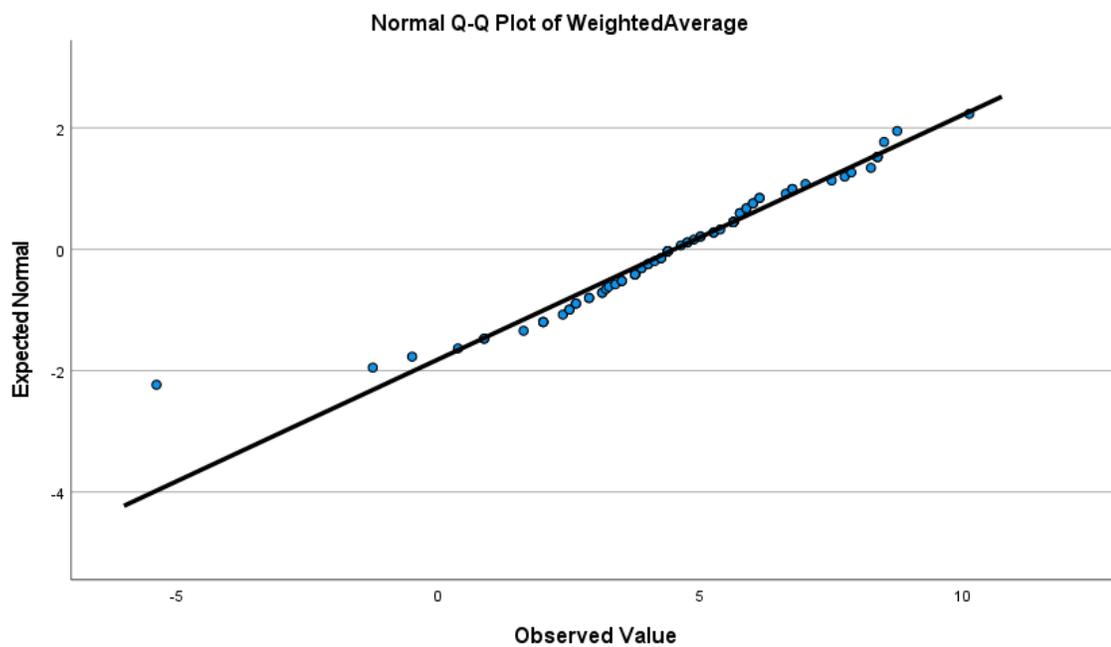
[Become a Member](#)

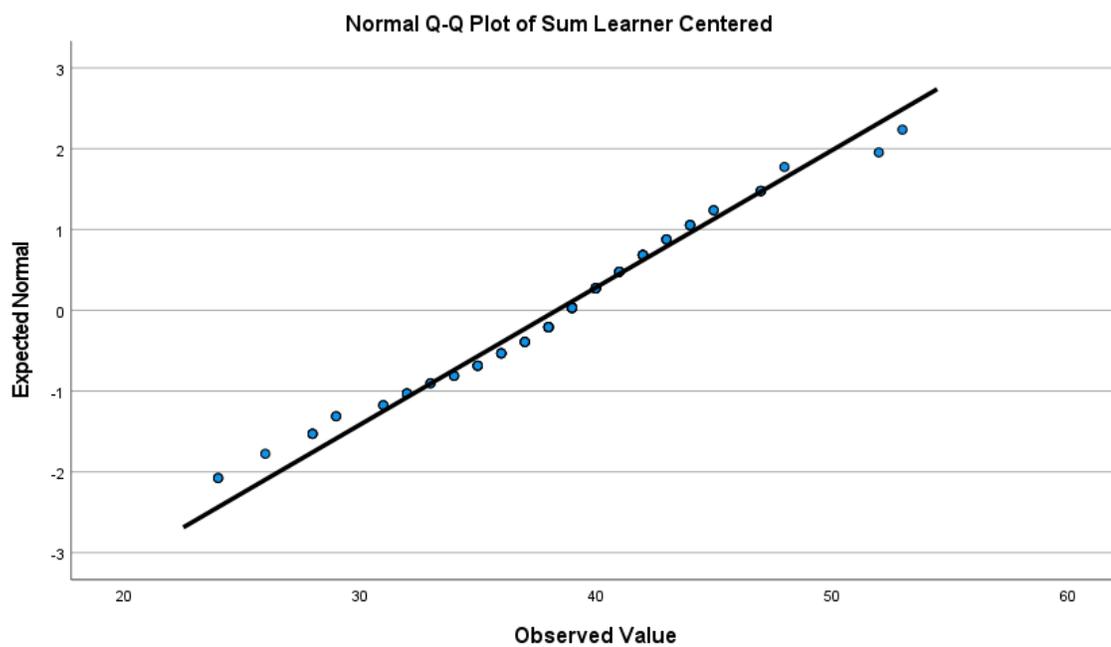
**Metrics & Methods: Questionnaires**

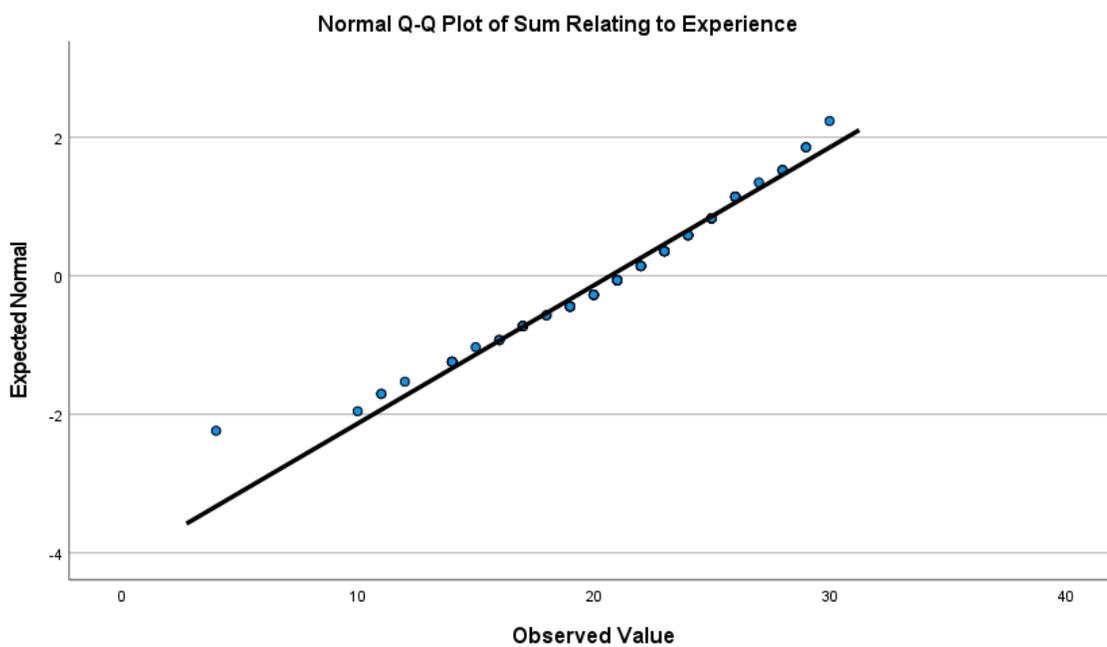
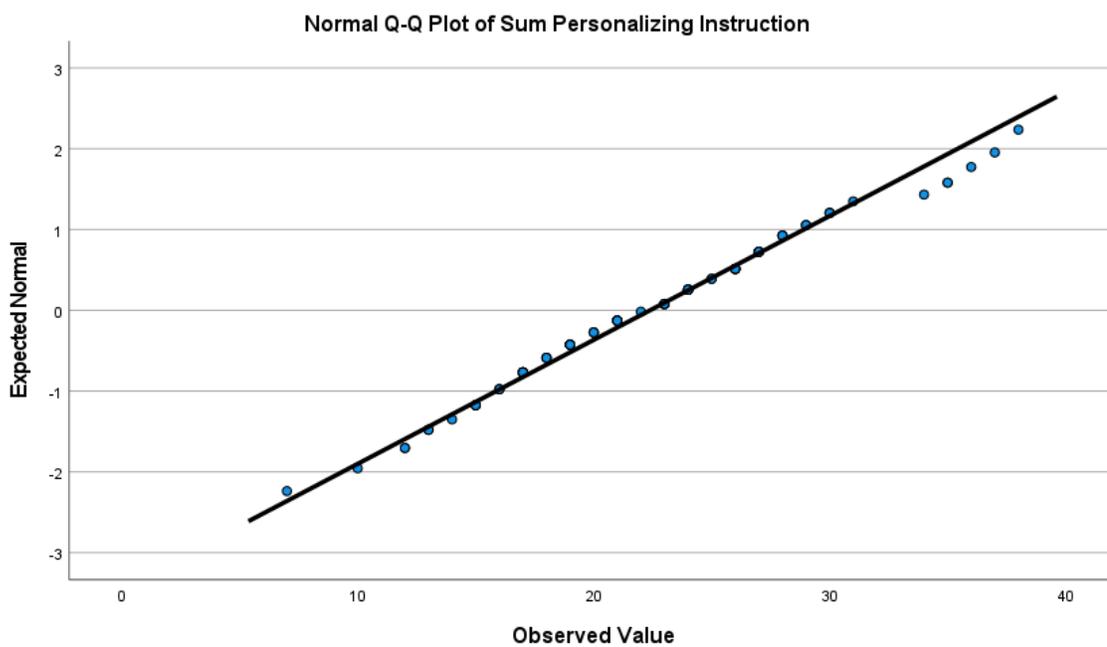
## Appendix B: Q-Q Plots of Variables

**Figure B1**

*Normal Q-Q Plot Weighted Average: Autonomy-Supportive Instructional Style*

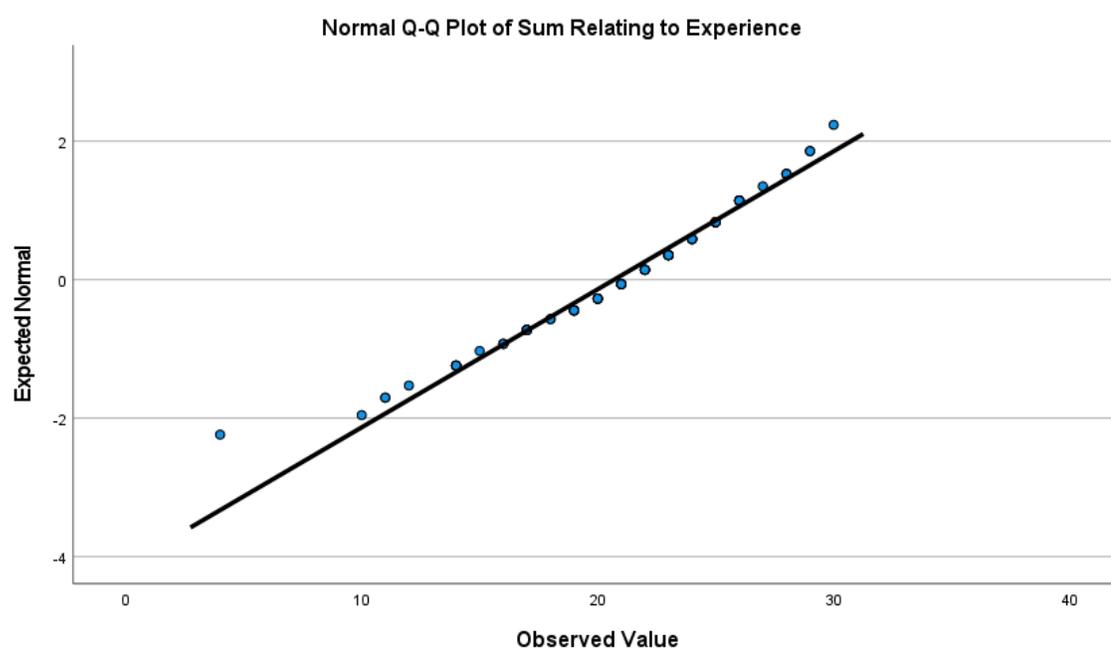


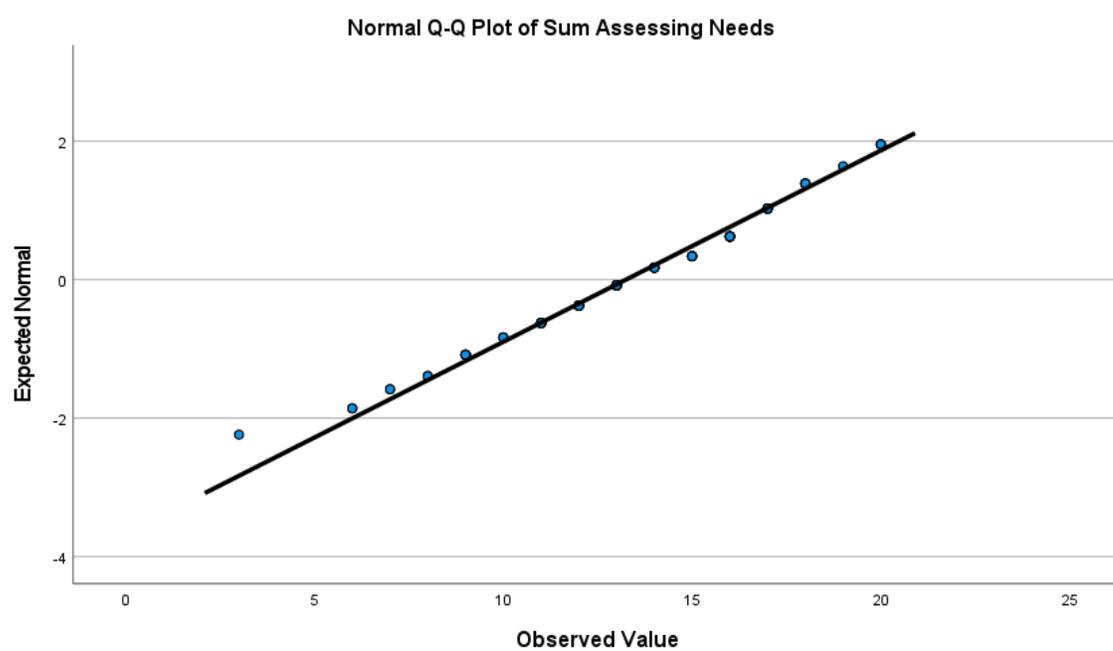
**Figure B2***Normal Q-Q Plot Learner Centered*

**Figure B2***Normal Q-Q Personalizing Instruction*

**Figure B3**

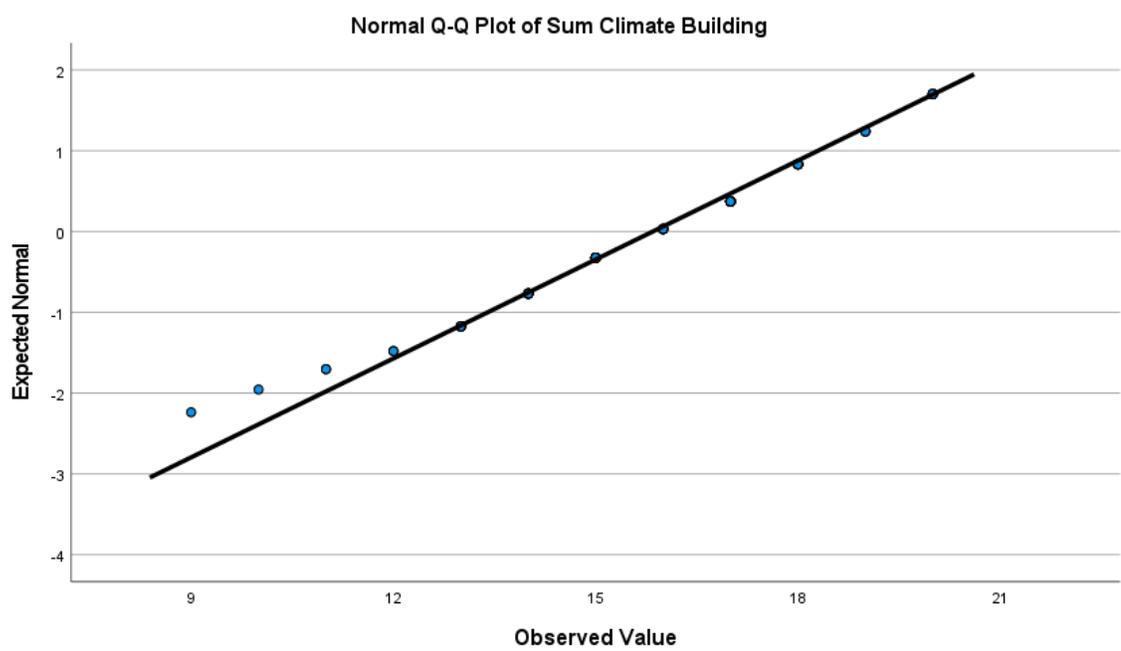
*Normal Q-Q Plot Relating to Experience*



**Figure B4***Normal Q-Q Plot Assessing Needs*

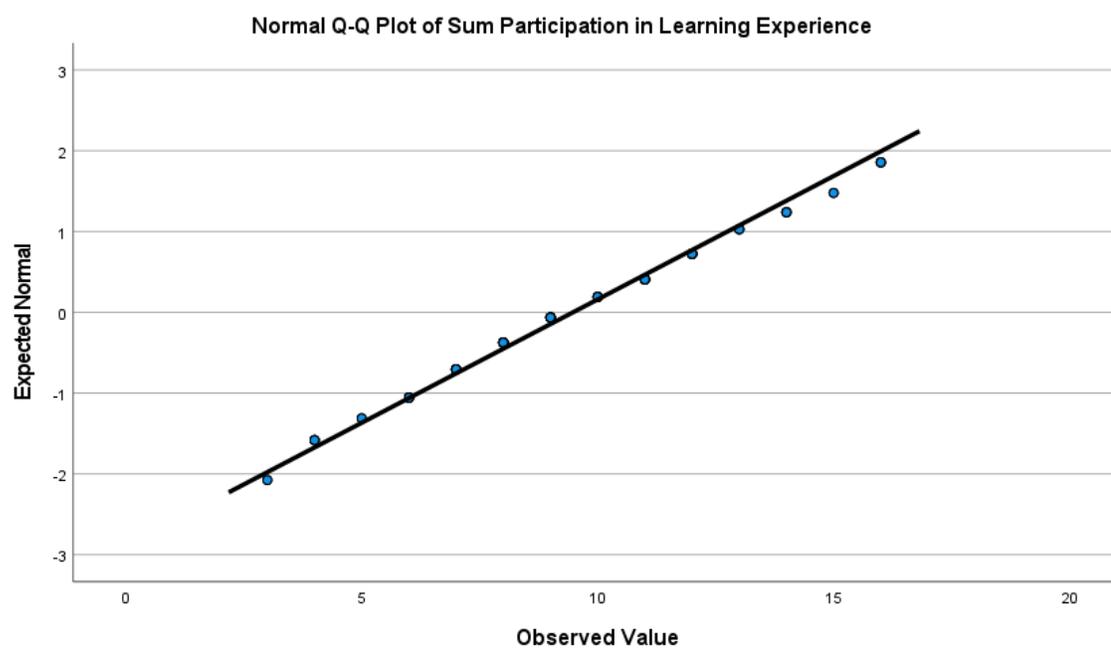
**Figure B5**

*Normal Q-Q Plot Climate Building*



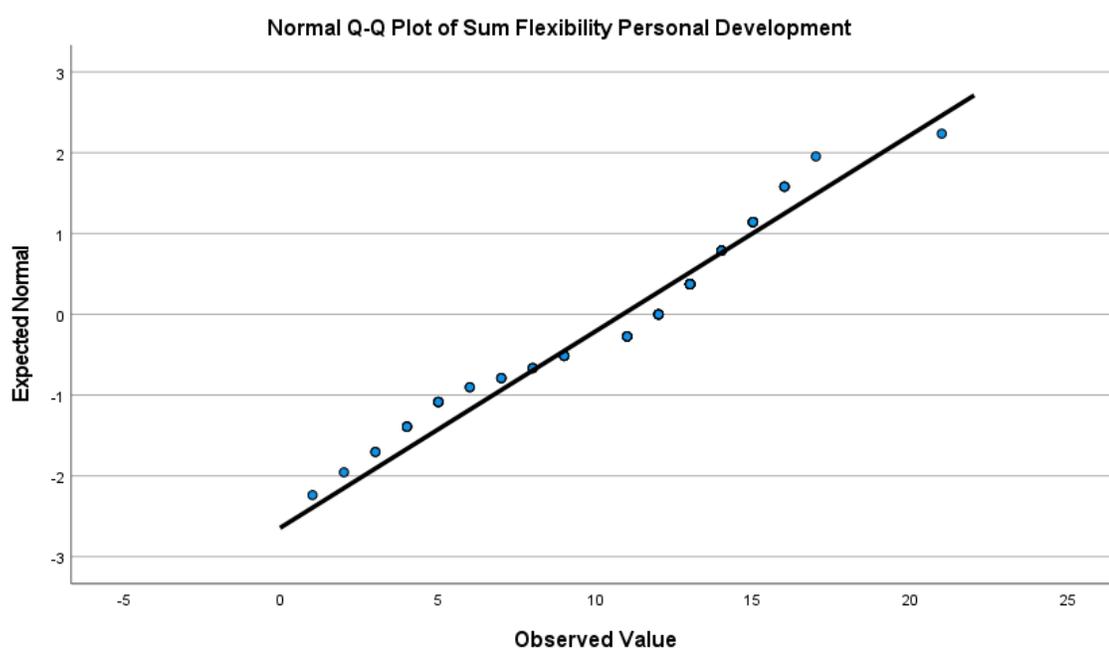
**Figure B6**

*Normal Q-Q Plot Participation in the Learning Experience*

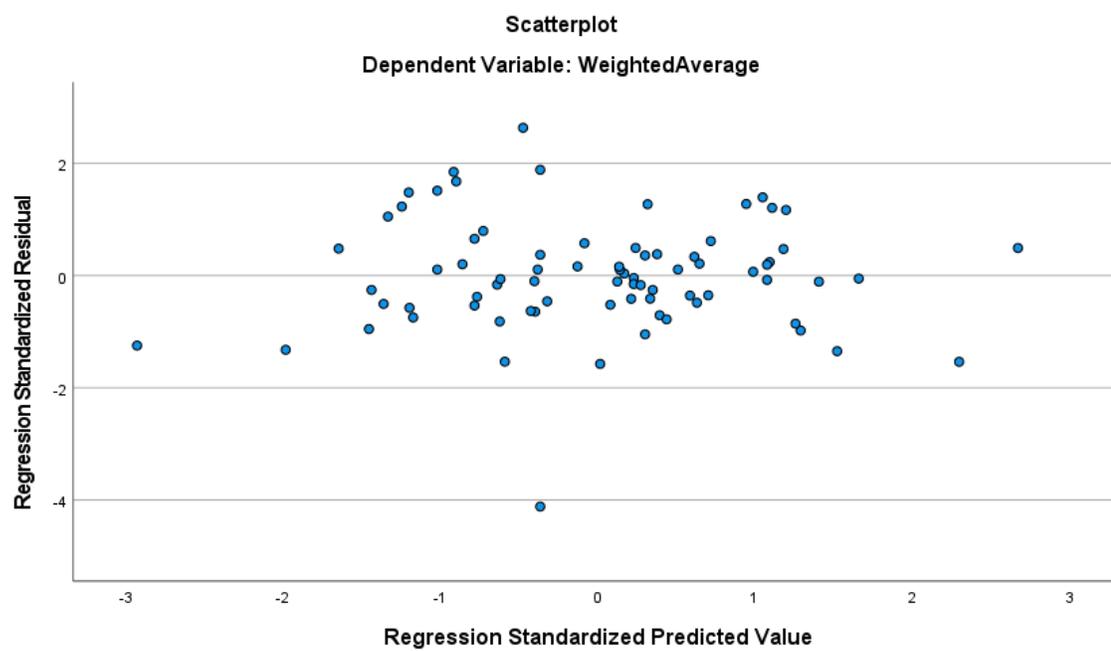


**Figure B7**

*Normal Q-Q Plot Flexibility in Personal Development*



## Appendix C: Scatterplots for Homoscedasticity

**Figure C1***Scatterplots for Homoscedasticity for Predictor Variables and Residuals*

## Appendix D: P-P Plots

**Figure D1***P-P Plots of Standardized Residuals*