Extending Intergroup Theorizing To The Instructional Context: Testing a Model Of Teacher Communication Behaviors, Credibility, Group-Based Categorization, and instructional outcomes

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EXTENDING INTERGROUP THEORIZING TO THE INSTRUCTIONAL CONTEXT:
TESTING A MODEL OF TEACHER COMMUNICATION BEHAVIORS,
CREDIBILITY, GROUP-BASED CATEGORIZATION, AND INSTRUCTIONAL
OUTCOMES

by

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The purpose of this study was to determine how students’ \( (N=348) \) perceptions of teachers’ communication behaviors predicted the extent to which students believed they shared similar group-based categorizations with their teachers and how, if at all, these beliefs impacted instructional outcomes. This study was grounded in Social Identity Theory, the Common Ingroup Identity model, and Communication Accommodation Theory, which provided a foundation to examine the intergroup relations at work within the instructional context. Through structural equation modeling attitude homophily, background homophily, and global shared social identity and teacher credibility were examined as potential mediators between teacher communication behaviors (e.g., clarity, relevance, self-disclosure, confirmation, accommodation, and nonverbal immediacy) and instructional communication outcomes (e.g., learner empowerment, in-class participation, affective learning, students’ relational satisfaction, communication satisfaction, affect for teacher). In terms of teacher credibility, results indicated that teacher credibility was positively associated with learner empowerment and affective learning. Teacher clarity and confirmation behaviors positively predicted perceptions of teacher credibility, while teacher self-disclosure negatively predicted teacher credibility. In terms of teacher
communication behaviors, content relevance positively predicted students’ perceptions of background homophily and global shared social identity, but self-disclosure negatively predicted perceptions of background homophily and global shared social identity. In terms of mediation, teacher credibility mediated the relationship among teacher clarity and confirmation to learner empowerment and affective learning. Finally, students’ identity salience moderated the relationship between perceived attitude homophily and in-class participation. Thus, when students reported higher levels of identity salience they perceived to be more similar to their teachers in terms of their attitudes, which lead to more in-class participation. These results indicated that learning outcomes are influenced more so by teacher credibility and teacher communication behaviors than group-based categorizations. This study points a continued need to explore intergroup communication and theorizing in the instructional context. This dissertation concludes with a discussion of the theoretical and practical implications from these findings for teachers, students, researchers, and administrators.
DEDICATION

This dissertation is dedicated to my mother, Mary, you were my first teacher and my strongest supporter…”and I will always love you.”
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Chapter One

Introduction

Over the last four decades, researchers interested in education have devoted significant attention to understanding the student-teacher relationship and student learning in a myriad of instructional contexts (e.g., Chesebro, 2003; Dobransky & Frymier, 2004; Docan-Morgan & Manusov, 2009; Frymier & Houser, 2000; Klem & Connell, 2004; Kuh, 2001). The disciplines of educational psychology and communication have contributed much to this body of knowledge. In particular, educational psychologists have investigated the psychological and intellectual underpinnings that explain and predict how individuals learn (Mottet & Beebe, 2006). Bloom (1956) argued that educational psychology addresses how cognitive (i.e., knowledge acquisition), affective (i.e., liking and appreciation), and behavioral (i.e., engaging in physical processes to promote skill building) processes influence student learning.

While educational researchers focus their efforts on how students learn as individuals, instructional communication scholars conduct research that emphasizes the role of communication in the teaching and learning process. As such, instructional communication researchers are interested in examining the ways in which verbal and nonverbal messages are used by students and teachers to create shared understanding in order to achieve instructional outcomes (Mottet & Beebe, 2006). According to J. C. McCroskey and McCroskey (2006), the goal of instructional communication research is to “…study the role and impact of communication in the instructional process across all disciplines and contexts” (p. 35).
Thus, instructional communication is seen as a transactional process where teachers and students mutually influence each other to achieve personal (e.g., self-efficacy) and instructional goals (e.g., student learning) in traditional classroom settings such as higher education and nontraditional instructional settings such as organizational training workshops (Mottet & Beebe, 2006; Turman & Schrodt, 2006).

As a result of these efforts, instructional communication and educational researchers have made important contributions to the fields of communication, education and training (J. C. McCroskey & McCroskey, 2006). For example, instructional communication researchers have identified specific teacher communication behaviors (e.g., teacher clarity, content relevance, self-disclosure, and immediacy) that influence and relate to student learning and explain how these behaviors impact student functioning in educational settings. However, critics argue that aspects of identity and group-based categorization represent an influential, yet understudied, aspect within the instructional communication research agenda (Harwood, 2006; Hendrix, Jackson, & Warren, 2003; Sidanius, Levin, van Laar, & Sears, 2008; Sprague, 1992, 2002). In an effort to address these critics, the general purpose of the current study is to expand instructional communication research to incorporate aspects of identity and intergroup categorization in order to determine how they might influence or affect learning and higher education issues.

The purpose of this chapter is to state the problem under investigation and to provide a rationale for the study. I achieve this by first articulating the need to examine

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1 The transactional process/model presents communication as a simultaneous process where meaning is cocreated by the source and the receiver through the use of nonverbal and verbal messages. In the classroom context this occurs when students and teachers mutually share ideas, feelings and meaning until shared meaning occurs (Mottet & Beebe, 2006).
issues of intergroup categorization and identity by conceptually defining the intergroup perspective; second highlighting three current issues of importance in higher education (i.e., student engagement, student evaluations of teaching effectiveness, student academic and personal well-being) that can be addressed by focusing on issues of group-based categorization and identity; third explaining four conceptual areas of research that form the foundation of this study (i.e., teacher communication behaviors, teacher credibility, group-based categorization, and instructional outcomes); fourth addressing important gaps in educational research. I conclude this chapter with a preview of the remaining chapters.

**Statement of the Problem**

Understanding the roles that identity, specifically social identity (i.e., the combination of the knowledge and value an individual places on his/her membership in various social groups such as race/ethnicity; Tajfel, 1978) and group-based categorization (i.e., the process by which people perceive others to be part of similar or divergent social groups relative to their own) play in the instructional context is the cornerstone of the present study. Thus, the problem this study investigates is: How do students’ perceptions of teachers’ communication behaviors predict the extent to which students believe they share similar group-based categorizations with their teachers and consequently how, if at all, do these beliefs impact instructional outcomes? Investigating this problem will provide an understanding of how social identities and group-based categorizations influence the educational process. Therefore, the present study addresses three higher education issues related to student engagement, students’ perceptions of teachers’ effectiveness, and overall student well-being. Ultimately, focusing on issues of social
identity and group-based categorization will move current educational research towards a better understanding of the ways in which societal and personal factors such as social group membership and identity are at work in the instructional context. In the following section I explore the need to focus on group-based categorization and identity as they relate to three higher education issues: (1) student engagement, (2) students’ perceptions and evaluations of their teachers, and (3) students’ academic and personal well-being.

The Intergroup Perspective and Educational Contexts

Harwood (2006) called on researchers to focus their efforts on issues of identity when he stated, "more fundamentally, we need to understand the collective identities as a key aspect of human behavior, and we need to think about incorporating this higher-level of self in to our communication research as a more routine issue” (p. 98). The present study addresses Harwood’s call to use an intergroup approach to examine group-based categorization and identity in the instructional context, as briefly explained below and explained in more detail in Chapter Two.

The “intergroup perspective” is one of the leading theoretical perspectives that guide research focusing on issues of identity. According to Harwood, Giles, and Palomares (2005) the intergroup perspective emphasizes the ways in which people in a social interaction identify and categorize themselves or others in terms of group membership (e.g., race/ethnicity) and how these categorizations shape perceptions and interactions with others. For communication scholars, the intergroup perspective becomes a rich framework from which to examine how these categorizations influence communication.

Harwood et al. (2005) note that social psychologists have produced extensive
research on stereotypes and prejudice; yet, they argue that until recently communication scholars have been slower to examine intergroup issues within their own research, particularly when related to social identity. To date, instructional communication researchers, compared to interpersonal and family scholars, have not fully addressed how social identity influences student-teacher relationships.

The intergroup perspective remains understudied in higher education and, specifically, within instructional communication research and literature (Edwards & Harwood, 2003; Harwood, 2006). In fact, few instructional communication researchers have examined social identity in instructional contexts (for exceptions see Edwards & Harwood, 2003; Hosek, 2008, 2009, Sidanius, Levin, van Laar, & Sears, 2008). One notable exception is the work of Sidanius and his colleagues. Sidanius, Levin, van Laar, and Sears (2008) argued that much of the research on the impact of higher education (see Pascarella & Terenzini, 1991) focused on outcomes of academic achievement and self-esteem; yet, few studies have focused on intergroup relations, the role of identity, and group-based categorization in educational settings.

In their research, Sidanius et al. (2008) conducted longitudinal studies focusing on college student racial and ethnic identities and examined the ways in which attitudes crystallize, the impact of multicultural education, the effects of intergroup contact, and how students manage multiple identities during college. Sidanius et al. found that outgroup contact (i.e., interaction with those not perceived to be in one’s social group) has positive effects on ethnic attitudes during the college years. Specifically, students who had a greater proportion of friends from different ethnic groups than students who had a smaller proportion of friends from their own ethnic groups during their sophomore
and junior years of college were less biased in favor of their ethnic ingroup and felt less anxious when interacting with members of different ethnic groups at the end of their senior year. Sidanius et al.’s work illustrates the benefits of interactions with those from different social groups as part of the college experience.

It is unfortunate that instructional communication researchers have not used the intergroup perspective more frequently, as it offers a new lens through which to study instructional communication as it relates to issues of social identity and social group-based categorization in educational settings. As such, this lens can help teachers, students, researchers and administrators better understand how perceptions of group membership can influence interactions between students and teachers.

In regard to the current study, much of the research on intergroup categorization in higher education has focused on the ways in which students with different social identities interact with other students on college campuses, with the goal of improving diversity relations and perceptions of outgroups students (Sidanius, et al., 2008). However, little research has focused on how students’ intergroup interactions with diverse teachers can influence students’ attitudes and prejudices. Examining only student-student intergroup interactions neglects the influence of student-teacher relationships as an intergroup experience. In addition to interacting with peers, students interact with teachers from different social groups and, given the importance of the student-teacher relationship and the ways in which teacher communication can impact the learning environment (Avtgis, 2001; Banfield, Richmond, & McCroskey, 2006; Cayanus & Martin, 2008; Comadena, Hunt, & Simonds, 2007; Kearney, Plax, Hays, & Ivey, 1991; Mottet, Beebe, Raffeld, & Medlock, 2004; Nussbaum, 1992; Nussbaum & Scott, 1979;
Richmond, Lane, & McCroskey, 2006). It is problematic to ignore intergroup interactions within the student-teacher relationship because they can impact students’ learning, engagement (e.g., in-class participation), satisfaction, and well-being. In order to determine the impact of intergroup relations among students and teachers, additional research is warranted.

Ultimately, invoking an intergroup perspective and highlighting the influence of intergroup categorization (i.e., defining self and others in terms of categories) has the potential to further knowledge and improve intergroup relations on college campuses between students and teachers.

In the following section I highlight three higher education issues: (1) student engagement; (2) student perceptions and evaluations of their teachers; and (3) student academic and personal well-being (with specific attention to students from traditionally marginalized groups; e.g., racial/ethnic minorities, and GLBT students). I describe how a focus on identity and group-based categorization can address these three issues.

**Higher Education Issues, Identity, and Group-Based Categorization**

In recent years, higher education researchers and policymakers have begun to assess students’ perceptions of their engagement as a measure of instructional effectiveness and institutional quality. Importantly, researchers have found a positive relationship between student engagement strategies, learning outcomes (Astin, 1984; M. M. Martin, Mottet, & Myers, 2000), student grades (Astin, 1977, 1993; Pike, Schroeder, & Berry, 1997), and increased gains in critical thinking (Gellin, 2003; Kuh, Hu, & Vesper, 2000). Clearly, engagement is a desirable outcome in the college classroom and student-teacher interactions have been shown to be one factor that improves student
engagement. Carr (2005) suggested that effective student-teacher relationships involve teachers engaging students in conversations that hold their interest and enhance the students’ lives. Importantly, Aultman, Williams-Johnson, and Schutz (2009) contend that demonstrating personal interest in students is one way for teachers to engage them in classroom discussions. Also, student-teacher relationships encourage learning when the environment is supportive and safe (Day, Stobart, Sammons, & Kington, 2006). It is not surprising then that engaged students participate and interact with faculty and other students more often than students who are not engaged in class (Astin, 1984).

In regard to the current study’s focus on instructional communication and group-based categorization, Harwood (2006) argued that the extent to which students strongly identify with a specific social group may be critical to class assignments such that these connections may increase students’ likelihood to participate in class. Therefore, the degree to which students feel identified with their own social group memberships and that of their teachers may influence their classroom participation (i.e., engagement). In fact, researchers contend that when students believe teachers to be similar to them in regard to their attitudes and background (e.g., where they were raised) they tend to hold favorable impressions of these instructors, and this may lead to in-class participation (Glascock & Ruggiero, 2006; Myers et al., 2009; Schrod, Turman, & Witt, 2007).

In addition to student engagement, group-based categorization can also influence students’ perceptions and evaluations of their teachers and student learning. In particular, group-based categorization and associated negative stereotypes can have detrimental implications for teacher evaluations, which are important components of teacher development and career advancement. Students’ evaluations of professors are considered
to be of great importance in the professional assessment of a professor’s success and impact decisions related to tenure and promotion (Dennis, 1990; Shingles, 1977). Moreover, group-based categorization can result in negative perceptions about teachers and their teaching and influence student learning.

Harwood (2006) proposed that students may express positive evaluations for teachers who they feel belong to similar social groups. Other researchers have found this to be the case for the following social groups: age, nationality, race/ethnicity, and gender and sexual identity. For example, Edwards and Harwood (2003) found that when age is a salient group categorizer for students, they rate teachers whom they perceive to be in similar age groups to themselves (as students) more favorably. Their findings suggested that students who reported high age group identification (i.e., high age group salient) were more likely to notice and comment on their instructors’ age and more likely to favor (perceived) similarly aged-instructors over those perceived to be differently aged (regardless of the teachers’ actual ages and whether their actual ages were older or younger than the students).

Further, American students’ affect for foreign-born instructors is strongly impacted by stereotypes of the foreign-born instructors’ competence (de Oliveira, Braun, Carlson, & de Oliveira, 2009). Researchers have shown that students tend to favor instructors of a similar background to themselves over foreign-born instructors (de Oliveira, et al., 2009; Neves & Sanyal, 1991). In contrast, Neves and Sanyal’s (1991)
research has shown that, overall, domestic born American students rated foreign-born
instructors high on their competence and social skills; yet, students rated these instructors
lower on communication competence and teaching skills. In all, this research highlights
conflicting ideas regarding the impact that similar social identities and affect have on
students’ perceptions of teacher competence.

In addition, teachers’ race/ethnicity and gender as social identities also impact
students’ perceptions of teachers’ credibility and effectiveness. Researchers have found
that American students tend to find minority teachers as less credible than Caucasian
instructors (Hendrix, 1997; Rubin, 1998). For example, Rubin (1998) found that U.S.
students evaluated Asian American instructors as less credible and less intelligible than
Caucasian instructors. Studies have found that students at Predominately White
Institutions (PWIs) challenged their African American professors’ classroom authority
and teaching credentials more often than they challenged those of their white professors
(B. J. Allen, 2000; Hendrix, 1997). Previous research suggests that male teachers who
enact feminine characteristics are perceived as competent and caring, compared to female
teachers who embody masculine characteristics, who are perceived as aggressive,
argumentative, and demanding (Sellnow & Treinen, 2004). In contrast, Centra and
Gaubatz (2000) found that students rated same-sex teachers higher on course evaluations.
In another study, male teachers were found to be more credible than female teachers
(Hargett, 1999). Adding to the lack of consensus related to gender, Wheeless and Potorti
(1989) found students perceived androgynous teachers to be the most credible.

The preceding research illustrated how examining group-based categorization
such as age, race/ethnicity, and gender can influence students’ perceptions and
evaluations of teachers. The next section demonstrates how intergroup categorization can influence student academic and personal well-being.

People appear to thrive in environments that support their identities and promote positive well-being. Thus, understanding how group-based categorization impacts student functioning and relationships with their teachers becomes increasingly important because this shared commonality may help support students’ identity and well-being. As will be briefly noted in this section and expounded upon in the next chapter, focusing on group-based categorization is particularly important for racial/ethnic minority students and, perhaps, other socially stigmatized social groups (e.g., GLBT students).

Negative outcomes have been found among African American students and PWIs in regard to academic performance and well-being. For example, research has shown that African American students who attend PWIs report lower college grades and less favorable interactions with their professors than African American students at Historically Black Universities (HBUs) (W. R. Allen, 1992; Gendrin & Rucker, 2007). Additionally, African American students attending PWIs reported feelings of increased alienation, hostility, racial discrimination, and lack of integration.

Despite the negative perceptions and outcomes reported above, other research highlights various prosocial and beneficial outcomes that can result when students and teachers share similar social identities. It has been found that African American students attending HBUs express feelings of engagement, connection, acceptance, and extensive support and encouragement more so than their African American counterparts who attend PWIs (Allen, 1992). It is clear that students’ race/ethnic identities influence their academic and personal well-being positively when they share common social identities.
Another social group that may benefit from interacting with teachers in their common ingroup (i.e., similar social group categories) is GLBT students. According to researchers, while the visibility of gay, lesbian, transgendered and bisexual individuals has increased in the general cultural, political, social and disciplinary stages, meaningful, interactions focusing on GLBT issues remain rare for most heterosexual students (Heinz, 2002; Rankin, 2003). Unfortunately, research conducted over the past 20 years suggests that campus climates have not been an empowering place for GLBT people and intolerance and harassment have been prevalent towards GLBT campus members harming their well-being (Rankin, 2003).

The climate on college campuses presents challenges for GLBT students, which can impact their social, emotional and academic well-being. Sexual identity is an important social group categorizer to examine because research points to the detrimental health consequences GLBT youth face when they are the targets of violence. In fact, in the U.S. GLBT youth have a higher risk of suicide, depression, alcohol abuse, and violence/victimization than heterosexual students. A study conducted in 1997 found that 95% ($N=226$) of heterosexual college students engaged in some form of discrimination towards a gay peer (Rey & Gibson, 1997). Rey and Gibson’s (1997) research lends support, although from the standpoint of the perpetrator, to Pilkington and D’Augelli’s (1995) study, which reported that 40% of gay teens ($N=194$) ages 15-21 self-indicated that they had been threatened or attached by peers. Another research study found that gay and lesbian youth may be two to three times more likely to commit suicide than heterosexual youth (Morrison & L'Heureux, 2001).
Research findings have shown that student biases and perceptions of learning can also be impacted by their teachers’ sexual identity. For example, Russ, Simonds, and Hunt (2002), using a confederate teacher, found that students perceived gay teachers as significantly less credible than straight teachers, and also perceived they learned less from gay teachers than their straight counterparts. Gibson and Meem (1996) suggested that results such as these may be due to homophobic students feeling psychologically distant after their teacher discloses that he/she is gay, as well as due to perceptions of inferiority and hesitation surrounding the perceived deviant behaviors that are associated with being gay.

However and perhaps more importantly, this same research contends that teachers can be part of the solution. In fact, teachers who are supporters or members of the GLBT community may help students manage and cope with discrimination and violent events (Rankin, 2003). Further, when teachers “come out’ in the classroom it reduces both heterosexual and homosexual students’ biases (for both heterosexual and homosexual students) regarding gay teachers and serves as a point of validation for the self-efficacy and esteem of gay, lesbian, bisexual and transgendered students (Pilkington & D’Augelli, 1995; Rankin, 2003; Waldo & Kemp, 1997). When faculty feel comfortable sharing their sexual identity, this can reduce hierarchy and barriers, create openness in the classroom, increase personal health and well-being, and create community building among faculty (Gibson & Meem, 1996). Further, individuals are more likely to be open and feel efficacious in their sexual identity knowing that their institution and faculty are supportive (Rankin, 2003). Clearly, focusing on sexual identity remains important given the negative and positive effects that a connection (or lack thereof) to community can
have on an institution’s GLBT students and faculty.

Based on the arguments presented so far in this chapter, extending research using an intergroup perspective to uncover the impact of social identity and group-based categorization in the instructional context is warranted for four main reasons. First, student engagement can be impacted by students’ intergroup interactions with teachers. Second, perceptions of social group-based categorization made by students can affect their perceptions of teachers’ behaviors and credibility. Third, detriments to academic and personal well-being can occur when students lack opportunities to interact with teachers who share similar social identities and/or support the students’ social identities. Fourth, it remains unclear what role teacher communication messages known to influence student perceptions of teaching effectiveness (e.g., nonverbal immediacy, clarity, content relevance, self-disclosure, and confirmation) play in developing these ingroup and outgroup distinctions. Ultimately, understanding the role of these teacher communication behaviors can aid in teacher training programs by providing important information about how these behaviors impact student-teacher relational functioning. Further, this research may address issues such as student engagement, the validity of student evaluations of teaching effectiveness and how to improve student welfare.

In the previous pages, I have provided a brief rationale for exploring the intergroup perspective via group-based categorization and identity as a means to address issues that are important in higher education (i.e., student engagement, students’ perceptions and evaluations of their teachers, and students’ academic and personal well-being).
In the following, I briefly describe a conceptual model (see Figure 1), which articulates a framework from which to study group-based categorization using the intergroup perspective within the instructional context. The conceptual model was derived from extant instructional and intergroup research and theory, along with two studies I conducted prior to this dissertation study (Hosek, 2008, 2009). Further, the model highlights the four conceptual areas (e.g., teacher communication behaviors, credibility, group-based categorization, identity salience, and instructional outcomes) that are the foundation of this study. The four conceptual areas are presented below in more detail in order to lay the foundation for the hypotheses that are proposed in Chapter Two.

**Conceptual Model Overview**

The conceptual model (see Figure 1) is intended to highlight four general conceptual categories (i.e., teacher communication behaviors, credibility, group-based categorization, and instructional outcomes) that relate to the constructs I will examine in this study. Although the specific variables that comprise each conceptual area are listed in the following description of the conceptual model, I will provide a detailed review of the literature supporting their inclusion in the model in the next chapter. Teacher communication behaviors, credibility, and instructional outcomes comprise fundamental areas of research for instructional communication scholars and group-based categorization represents a cornerstone in intergroup research. Hence, in this study, I bring these two areas of research together to more fully understand the complexity of the instructional environment. Bringing these two research areas together will benefit students, teachers, and institutions because it will highlight the ways in which societal factors such as identity and group-based categorization can be influenced by teachers’
behaviors in the classroom. For example, this research can serve to enhance positive intergroup interactions on college campuses between students and teachers and enable teacher training programs to focus on the ways in which communication behaviors impact students’ perceptions of group-based categorization and their impact on student learning.

In all, this conceptual model identifies the general categories of teacher communication behaviors that may predict perceptions of group-based categorization and teacher credibility, which in turn mediate the influence of teacher behaviors on instructional outcomes. Although not depicted in the conceptual model, students’ identity salience towards aspects of their own identity will be examined for moderation effects from group-based categorization to the instructional outcomes. The reason for the inclusion of identity salience is explained fully in the next chapter.

*Figure 1: Conceptual Model*
**Teacher communication behaviors.** The explanation of the conceptual model begins with student perceptions of *teacher communication behaviors.* Teacher communication behaviors are positioned at the left side of the model and include the following variables: clarity, relevance, self-disclosure, confirmation, accommodation, and nonverbal immediacy. *Teacher clarity* focuses on presenting material in clear and organized ways and remains one of the most salient behaviors that teachers can use in the classroom (Rosenshine & Furst, 1971). *Content relevance* signifies the ways in which teachers relate their messages to students lives and experiences (Frymier & Shulman, 1995). Teacher *self-disclosure* occurs when educators willingly share personal information about their lives with students (Cayanus & Martin, 2008; Cozby, 1979; P. Lannutti & E. Strauman, 2006). Ellis (2000) states that *confirmation messages* include statements are those that communicate to students that they are valuable and important. *Accommodation messages* refer to the ways in which people interact during conversation to meet the perceived or real communication needs of others (Shepard, Giles, & Le Poire, 2001). *Nonverbal immediacy* is the degree of perceived physical and psychological closeness between students and teachers using nonverbal behaviors (Richmond, et al., 2006).

Students’ perceptions of teacher communication behaviors are important to examine as they relate to group-based categorization in the classroom because teachers communicate aspects of their identity consciously and unconsciously through verbal and nonverbal behaviors. Thus, it stands to reason based on extant research, that students’ perceptions of group-based categorization, along with teacher credibility, may be influenced by teacher communication behaviors. The next section briefly discusses the
center portion of the conceptual model that is comprised of the variables that relate to
group-based categorization and teacher credibility.

**Group-based categorization.** Edwards and Harwood (2003) suggested that research should examine the *communication* process underlying how identities are expressed and understood by teachers and students. Further, they argued that effective instruction and learning require educational strategies, but other factors such as identity are also at work. To incorporate issues of identity in the present study I examine group-based categorization. The label of Group-Based Categorization is used to reference the following three variables that make up this conceptual area: (1) global shared social identity, (2) perceived attitude homophily, and (3) perceived background homophily. *Global shared social identity* refers to students’ overall perception that they and their teacher belong to similar social groups (e.g., race/ethnicity). *Perceived homophily* refers to the extent to which people believe they share similar attitudes and backgrounds with one another and is typically defined in terms of *attitude* and *background homophily* (J. C. McCroskey, Richmond, & Daly, 1975). In this study I refer to homophily through its indicators of perceived attitude and background homophily. These variables represent the intergroup perspective in the present study. In addition, I will test each of the three variables (e.g., global shared social identity, attitude homophily, and background homophily) of Group-Based Categorization for full and partial mediation effects to determine if they influence the ways in which teacher communication behaviors impact instructional outcomes.

**Teacher credibility.** Teacher credibility is also positioned alongside aspects of group-based categorization as a potential mediating variable in the current study.
Teacher credibility is defined in terms of competence, caring, and trustworthiness (J. C. McCroskey, 1998; J. C. McCroskey & Teven, 1999a; Teven & McCroskey, 1997). In previous work, Schrodt et al. (2009) found teacher credibility to mediate the relationship between teacher communication messages (e.g., clarity, confirmation, and nonverbal immediacy) and student learning outcomes (e.g., learner empowerment, and affective learning). Other research has shown that teacher communication behaviors predict teacher credibility (Finn et al., 2009; Schrodt et al., 2009). Hosek (2008) found teacher credibility to mediate the relationship between shared social identity, teacher behaviors and the student learning and affect for instructor. Thus, empirical support to date demonstrates the value of placing credibility as a mediator within the model. More importantly, it is valuable to examine teacher credibility as mediator because it is implicitly recognized as a primary student perception that impacts student learning, and teacher behaviors serve to enhance or reduce students’ perceptions of credibility (J. C. McCroskey, Valencic, & Richmond, 2004). Further, except for Schrodt et al.’s (2009) study, there is little empirical research that has tested credibility as a mediator; therefore, the current study adds to this body of literature.

Understanding the impact teacher communication behaviors, global shared social identity, attitude homophily, and background homophily have on instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, students’ relational satisfaction, communication satisfaction, and affect for teacher) are the goal of the current study. As a result, these outcome variables are positioned on the right side of the conceptual model.
**Instructional outcomes.** *Learner empowerment* addresses the ways in which students feel motivated and in control of performing tasks in such a way that promotes their own self-efficacy (Frymier, Shulman, & Houser, 1996). *In-class participation* assesses the degree to which students believe they are actively involved and engaged in their classes (Fassinger, 1995). *Affective learning* addresses students’ attitudes, values and feelings related to the knowledge and skills they are learning (Mottet, Beebe, & Fleuriet, 2006). *Relational satisfaction* is operationalized as the degree to which students feel satisfied in their current relationships with their teachers (Vangelisti, 2005). *Student communication satisfaction* addresses the degree to which students feel content with their communication interactions with their instructors (Goodboy, Martin, & Bolkan, 2009). Finally, *affect for teacher* addresses students levels of respect, value and liking for their teacher (J. C. McCroskey, 1994).

The present research extends my program of research (e.g., Hosek, 2008, 2009) by focusing on intergroup and instructional communication research; it also addresses three specific shortcomings articulated by critics (e.g., Harwood, 2006; Hendrix, et al., 2003; Sprague, 1993) of existing instructional communication research. Specifically, these critics contend that there is a need to examine the interrelationships among communication variables and social factors in order to better understand how social factors impact the learning environment. In the next paragraphs, I briefly describe the critiques and how the current study responds to their criticisms of the existing instructional communication research.

**Critiques of Instructional Communication Research**

The first critique suggests that much of the instructional communication research
to date examines the relationship among important classroom variables in isolation from other variables (Sprague, 1992; Titsworth, 1999). In other words, researchers have demonstrated the relationship between classroom communication and student learning; yet, in doing so, they have not examined the interrelationships among classroom communication variables (e.g., clarity, learner empowerment, and content relevance) and the complexity with which they interact to influence instructional outcomes (Titsworth, 1999). The current study directly addresses this criticism by creating and testing a structural equation model that allows for the examination of interrelationships among multiple teacher classroom communication variables and student instructional outcomes.

The second critique focuses on the linear process-product model framework that has dominated most all of instructional and educational research to date (J. C. McCroskey & McCroskey, 2006; Sprague, 1992; Titsworth, 1999). Instructional communication researchers typically use a rhetorical or relational approach to guide their research and either approach focuses on linear or singular cause and effect outcomes. To clarify, the rhetorical perspective focuses on the verbal and nonverbal messages teacher use to influence or persuade students. Therefore, teachers create persuasive attempts by using messages that demonstrate their credibility, stimulate emotional responses, and presenting information using logic, reason, evidence. This perspective is decidedly teacher-centered because it focuses heavily on they ways in which teacher behaviors influence student learning (Mottet & Beebe, 2006). The rhetorical perspective is often associated with the process-product approach because it suggests that teacher behaviors (i.e., the process) cause student learning (i.e., the product) in a linear progression (i.e.,
teachers engage in specific communication behaviors such as providing clear and organized lectures and this in turn causes students to learn).

The second approach is the relational perspective, which views the development of the student-teacher relationships as a causal factor towards student learning. To clarify, the relational perspective focuses on the ways in which students and teachers co-create and influence each other during the lifespan of their relationship using verbal and nonverbal messages (Mottet & Beebe, 2006). From this view, both teacher and student messages become important to examine as well as the role of emphasizing emotion in the teaching and learning process (i.e., how teachers and students feelings and emotions influence their perceptions and interactions with each other (Ellis, 2000, 2004). Some scholars believe that the rhetorical and relational perspectives contradict one another. However, many contemporary instructional scholars contend that effective instruction requires both rhetorical and relational communication (Frymier & Houser, 2000; J. C. McCroskey & McCroskey, 2006; Mottet & Beebe, 2006).

Scholars who critique the process-product model argue that it provides an incomplete picture of the instructional environment because it favors the rhetorical approach over the relational approach. However, the same can be said if researchers only focus on the relational perspective and ignore the rhetorical perspective. In the current study, I address these concerns by examining variables traditionally based in the rhetorical perspective (e.g., teacher clarity) and variables that focus more on the relational perspective (e.g., affect for teacher) to determine how the interrelationships of variables from both perspectives influence instructional outcomes.
In all, scholars claim that when researchers examine variables in isolation from each other and use linear process-product models to guide their research this devalues the complex relationships among the variables that are embedded within the learning environment (W. R. Allen, 1992; Heinz, 2002; Hendrix, et al., 2003; Sprague, 1992, 2002). Further, when these practices are engaged in, little attention is paid to how external social factors outside of the classroom context permeate student learning and student-teacher relationships. As such, this leads to a third criticism regarding instructional communication research.

Finally, critics state that instructional researchers have paid little attention to the ways in which personal and social factors such as student and teacher identity influence the classroom context. Hendrix et al. (2003) and Sprague (1992, 2002) contend that the complexities of identity have been largely ignored in classroom communication research and this lack of attention results in an inaccurate depiction of the multidimensionality of the instructional context. As a result, communication research and existing instructional communication research, by their lack of attention to the complexity of identity, have created a simplified depiction of the ways in which students’ and teachers’ identities influence each other in the classroom. Providing a more complete picture of how social identities influence student/teacher relationships is important because it may help teachers and students engage in more meaningful relationships with each other that support all parties’ identities—which in turn may enhances self-efficacy, self-esteem, and job satisfaction for teachers and facilitate student learning.

Within the present study, I address the criticisms of Hendrix et al. (2003), Sprague (1992, 2002) and Harwood (2006) that claim existing research has not taken an
integrative approach to studying such social factors as power, social identity, and politics in the instructional context. I do this by taking an intergroup perspective to explore college students’ perceptions\(^3\) of teacher communication messages, social group membership, and teacher credibility, to determine how these interrelationships influence instructional outcomes important to student learning and student-teacher relationships.

### Summary and Preview of Chapters

This chapter provided a conceptual overview of the problem and briefly defined the constructs of interest to this study. Further, in this chapter, I illustrated the importance of extending the intergroup perspective to the instructional context and its usefulness in exploring higher education issues such as student engagement, students’ perceptions of teachers, and student academic and personal well-being. Finally, the conceptual model that provides a framework for studying intergroup communication within the instructional context was presented.

In Chapter Two, I provide a review of extant literature related to the variables of interest to this study and further detail the intergroup perspective, theories and models (e.g., Social Identity Theory, Common Ingroup Identity Model, and Communication Accommodation Theory) that guide this study. The hypothesized model that depicts the actual hypotheses and paths tested in this study were derived from this review of literature. I review the hypothesized model at the end of Chapter Two.

In Chapter Three, I present the methodology used in this study. Specifically, the recruitment process, participant characteristics, questionnaire design/materials, and procedures are described.

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\(^3\) All variables that are examined in this study are done so from the students’ perspective.
In Chapters Four and Five, I present the research results of this study. Specifically, in Chapter Four, I describe the findings of the confirmatory factor analysis, and in Chapter Five, I clarify the findings of the structural model analysis that directly addressed the research hypotheses proposed in this study.

Finally, in Chapter Six, I articulate the theoretical and practical implications of this study and highlight limitations and directions for future research related to the complexities of instructional communication and intergroup relations.
Chapter Two

Review of Literature

The purpose of this chapter is to review extant literature in relation to the intergroup perspective and to four conceptual areas (teacher communication behaviors, teacher credibility, group-based categorization, and instructional outcomes) that were outlined in the conceptual model in Chapter One. To accomplish this, I first describe the research related to the conceptual area that frames the instructional outcomes of this study. Second, I explain the research related to the conceptual area of teacher credibility. Third, I describe the variables and research that make up the conceptual area of teacher communication behaviors. Fourth, I describe the conceptual area of group-based categorization, including an explanation of three main theories of identity that undergird this study: Social Identity Theory (SIT), Common Ingroup Identity model (CIIM), and Communication Accommodation Theory (CAT). These theories are described in detail in this chapter rather than in Chapter One because they set up the theoretical grounding for the hypotheses presented throughout this chapter. In reviewing these theories, I clarify the ways in which they can be used to explain how teacher communication behaviors can predict perceptions of group-based categorization, as well as how group-based categorization can mediate this relationship towards the instructional outcomes of this study. I also illustrate the proposed moderating effect that identity salience can have between students’ perceptions of the variables making up the conceptual area of group-based categorization and the instructional outcomes examined in this study. Finally, I
present the hypothesized model that was derived from the review of extant literature, which illustrates the eleven hypotheses presented throughout this chapter.

Prior to the current investigation, I conducted two studies that explored the relationship between shared social identity, teacher communication behaviors, and instructional outcomes. The two studies represent an initial attempt to examine group-based categorization in the instructional context. In these two studies, I examined 634 students’ responses to a questionnaire regarding students’ perceptions of teacher communication messages, homophily, credibility, shared social identity, affective, behavior and cognitive learning outcomes for a favored or least favored teacher. The findings from these two studies, along with extant research, are important to review at various points throughout this chapter because they provide support for the hypotheses proposed in the current study.

The next section clarifies five broad areas of instructional outcomes (i.e., learner empowerment, in-class participation, affective learning, teacher-student relational, and communicative satisfaction, and students’ levels of affect for teachers) that were presented in the conceptual model. As I will clarify later in this chapter, these five areas of instructional outcomes relate to current issues in higher education, such as student engagement, perceptions of teacher behaviors, and student academic and personal well-being.

**Instructional Outcomes**

Over the last four decades, instructional scholars have consistently pointed towards the relationship between teacher communication behaviors and student success, and the important role that each plays in establishing and maintaining instructional

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4 The same dataset was used for both studies.
outcomes such as student learning. However, critics argue that scholars could do more to understand the complexities within the student-teacher relationship and how other factors such as identity and social structures are at work within the instructional context (Harwood, 2006; Hendrix, et al., 2003; Sprague, 1992). As such, the current study examines group-based categorization as an additional construct and more broadly examines the intergroup perspective to help teachers, students, and administrators continue to uncover and manage the complexities embedded within the instructional environment. More importantly, the current study hopes to open a new discussion of the ways in which social group similarities and differences between students and teachers challenge and enhance our conceptualization of factors beyond the classroom (such as identity) that influence the instructional context. Thus, in the subsequent section, I provide five broad areas of outcomes that are of particular interest to instructional communication researchers that can be impacted by perceptions of group-based categorization. These five areas are: (1) learner empowerment, (2) in-class participation, (3) affective learning, (4) affect for teacher, and (5) student-teacher satisfaction.

**Learner empowerment.** The first instructional outcome focuses on learner empowerment, which has been of increasing interest among instructional scholars in recent years (Frymier, et al., 1996; Houser & Frymier, 2009b; Schrodt et al., 2008, November; Weber, Martin, & Cayanus, 2005; Weber & Patterson, 2000). In general, empowerment is defined as “the humanistic process of adopting the values and practicing the behaviors of enlightened self-interest so that personal and organizational goals may be aligned in a way that promotes growth, learning, and fulfillment” (Luechauer & Shulman, 1993). Specific to the instructional setting, scholars have conceptualized
learner empowerment as the extent to which students feel motivated and in control of performing tasks in such a way that promotes their own self-efficacy (Frymier, et al., 1996).

Frymier et al. (1996) argued that teacher communication variables influence outcomes such as students’ feelings of empowerment and, as a result, empowerment may be influenced by other variables that are inherently relational in nature (e.g., listening, open communication, credibility, and immediacy). Furthermore, Frymier et al. suggest that “…communication may be the primary factor in affecting an individuals’ level of empowerment” (p. 182). Empowerment in the classroom occurs when faculty instill feelings of powerfulness in their students in such a way that students increase their sense of responsibility, accountability, self-efficacy, and motivation towards their own learning. As previously mentioned, this research arguably relates to the experiences of African American students and GLBT students. It shows that these students’ interactions with teachers who share, or are believed to share, common social group identities (or believe they belong to similar social group categories) may reinforce their personal identities and foster empowerment in a more direct way than these interactions would for students who do not feel this same sense of shared identity.

Although learner empowerment was originally conceptualized as a motivation-based construct associated with student interest, immediacy, relevance and learning (Frymier, et al., 1996; Thomas & Velthouse, 1990; Weber & Patterson, 2000), Schrodt et al. (2008) argued that the sense of control and self-efficacy embedded within this conceptualization positions learner empowerment as uniquely different from affective learning, which they argue is a motivation-based construct. For this reason,
Schrodt et al. (2008) suggested that “learner empowerment is much more than the internalization of positive attitudes or intrinsic motivation, as it includes a cognitive belief state of personal involvement and self-efficacy that ultimately results in a heightened sense of personal effectiveness among students” (p. 184). Further, Frymier et al. (1996) conceptualize learner empowerment using three categories (1) meaningfulness, (2) competence, (3) impact. *Meaningfulness* refers to the value of the task as the task relates to one’s own attitudes, values, ideals, and standards. *Competence* refers to the extent to which the student possesses the skills and ability to perform the task at hand and achieve the desired goal. *Impact* refers to the extent to which students believe that their involvement will make a difference towards the completion of the task at hand (Frymier, et al., 1996; Thomas & Velthouse, 1990). Frymier et al. provide the best conceptualization of learner empowerment and thus it is used in the present study.

Ultimately, student-teacher interactions create and maintain feelings of empowerment. Based on the potential positive outcomes associated with empowering students it makes sense to conduct research that determines the states that give rise to these outcomes. In fact, Schrodt et al. (2008) note that, “empowered students should (a) be more likely to see the meaningfulness of course content and activities, (b) feel a greater sense of self-efficacy in performing classroom tasks, and (c) be more likely to perceive that learning course content can have an impact” (p. 184-185).

Researchers have devoted significant energy to discovering how teacher behaviors contribute to learner empowerment. From these studies researchers have found that immediacy, content relevance, clarity and interpersonal power are positively related to learner empowerment (Frymier, et al., 1996; Houser & Frymier, 2009b; Schrodt, et al.,
Further, affective learning and learner empowerment are positively associated (Frymier et al., 1996). In their research, Frymier et al. (1996) concluded that teachers’ use of verbal and nonverbal immediacy and relevance were positively associated with all three dimensions of learner empowerment.

Despite Frymier et al.’s (1996) findings, Houser and Frymier (2009) argued that their earlier research focused largely on situational factors, which conflict with motivational conceptualizations of empowerment. In light of these limitations, Houser and Frymier examined teacher behaviors, temperament, and learning orientations as predictors of empowerment and, as such, positioned their research more in-line with contemporary approaches, which suggest that individual characteristics (e.g., student personality) and situational characteristics (e.g., teacher behaviors) are important to motivational definitions of empowerment (Keller, 1983; Weiner, 1990). Importantly, Houser and Frymier found that temperament and learner orientations had little impact on empowerment; however, teacher clarity behaviors emerged as the strongest predictor of learner empowerment. In addition, immediacy was related to clarity behaviors, but immediacy did not account for any of the unique variance in students’ feelings of competence. Frymier and Houser assert that teachers who are clear in their teaching set students up to do well by providing instructional cues and aids that highlight the meaningfulness of activities and assignments. Thus, empowerment results primarily from teachers’ communication behaviors which in turn lead to student learning (Frymier, et al., 1996; Houser, & Frymier, 2009). However, as previously noted certain aspects of teachers’ identities may allow students to perceive them as less clear (e.g., being foreign born) and from Houser and Frymier’s research, this suggests negative consequences.
towards students feelings of empowerment.

While Houser and Frymier (2009) were unable to verify individual characteristics (such as personality) to be predictive of empowerment, the current study offers a different perspective from which to examine individual and social group differences (i.e., common group-based categorization) as predictors of empowerment. Schrodt et al.’s (2008) work on power in the classroom and its impact on learner empowerment lend support to this investigation. In their research, Schrodt et al. argued that the type of power teachers use in the classroom ultimately influences students' feelings of empowerment to learn and that empowerment could mediate the relationship between teacher power and teaching evaluations.

Schrodt et al. (2008) argued that the power bases\(^5\) (French & Raven, 1959) are linked to relational interactions and in particular referent power relates to students’ positive feelings and feelings of personal identification with their teachers. Of particular interest to the present investigation were their findings regarding referent power. Schrodt et al. (2008) stated:

This form of power may be manifest by the student’s feeling of oneness with the teacher, or the desire to have such an identity. When students admire the teacher or perceive them as a person with whom they wish to be associated, they may naturally be more receptive to the teacher’s influence and suggestions (p. 182).

\(^5\) According to French and Raven (1958) there are five power bases which individuals can use to influence others. In the classroom these power bases can be described in the following ways: (1) reward power relates to the teacher’s ability to provide positive benefits or rewards; (2) coercive power reflects the teacher potential to punish students through negative outcomes (e.g., grade penalties); (3) legitimate power, relates to the teacher’s authoritative role; (4) referent power reflects a student’s positive regard for and personal identification with the teacher; and (5) expert power relates to the teacher’s knowledge or expertise in the subject. Importantly, students have to perceive the teacher as possessing these power bases for them to be effective.
Further, Schrodt et al. (2008) suggested that referent power is linked to students’ identification with their teachers and that this identification is important to building relationships with students to enhance the learning process. Thus, it stands to reason that referent power may be cultivated as a result or antecedent to perceptions of group-based categorization, in such a way that people value, respect, and like the social groups of which they are a part, as well as those in their social group. Therefore, it makes sense that perceptions of similar group-based categorization may contribute to perceptions of empowerment. Frymier et al. (1996) suggested that credibility can also influence perceptions of empowerment.

Teaching and learning do not occur in a vacuum or in isolation from the students in the class; in essence, teachers cannot accomplish their goals without students and most teachers desire active and participatory students in their classes (Rocca, 2001). Clearly, student participation benefits students, their classmates, and teachers; yet, different arguments exist as to why students participate in class. The current study contends that the degree to which students feel a sense of common group-based categorization may also contribute to in-class participation. Thus, in-class participation is examined as an instructional outcome in this study.

**In-class participation.** Students’ in-class participation can take many forms, ranging from active oral contributions (e.g., asking questions, offering feedback, and encouraging others contributions) to passive contributions (e.g., listening, note-taking, and reflecting; Fassinger, 1995, 2000; Myers & Rocca, 2007). Since learning requires involvement, it makes sense that in-class participation tends to result in increases in retention of course content (Petress, 2006), average exam scores and overall course
grades (Christle & Schuster, 2003), motivation (Junn, 1994), and improved critical thinking (Crone, 1997).

Important to the current study, research not only shows that teachers’ behaviors influence students’ class participation, but also that students believe that their teachers influence their participation (Fritschner, 2000). Researchers have found that teacher behaviors are critical to promoting classroom interaction (Karp & Yoels, 1976) and serve as a primary reason students cite for not participating in class (Wade, 1994). Rocca (2001) indicated that in-class participation is influenced by instructor characteristics such as listening, supportiveness and respect.

Interestingly, Myers et al. (2009) found that students’ self-reports of their own in-class participation were not significantly related to teacher credibility or task attraction but were instead related to their teachers’ social and physical attractiveness, perceived background, and attitude homophily of their teachers. Specifically, Myers et al. found that when students perceived their instructors as having similar backgrounds and attitudes to their own, they were more likely to participate in class than students who felt dissimilar to their teachers. Ultimately, this finding suggests that, perhaps, not only credibility, but also social perceptions are associated with students’ in-class participation. Myers et al. suggest additional avenues for future research stemming from their findings; yet, they do not clearly articulate a rationale for their results surrounding the association between homophily and in-class participation and/or the lack of association between in-class participation and students’ perceptions of credibility.

Affective learning is an important and fundamental aspect of the relational approach to teaching and learning and an important outcome of instructional research.
This is evidenced by the litany of studies that point towards affective learning as a reliable measure of student learning and a predictor than of cognitive learning (Christophel, 1990; Ellis, 2004; Frymier, 1994). Further, affective learning serves as an indicator of instructional effectiveness as demonstrated by teacher communication behaviors being stronger predictors of affective learning than cognitive learning (J. C. McCroskey & Richmond, 1992). In addition, research suggests that affective learning predicts cognitive and behavioral learning (Ellis, 2004; Mottet, & Beebe, 2006). Current approaches to learning theory suggest that students’ emotions are tied to their learning and this is compatible to affective learning principles (Immordino-Yang & Damasio, 2007; Mottet & Beebe, 2006). Thus, affective learning, a critical variable to instructional communication researchers, becomes a third area of instructional outcomes in the conceptual model for this study.

**Affective learning.** Affective learning refers to addressing, changing or reinforcing students’ attitudes, beliefs, and values, and underlying emotions or feelings as they relate to the knowledge and skills being learned (Mottet & Beebe, 2006). Krathwohl, Bloom, and Masia (1964) identified five levels of affective responses (i.e., receiving, responding, valuing, organizing, and value complex). In this way, affective learning occurs when students take ownership of their learning and is manifested when students enact behaviors that demonstrate that they respect, appreciate, and value what they are learning. Theoretically researchers argue that learning occurs when individuals attach emotion to the information being learned or skills being developed. Therefore, teachers are charged with helping students during this process (Immordino-Yang, 2007).
Krathwohl et al. (1964) suggested that affective learning is a process of internalization in which the thing that is valued (e.g., content area) becomes a pervasive part of the individual. As such, effective teachers are able to help students in this process by adapting their instruction to their students’ attitudes, values, and beliefs. Based on the above notion it could also be that when teachers share aspects of their social identities with their students, this provides them with additional opportunities to make those personal connections, which can further aid in the internalization process. Further, having those affective connections may help students in understanding other worldviews and come to value alternate ways of knowing and being.

As briefly mentioned throughout this chapter, teacher communication messages are related to affective learning. In the pilot studies, Hosek (2008) found that shared social identity was positively related to affect for instructor and student learning; however, given that student learning was measured using a combination of affective, cognitive, and behavioral learning the relationship between shared social identity and affective learning remains unclear. During Post-hoc analysis, it appeared that shared social identity did not influence students’ affective learning outcomes. These conflicting findings are puzzling because numerous studies illustrate how sharing diverse standpoints in the classroom contribute to affective learning (Hendrix, et al., 2003; Russ, Simonds, & Hunt, 2002). In order to clarify the relationship between affective learning and common ingroup statuses and to shed light on these discrepancies within Hosek’s (2008, 2009) studies additional research is needed.

Examining relational outcomes warrants equal investigation as an instructional outcome in this study. This is due in large part to the current emphasis on, and value of,
the relational dimension embedded within the instructional context. Many instructional scholars suggest that the student-teacher relationship is similar to other interpersonal relationships, and as a result, student perceptions of teacher behaviors may impact students affective feelings towards their teachers and impact relational and communication satisfaction during the lifespan of this specific relationship. With this in mind, in the next section, I describe three instructional outcomes that focus on the relational and communicative aspects of the student-teacher relationship: affect for teacher, relational satisfaction, and communication satisfaction.

**Affect for teacher.** Teacher affect is a combination of students’ respect and liking for a specific teacher. When affect for teacher increases positive instructional outcomes (e.g., immediacy) are often the result (Kearney, et al., 1991). For this reason, teachers must be aware that what they do inside and outside the classroom not only provides content information to students, but also fosters students’ perceptions of the teachers as individuals (Banfield, et al., 2006; Hosek & Thompson, 2009). Hosek (2008) also found that shared social identity was positively related to affect for instructor. Although the magnitude of the relationship was weak, it points to the need to examine this relationship in more detail. Hosek’s findings, though marginal, provide direction for the current investigation and suggest that liking and respect for a teacher may be predicted by group-based categorization. Hosek’s findings make sense when interpreted from an intergroup lens suggesting that people want to view their own social groups positively and tend to favor those in their ingroup (Edwards & Harwood, 2003; Tajfel & Turner, 1986). In other words, if students perceive their instructors to share common ingroup status with themselves, it stands to reason that affect for those instructors would
be higher than for teachers perceived to be in the outgroup.

**Teacher-Student Satisfaction**

In addition to exploring students’ perceptions of liking and respect for their instructors, perceptions of intergroup categorization can also influence the relational satisfaction and communicative satisfaction the students feel towards their instructors. The positive (e.g., relational satisfaction) and negative (e.g., prejudice) associations that coincide with ingroup and outgroup distinctions can impact relational functioning. Thus, the next section describes the conceptual area of student-teacher satisfaction that is comprised of the variables of relational satisfaction and communication satisfaction.

**Relational satisfaction.** In general, relational satisfaction relates to happiness and contentment with relational interactions (Dunleavy, Goodboy, Booth-Butterfield, Sidelinger, & Banfield, 2009) and provides an assessment of partners’ global feelings about the relationship, rather than on discrete behaviors or events (Fincham & Beach, 2006). Many contemporary instructional communication scholars subscribe to the interpersonal nature of the student-teacher relationship articulated by Frymier and Houser (2000). If this relationship, like other interpersonal relationships transgresses through phases and stages, then it must also experience varying degrees of relational satisfaction, which impact the development and maintenance of this relationship. Ultimately, when the focus is on these connections, it invokes a relational framework for investigating the dynamic and changing aspects of the student-teacher relationship (Docan-Morgan & Manusov, 2009). Although interpersonal, relational, and family scholars have regularly examined the experiences of satisfaction among relational and familial partners, instructional scholarship has been slower to examine these dynamics surrounding the
student-teacher relationship. I argue that instructional researchers should examine satisfaction because interpersonal and family scholars have long pointed to the rewarding effects of relational satisfaction among communicative partners. In a similar vein, it stands to reason that students and teachers may also experience and benefit from relational satisfaction similar to those experienced by other relational forms.

Scholars have researched the components that heighten satisfaction such as communication skills (Dunleavy, et al., 2009). In fact, many researchers argue that relational satisfaction is key to the quality and health of relationships. Disclosing private information has been found to increase relational satisfaction among relational partners and in family contexts (Derlega, Metts, Petronio, & Margulis, 1993). This research points to the potential for self-disclosure to impact relational satisfaction. In fact, common group-based categorization or sharing a similar group status has also been shown to be associated with greater relational satisfaction for sons- and daughters-in-law and their parents-in-law (Rittenour, 2009; Rittenour & Soliz, 2009; Serewicz & Canary, 2008). These findings lend support to the possibility that similar group-based categorization between students and teachers may predict perceptions of relational satisfaction.

Scholars differentiate the student-teacher relationships, from other interpersonal relationships because the relationship may lack equality, and successive time to develop the relationship (Frymier & Houser, 2000) and the content of interactions may not be intimate in nature (Goodboy, et al., 2009). Despite these differentiations, this does not change the fact that students’ satisfaction with the quality of their relationships with their teachers remains important. This is especially true, given that communication behaviors
and perceptions of group-based categorization have the potential to influence relational satisfaction as they do in interpersonal and familial relationships.

Relational satisfaction is influenced by communicative interactions and, therefore, it makes sense that student perceptions of communication satisfaction may also be influenced by perceptions of group-based categorization and teacher credibility. For this reason, the construct of communication satisfaction creates the final instructional outcome investigated in this study.

**Communication satisfaction.** Some instructional communication scholars question the interpersonal quality of the student-teacher relationship because of its perceived lack of intimacy (Goodboy, et al., 2009). More specifically, these scholars argue that this lack of intimate communication results in students communicating with their instructors mostly for instrumental needs (e.g., information gathering, clarity on course content, and advice; M. M. Martin, et al., 2000; M. M. Martin, Myers, & Mottet, 1999) rather than relational needs (e.g., getting to know their teachers). For these reasons, researchers have begun to look at communication satisfaction as an alternative to relational and interpersonal communication satisfaction in these relationships (Goodboy et al., 2009). In all, this lack of attention has resulted in communication satisfaction being overlooked as a viable outcome (Goodboy & Myers, 2007; Plax, Kearney, & Downs, 1986).

In recognition of this lack of research on students’ communication satisfaction, Goodboy, et al. (2009) developed the Student Communication Satisfaction Scale (SCSS) to examine the ways in which student and teacher behaviors and various learning outcomes influence perceptions of communication satisfaction. As a result, they found
communication satisfaction to be associated with reduced uncertainty, increased affective learning, and relational, functional, participatory and sycophantic (i.e., to get on the teachers good side) motives for students communicating with instructors. In all, rather than isolate relational or communication satisfaction as the accurate approach to examine satisfaction in the instructional context, the current study examines both variables.

The previous section outlined the five broad areas of instructional outcomes that are the goals of this study. The next section illustrates the research related to teacher credibility and how it can predict the five instructional outcomes.

**Teacher Credibility and Instructional Outcomes**

Instructional communication researchers claim that credibility may be one of the most important variables affecting student-teacher interactions and outcomes (Finn, et al., 2009; Myers, 2001). Finn et al.’s (2009) meta-analysis of teacher credibility exposed the striking variability of the ways in which credibility has been positioned in the research literature. From their analysis, it is clear that researchers tend to look at credibility as an antecedent, an outcome and a mediator of teacher communication behaviors and student learning. Examining teacher credibility as an antecedent and an outcome has a long tradition in instructional research, while recent research has begun to explore the mediating influence of teacher credibility. As a result of these trajectories, much has been illuminated regarding the important influence teacher credibility has in the classroom environment.

In general, teachers who are perceived by their students to be credible have great potential to influence their students (Myers & Martin, 2006). If students do not perceive a teacher to be credible, they are likely to listen and learn less from that teacher (J. C.
McCroskey, Holdridge, & Toomb, 1974). In all, Thweatt and McCroskey (1998) argue that “the higher the credibility, the higher the learning” (p. 349).

From their meta-analysis, Finn et al. (2009) found that researchers typically explore teacher credibility in two ways: (1) to determine teacher characteristics and behaviors that enhance credibility, and (2) to determine student outcomes associated with teacher credibility. They further argue that these trends reflect current theorizing about teacher credibility (e.g., J. C. McCroskey, Valencic, et al., 2004) which position credibility as both an outcome of teacher behavior, and as a predictor of instructional outcomes. In the current study, my approach to examining credibility (as outlined in the conceptual model) remains consistent with current theorizing because I examine credibility as an outcome of teacher communication behaviors and as a predictor of instructional outcomes.

I also incorporate recent trends that examine credibility as a mediating variable between teacher communication behaviors and instructional outcomes (Schrodt, et al., 2009). In support of this current trend, Schrodt et al. (2009) found that teacher credibility partially mediated the relationship between teacher prosocial communication behaviors (e.g., clarity, confirmation, and nonverbal immediacy) and instructional outcomes, such as learner empowerment and affective learning. In other words, when teachers engaged in these behaviors, students’ perceived their teachers as credible, felt empowered to learn course material, and expressed increased states of affective learning. In their study learner empowerment was examined in combination with affective learning and cognitive learning. In contrast to their approach, in the current study I examine learner empowerment and affective learning separately to discover how they are individually
impacted by credibility. This should provide a more robust understanding of the individual contributions of these two instructional outcomes.

Perceived teacher credibility is positively associated with increased student motivation to do well academically, improved recall course information, and heightened affective learning (J. C. McCroskey, Valencic, et al., 2004; Russ, et al., 2002; Teven & McCroskey, 1997; Tibbles, Richmond, McCroskey, & Weber, 2008). Student perceptions of teacher credibility have been linked to course and overall teacher evaluations (Kearney, 1994; J. C. McCroskey, Holdridge, et al., 1974). Additionally, students recommend credible teachers to their friends, respect them, plan to take additional coursework from them (all of which is associated with affect for the course and teacher), and contribute to in-class and out of class discussion (Martinez-Egger & Powers, 1997; J. C. McCroskey, Holdridge, et al., 1974; Nadler & Nadler, 2001). In an effort to reinforce the findings of previous research in the current investigation, the following hypotheses are proposed:

H1a: Students’ perceptions of teacher credibility positively predict students’ perceptions of learner empowerment.

H1b: Students’ perceptions of teacher credibility positively predict students’ perceptions of in-class participation.

H1c: Students’ perceptions of teacher credibility positively predict affective learning.

H1d: Students’ perceptions of teacher credibility positively predict students’ affect for the teacher.
Although research on relational and communication satisfaction has been conducted in other communication contexts (Chen, 2002; Myers, 1998), far less attention has been directed towards understanding their role in the instructional context. More specifically, scholars have given little attention to communication satisfaction in the instructional context (Goodboy & Myers, 2007; Plax, et al., 1986). Spitzberg (1991) asserted that competent communicators are more satisfied in communication encounters and, as a result, it stands to reason that teacher credibility (which is, in part, derived from perceptions of competence) can impact how satisfied students are with their communication and overall relationships with their teachers. In order to better understand the relationship between teacher credibility and relational and communication satisfaction and add to the limited research in this area, the following hypotheses are proposed:

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H1e: \text{Students' perceptions of teacher credibility positively predict students' perceptions of relational satisfaction with their teachers.}
\]

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H1f: \text{Students' perceptions of teacher credibility positively predict students' perceptions of communication satisfaction with their teachers.}
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In the previous section, I clarified the ways in which students’ perceptions of teacher credibility can predict specific instructional outcomes. In the following section I review relevant literature that establishes the relationship between teacher verbal and nonverbal messages, teacher credibility, and the instructional outcomes examined in this study.
Teacher Communication Behaviors, Instructional Outcomes and Teacher Credibility

Instructional scholars have generated much research in an attempt to identify the specific teacher behaviors that predict, mediate, and result in students’ perceptions of teacher credibility (Banfield, et al., 2006; Finn, et al., 2009; Hendrix, 1997; J. C. McCroskey, Hamilton, & Weiner, 1974; J. C. McCroskey, Valencic, et al., 2004; Myers, 2001; Myers & Martin, 2006; Pogue & AhYun, 2006; Schrod, 2003; Schrod, et al., 2009; J. Semlak & J. Pearson, 2008; B. K. Simonds, Meyer, Quinlan, & Hunt, 2006; Thweatt & McCroskey, 1998). Throughout this trajectory of research, scholars have found that teacher messages can significantly affect how students think and behave (Kearney et al., 1991). As part of this research agenda, McCroskey et al. (2004) advanced the general model of instructional communication that places credibility as a product of teacher behaviors and an antecedent to student learning outcomes. Schrod, Witt, Turman et al. (2008) found initial empirical support for the McCroskey et al.’s general model. Importantly, the conceptual model previewed in the previous chapter positions credibility in much the same way as the general model of instructional communication and, as such, should provide further empirical support for McCroskey et al.’s model.

Instructional communication research studies have found teacher clarity, content relevance, self-disclosure, teacher confirmation, and nonverbal immediacy to not only be associated with teacher credibility but also with other instructional outcomes (e.g., student affective and cognitive learning, affect for teachers empowerment, in-class participation; Ellis, 2000; Finn, et al., 2009; Houser & Frymier, 2009a; Mottet, Beebe, et
al., 2004; Rocca, 2009; Schrodt, 2003; Sorensen, 1989; P. L. Witt, I. R. Wheeless, & M. Allen, 2004a). In the following sections, I review the verbal and nonverbal teacher communication behaviors (i.e., teacher clarity, content relevance, self-disclosure, teacher confirmation, and nonverbal immediacy) that are investigated in this study. In addition, I illustrate how these teacher communication behaviors are associated with various instructional outcomes and how they predict teacher credibility.

**Teacher Clarity**

Teacher clarity refers to a combination of verbal messages that teachers use to help students understand the information they present (Chesebro & Wanzer, 2006; Frymier & Weser, 2001). In their review of teacher behaviors, Rosenshine and Furst (1971) claimed that teacher clarity represents the most important behaviors that teachers can use in the classroom and is deserving of extensive research and inclusion in teacher training programs. Consequently, Rosenshine and Furst are credited for bringing clarity to the forefront of many recent research agendas and to the interest of teacher training professionals (Chesebro & Wanzer, 2006). Since that time, the lines of research on teacher clarity have taken numerous trajectories, which have resulted in the enhancement of our understanding of the specific low-inference behaviors (i.e., those behaviors that require little subjectivity to evaluate) that constitute teacher clarity, such as presenting lesson objectives, organizing content in logical sequences, allowing time to practice, using relevant examples, including repetition and asking questions (Ellis, 2000; Finn, et al., 2009; Hines, Cruickshank, & Kennedy, 1985; Houser & Frymier, 2009b; Mottet, Beebe, et al., 2004; Rocca, 2009; Sorensen, 1989; P. L. Witt, L. Wheeless, & M. Allen, 2004b).
Researchers have found a positive relationship between teacher clarity behaviors and student achievement, satisfaction, motivation, student affect and learning (Avtgis, 2001; Chesebro & McCroskey, 1998, 2001; Chesebro & Wanzer, 2006; Comadena, et al., 2007; Hativa, 1998; Houser & Frymier, 2009a; Sidelinger & McCroskey, 1997). In all, these researchers have found that teacher clarity (a) increases student achievement, (b) increases student affect for their instructors and course content, (c) reduces receiver apprehension, and (d) increases students’ perceptions of immediacy and responsiveness behaviors.

Additionally, students’ perceptions of teaching effectiveness have been found to be related to teacher clarity behaviors (French-Lazovik, 1974) and all three dimensions of teacher credibility (Schrodt, Turman, & Soliz, 2006). Schrodt et al. (2009) found teacher clarity to be a positive predictor of students’ perceptions of teacher credibility, which supports the contention that teacher clarity behaviors represent important prosocial teacher communication behaviors that enhance students’ perceptions of teacher credibility.

In addition to teacher clarity, content relevance behaviors have also been found to influence instructional outcomes and predict students’ perceptions of teacher credibility. In the following section, I review the research related to content relevance and how clarity relates to instructional outcomes and how it predicts teacher credibility.

**Content Relevance**

Content relevance refers to students’ perceptions of the ways in which course content meets their personal and/or professional needs, interests, and goals (Keller, 1983). Keller’s work in instructional design is credited with identifying content
relevance as a way to enhance student motivation (Chesebro & Wanzer, 2006). Keller (1987) identified specific instructional strategies to make course content relevant to students, such as explaining how the course content relates to their future, how concepts taught in class could be used in their daily lives, and how the course content relates to their existing knowledge. In addition, he also provided students with choices in how to accomplish various assigned tasks.

In the area of instructional communication, scholars have conducted numerous research studies related to content relevance. From these research studies, scholars have found a moderately strong positive association between relevance and state motivation (Frymier & Shulman, 1995). In other words, the use of more relevance behaviors results in an increase in state motivation to learn. Further, Frymier and Shulman (1995) found that when instructors used a variety of relevance strategies, students reported more motivation to study than students whose teachers used limited relevance strategies. In another study, Millette and Gorham (2002) found that students perceived content relevance and interest in a subject area to be the most significant aspect affecting their motivation to learn.

Frymier, Shulman, and Houser (1996) also found that content relevance continued to be associated with increased motivation to learn, further supporting their previous research. Moreover, they found content relevance was also related to students’ affect for course content and to teachers’ and students’ senses of empowerment, which are relevant to the present study.

As with all research, there are limitations, and Muddiman and Frymier (2009) argued that much of the current conceptualization of teacher relevance was created from
instructors’ and researchers’ ideas about what relevancy behaviors looked and sounded like, rather than obtaining students’ perspective on these behaviors. They argued that student-generated strategies provide an alternate perspective on relevance that will help researchers manipulate the construct more effectively and help instructors use tactics that students’ believe to increase content relevance.

In their study, Muddiman and Frymier (2009) found students’ perceptions of clarity behaviors to fall into four categories of strategies (i.e., Outside Course Relevance, Teaching Style Relevance, Methods and Activities Relevance, and Inside Course Relevance). Overall their findings are in line with previous conceptualizations of relevance; however, Muddiman and Frymier found the category of Teaching Style Relevance to encompass other instructional behaviors such as immediacy, confirmation and humor. They argue that students appear to listen to these types of behaviors because they may signal relevancy. Similarly, they argue that the category of Inside Class Relevance appeared to be more consistent with conceptualizations of teacher clarity than with relevance.

Based on their findings, Muddiman and Frymier (2009) assert that their categories contrast those of Keller’s (1983) and Frymier and Shulman’s (1995) conceptualizations of relevance. While they note that previous researchers have contended that immediacy and humor facilitate relational development among students and teachers, as well as aiding in student motivation and attention (Frymier, 1994; Frymier & Houser, 1998; Kelley & Gorham, 1988), Frymier (1994) found that immediacy behaviors did not increase relevancy. Further, Muddiman and Frymier suggest that clarity behaviors help students understand course content, but independently, behaviors should not be expected
to relate to course content and students’ interests. In all, they argue, that “…perceived relevance is an outcome of effective teaching rather than a component of effective teaching. Perhaps when students become motivated to learn and are engaged in the material (a result of effective teaching), they perceive the content as being relevant” (p. 139).

Clearly, using relevant messages has an important impact on instructional outcomes such as motivation, course affect, and empowerment; however, little research has examined how content relevance influences perceptions of credibility. Given that teachers are responsible for finding ways to craft their messages so that they resonate with students’ experiences and lives, it stands to reason that how effective teachers are at doing this may impact students’ perceptions of their credibility. In support of this notion, Nunziata (2007) found that the nontraditional students in her study tended to need connections of relevancy in the form of “shared life experiences” with their instructors and when they did not receive this from their teachers it made it difficult for them to “believe” and “connect” with these teachers. In addition to relevancy behaviors, self-disclosure presents a rich source from which students create perceptions about their teachers’ credibility. As such, self-disclosure is an additional teacher communication behavior explored in this study.

**Teacher Self-Disclosure**

Teacher self-disclosure encompasses messages that people willingly tell others about themselves and is typically grounded in trust that aids in relational development

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6 To clarify, traditional students are those students who are 18-23 years of age and entering college from high school. In contrast, nontraditional students are those students who are 25 years or older and those who have taken time off before entering or re-entering college and possible mange careers and families in addition to their academic responsibilities (Butler, 1998; Houser, 2004b).
(Altman & Taylor, 1973; Cozby, 1979; Jourard, 1971). According to Lannutti and Strauman (2006) the nature and content of disclosures in the classroom make them function differently than in personal relationships. Classroom disclosures are goal-based in that they are meant to be illustrative of course concepts even though they may contain personal information. In contrast, the goals of self-disclosure in personal relationships are driven towards revealing for reciprocation and oftentimes to increase relational intimacy and development.

Regardless of function, teacher self-disclosure is another factor that has been found to foster student cognitive, affective and behavioral learning (Freitas, Myers, & Avtgis, 1998; Gorham, 1988; Nussbaum & Scott, 1979). Instructor self-disclosure has also been discovered to generate positive teacher evaluations when disclosures were perceived as honest self-representations of the instructor (Nussbaum & Scott, 1979). Sorensen (1989) found that students perceived instructors to be more effective when they do not make negative statements about themselves and do not promote self-interest. In phase one of her study, Sorensen had students’ rate 150 self-disclosive statements against the likelihood that their instructor would make each statement. In phase two, she used those self-disclosive statements to create profiles of good and poor teachers. In all she found that good teachers were perceived to engage in more intentional, honest, and positive self-disclosures than poor teachers. One limitation of Sorensen’s work is that she did not explicitly link “effectiveness” or “good teaching” to perceptions of credibility.

In order to more fully understand the association between credibility and self-disclosure, Lannutti and Strauman (2006) measured the association between teacher
credibility and teacher evaluations using items from McCroskey, Hamilton et al.’s (1974) source credibility scale. Since the measurement of teacher evaluations used by Lannutti and Strauman included other items not specific to teacher credibility (i.e., standard teacher evaluation forms used by the university where data was collected), determining the impact of teacher credibility from this study is not possible. Despite this limitation, their findings suggest that perceptions of the intentionality, positiveness, and honesty of instructor self-disclosure were significantly and positively associated with teaching evaluation and the amount and depth of the disclosure was not associated with the evaluations.

In other research, Nunziata (2007) discovered during 35 in-depth interviews with college students that they desired content relevant instructor disclosures and teacher immediacy behaviors may mediate inappropriate teacher disclosures. For example, talking about drinking or a divorce are topics students identified as inappropriate but later realized that these disclosures created perceptions of closeness and liking for the instructor. Nunziata also discovered that when teachers shared personal information created a more “human” picture of their instructors as people who have a life outside of academia. Self-disclosure also created approachability cues and affect for instructors and course content. The value of teacher self-disclosure is well documented in the literature and for this reason I include it in this study as an important teacher communication behavior that may predict perceptions of teacher credibility. In addition to self-disclosure, teacher confirmation behaviors represent another research area related teacher communication behaviors. As such the discussion now moves to explaining this variable and its relationship to teacher credibility and instructional outcomes.
Teacher Confirmation

Confirmation behaviors represent those verbal messages that teachers use to signal to their students that they value them and that they are important in the learning environment (Ellis, 2000, 2004). Numerous interpersonal scholars have pointed to the ways in which certain relational messages can conjure feelings of confirmation and disconfirmation in the mind of the receiver (Ellis, 2000). Sieburg (1969) created a typology of these two types of messages and suggested that confirmation messages included those that recognize, acknowledge, and endorse the other and disconfirmation as those that illustrate indifference, imperviousness, and discount the speaker and/or his or her message.

Ellis (2000) laid the groundwork for examining teacher confirmation behaviors in instructional contexts and since then her work has given rise to numerous research studies exploring various aspects of this construct. Ellis (2000, 2004) found that confirmation accounted 18% and 17.6% of the unique variance in cognitive learning and 30% and 31% of the variance in affective learning using two separate samples respectively. Further, she found relationships between teacher confirmation, affective learning, cognitive learning, and receiver apprehension. Also when teachers engage in discrete confirmation behaviors students feel confirmed. Similarly, Goodboy and Myers (2008) found that when teachers used confirmation behaviors students (a) were motivated to communicate for relational, functional and participatory reasons more so than for excuse-making, (b) participated in class, (c) challenged instructors less frequently, (d) demonstrated increased cognitive and affective learning, (e) were more satisfied, and (f) demonstrated greater state motivation.
In their study, Schrodt et al. (2006) found that teacher confirmation behaviors were directly related to greater perceptions of teacher credibility and higher teacher evaluations. Specifically, when teachers respond to student questions, have a genuine interest in their students, and use interactive teacher styles, these behaviors result in increasing student perceptions of approachability towards instructors which in turn enhances perceptions of teacher credibility and evaluations. Thus, the current study explores the predictive role that teacher confirmation behaviors have towards fostering perceptions of teacher credibility.

Thus far, I have reviewed literature that illustrates the relationship among teacher communication behaviors, instructional outcomes, and teacher credibility; however, less is known about the role teacher accommodation behaviors have in fostering perceptions of teacher credibility and group-based categorization. As such, the next section reviews the literature related to accommodation.

**Accommodation**

Researchers have long argued and demonstrated the physical and mental benefits of supportive behaviors in relational development and maintenance (Burleson & Goldsmith, 1998; Mickelson, 2001) and have framed *accommodation* behavior as a supportive element in dyadic interactions (Rittenour, 2009). In the current study, I examine the ways in which teachers engage in accommodation towards diverse standpoints and views in the classroom. In doing so, this illustrates how willing teachers are to increase or decrease the social distance between them and their students.

Researchers have explored supportive communication in interpersonal (Xu & Burleson, 2001), family (Leach & Braithwaite, 1996; Rittenour, 2009; Soliz & Harwood,
2006), and student-teacher relationships (Ghaith, Shaaban, & Harkous, 2007; Klem & Connell, 2004; Mortenson, 2006, 2009). According to Ghaith, Shaaban and Harkous (2007), when teachers provided academic and personal support they promoted positive feelings amongst students from diverse backgrounds, perceptions of fairness, and decreased feelings of alienation. In his examination of teacher out-of-class support, Jones (2008) found that students were most satisfied and motivated to learn from highly supportive teachers than with teachers who provided moderate to no support to their students. Clearly, supportive communication benefits students; yet, less is known about how teacher accommodation moves can impact teacher credibility or provide support towards multiple perspectives and identities.

In all, there are numerous verbal teacher messages that are important to examine within the instructional context, and while not exhaustive the specific indicators examined in this study (i.e., clarity, content relevance, self-disclosure, confirmation, and accommodation) represent an initial investigation grounded in theory and research which may predict perceptions of credibility.

Previous researchers have illustrated the complementary roles that these verbal behaviors exhibit when combined into a single construct of teacher behaviors (Comadena, et al., 2007; Schrodt et al., 2009). In following a similar practice, I will examine the combined ways in which these teacher messages predict credibility (and group-based categorization which is explaining in the forthcoming section). This will be done by creating a latent construct of teacher verbal behaviors with clarity, content relevance, self-disclosure, confirmation and accommodation serving as indicators. To clarify, a latent construct is a theoretical construct that cannot be directly observed and
therefore the researcher must use theory and research to determine the variables that might serve as manifest variables (i.e., variables that can be measured and observed) to serve as indicators of the latent construct. In order to reinforce the ways in which verbal teacher communication behaviors predict teacher credibility, the following hypothesis is proposed:

*H2a: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of teacher credibility.*

In the previous section I described the specific teacher verbal messages of interest to the current study. In addition to teacher verbal messages, nonverbal messages are equally important to study. In the pilot studies (Hosek, 2008, 2009) I found that verbal teacher communication behaviors and nonverbal teacher communication behaviors represented two independent theoretical constructs and as such should be measured separately. Therefore, I use the same practice in this study and measure teacher verbal and nonverbal communication behaviors as two separate latent constructs. In the next section I provide a brief summary of the findings stemming from the extensive research on nonverbal immediacy, with a specific focus towards how nonverbal immediacy can predict teacher credibility and the outcomes of interest to this study.

**Nonverbal Immediacy**

Teacher immediacy, specifically *nonverbal immediacy* remains one of the most powerful predictors of student learning and significantly impacts the student-teacher relationship (Mottet, Beebe, et al., 2006). Scholars argue that immediacy is one of the most important and influential teacher message behaviors, supported by a body of
research spanning almost four decades (Chesebro & McCroskey, 2000; Richmond & McCroskey, 1992). To review, Mehrabian (1969) defined immediacy as those behaviors which engender closeness and connection to others during interactions. In the instructional context, immediacy is described as the degree of perceived physical and psychological closeness between students and teachers (Richmond, et al., 2006).

The initial work on immediacy in the Communication Studies discipline began with Andersen’s (1979) dissertation work in which she set forth a theoretical explanation and observations of immediacy. She found that student affect towards subject matter and teachers were largely predicted by the nonverbal immediacy behaviors of the teacher. Others have found similar results as Andersen between nonverbal immediacy and affect for teacher and course content (Chesebro, 2003; Hosek, 2008, 2009, November; Moore, Masterson, Christophel, & Shea, 1996; Nussbaum, 1992). In fact, Nussbaum (1992) discovered that students reported learning more from immediate teachers than non-immediate teachers and indicated increased levels of affect for the instructor, course content, and the institution based on instructor immediacy behaviors. In another study it was found that students tended to rate their instructors more positively when they use verbal and nonverbal immediacy behaviors compared to those instructors who used less immediate behaviors (Moore et al., 1996).

Immediacy is also positively related to affective and cognitive learning outcomes (Andersen, 1979; Christophel, 1990; Comadena, et al., 2007; Kelley & Gorham, 1988; Richmond, Gorham, & McCroskey, 1987; Witt, et al., 2004a), affect for teachers and their courses, and increases in student-teacher interaction (Frymier, 1994; Frymier & Houser, 2000). Higher levels of teacher immediacy have been shown to increase student-
teacher communication and interaction (Frymier, 1994; Frymier & Houser, 2000) and increased immediacy decreases status difference between students and teachers. Taken together these findings may suggest that when teachers are more immediate students are more willing to approach teachers with questions (Richmond, et al., 2006). These findings suggest that participation and engagement may increase as result from teacher immediacy behaviors.

Schrodt and Witt (2006) contend that nonverbal immediacy can enhance perceptions of teacher credibility. Other research studies indicate that students experience more affective learning and motivation with moderate-highly immediate and highly credible teachers. Yet, students experience the least motivation and affective learning with low-immediate and low-credibility teachers (Pogue & AhYun, 2006). Further, students experienced more affective learning with low-immediate, high credibility teachers, compared with high immediate, low-credibility teachers.

In other research, Thweatt and McCroskey (1998) examined the effects of teacher misbehaviors (e.g., arriving late to class) and immediacy on perceptions of credibility using hypothetical scenario conditions which depicted different levels of teacher immediacy and misbehaviors. They found that when teacher immediacy was low, regardless of misbehaviors being present in the condition, students perceived the teachers as less credible. Interestingly, when teachers were perceived to be misbehaving but were highly immediate perceptions of credibility were still low. Yet, Thweatt and McCroskey suggest that upon examining the interaction effect between misbehaviors and immediacy further, it appears that being highly immediate reduces the negative effects of teacher misbehavior specifically related to the caring dimension of teacher credibility. Stated
another way, using an example to illustrate this claim by Thweatt and McCroskey, teachers who engage in eye contact and decrease physical space between their students (i.e., all nonverbal immediacy behaviors) but who might not be the most clear or organized (i.e., types of teacher misbehaviors) are perceived to care more about their students than a non-immediate teacher who is always on clear and prepared. In all, their study suggests that teachers can engage in misbehaviors here and there if they are generally immediate and still maintain their credibility.

Although previous researchers have suggested that student perceptions of instructor credibility can be enhanced by nonverbal immediacy behaviors (Schrodt & Witt, 2006), the findings from Hosek’s (2008) study suggest that teacher behaviors (verbal and nonverbal immediacy, and self-disclosure) and affect for the instructor are indirectly related through teacher credibility. In contrast to previous findings that suggest that nonverbal immediacy enhances credibility (Schrodt & Witt, 2006), Hosek’s study suggests that students need to perceive their teachers are credible in order for behaviors such as immediacy to generate affect for an instructor and student learning.

Recently, scholars have begun examining the effects of teacher credibility as a mediator among teacher behaviors and instructional outcomes. For example, Schrodt et al. (2009) tested a mediated model for teacher credibility and teacher prosocial behaviors (i.e., confirmation, clarity, and nonverbal immediacy) and student learning outcomes. They found that the partial mediation model provided the most accurate picture of the relationship among the constructs, such that credibility partially mediated the effects of confirmation and clarity on student learning, fully mediated the effects of nonverbal immediacy, and all three prosocial behaviors illustrated direct effects on student learning.
In other words, when teachers responded to students’ questions, communicated clearly, and used interactive teaching styles they enhanced perceptions of teacher credibility, empowered students, and increased affective learning (Schrodt, et al., 2009).

Clearly, researchers have demonstrated the important role immediacy, specifically nonverbal immediacy, has as a teacher communication behavior. To further examine the role of nonverbal immediacy as a predictor of teacher credibility in the current study, I propose the following hypothesis:

\[ H2b: \text{Students’ perceptions of teacher nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of teacher credibility.} \]

In the next section I introduce intergroup communication theories as a way to illustrate the role and importance of group-based categorization in the current study. In doing so I bring aspects of identity that affect the instructional context to the forefront of instructional communication research.

**Group-Based Categorization**

In the following section I clarify the conceptual area of group-based categorization. This conceptual area includes the constructs of attitude homophily, background homophily, and global shared social identity. To do so, I will first explain how viewing the student-teacher relationship as an intergroup interaction offers important insight in to examining the ways in attitude homophily, background homophily, and global shared social identity can impact the instructional context. Then, I review theories of identity and illustrate how the intergroup perspective, when applied to the instructional context can offer a new approach towards understanding the student-teacher relationship
and instructional outcomes. Finally, I will clarify the relationship between the teacher communication behaviors, group-based categorization, and the instructional outcomes investigated in this study.

Many contemporary instructional communication scholars argue that the student-teacher relationship shares similarities to other interpersonal relationships (DeVito, 1986; Fink, 2003; Frymier & Houser, 2000; Hosek & Thompson, 2009; Mottet & Beebe, 2006; Turman & Schrodt, 2006). Much of this thinking regarding interpersonal relationships between students and teachers draws upon Buber’s (1965) work by suggesting that teachers and students can communicate in ways that highlight unique characteristics of each individual, and by doing so engage in a relationship characterized by open, honest, spontaneous and nonjudgmental communication (Mottet & Beebe, 2006). Using this contemporary approach and viewing student-teacher interactions as interpersonal highlights the transactional and relational communication that constitutes this specific relationship. Also, an interpersonal approach illustrates the ways in which teachers and students mutually influence each other to achieve personal (e.g., relational building) and academic goals (e.g., student learning; Baxter, 2004; Mottet, Martin, & Myers, 2004).

Although examining the student-teacher relationship as an interpersonal and relational process has generated important discussion in the research literature, taking this approach only focuses on the unique individual characteristics (e.g., personality) or personal identities of students and teachers. When the focus is only on individual characteristics and personal identity researchers silence the larger social group structures and categorizations that are at work within student-teacher interactions. As I mentioned in Chapter One, ignoring societal factors can result in negative outcomes such as
decreased student engagement, negative teacher evaluations, and harmful effects to well-being for students and teachers (e.g., isolation, lower self-efficacy, and depression). When instructional communication researchers engage social group-based categorization and issues of identity in their research they are better positioned to understand and hopefully circumvent these negative outcomes, and one way to do so is by viewing the student-teacher relationship as an intergroup interaction.

Importantly, the intergroup approach places societal factors such as social group membership as an important component of the research discussion, thereby allowing instructional researchers to examine how social group-based categorization and membership influences teacher-student interactions. Since the intergroup perspective provides this focus on social issues, the next section further explains the intergroup perspective and the usefulness of viewing the student-teacher relationship as an intergroup interaction.

Examining student-teacher relationships as an intergroup interaction allows researchers to focus on the ways in which perceptions of group membership influence identity development, social interaction, and communication (Edwards & Harwood, 2003, Harwood, 2006, Hosek, 2009). The intergroup perspective argues that people categorize themselves and others based on perceptions of group membership and their interactions are impacted based on these categorizations (Tajfel & Turner, 1986). As such, Tajfel and Turner (1986) define groups as those individuals who perceive that they are members of the same collective, share an emotional attachment to their membership in the group, and agree on what it means to be a member of said group (Tajfel & Turner,
In essence, we place people in to similar groups to ourselves (i.e., ingroups) or groups that are different from us (i.e., outgroups).

Researchers demonstrate that self and other categorizations impact perceptions and behaviors based on ingroup or outgroup status (Tajfel & Turner, 1986). In support of this claim, researchers have found that the quality of communication is often reduced along with fostering increased negative perceptions when people base their observations on social group-based categorization (i.e., social identity) rather than interacting as unique individuals (i.e., personal identity; Brown & Hewstone, 2005; Coupland, Coupland, Giles, Henwood, & Wiemann, 1988). In contrast, recent family communication research has shown that when family members have a sense of shared family identity (i.e., they feel like a family) they experience more positive outcomes such as familial satisfaction and engage in self-disclosure more frequently (Rittenour, 2009; Soliz & Harwood, 2006; Soliz, Ribarsky, Harrigan, & Tye-Williams, 2010) in comparison to those family members who lacked feelings of shared family identity. Importantly, when families experienced a sense of shared family identity this occurred despite family members representing different social groups (e.g., age, race, gender, religion, ethnicity, and sexual identities). These studies provide an important extension to the instructional context because the positive outcomes surrounding shared perceptions of common group-based categorization in families may also be found among students and teachers. Thus, I contend that the current study is needed to determine if students and teachers benefit from shared perceptions of common group-based categorization.

As described in the previous chapter, the intergroup perspective allows researchers to examine the multidimensional aspects of identity between students and
teachers that position them as part of common ingroups or dissimilar outgroups (e.g., students/teachers, men/women, traditional/nontraditional, and young adults/adults). The intergroup perspective also provides an opportunity to determine how sharing a common group-based categorization (or not) can affect instructional outcomes (e.g., empowerment, in-class participation, affective learning, relational and communicative satisfaction, and affect towards teachers).

By its nature instructional communication is interdisciplinary because it integrates research from educational psychology (i.e., seeks to understanding the psychological and intellectual means that explain and predict student learning), pedagogy (i.e., focuses on teaching and teaching methods), and communication (i.e., views the teaching-learning process as a communication process, Mottet & Beebe, 2006). As such, I contend that there is much to be gained by continuing this rich interdisciplinary tradition by bringing intergroup research and theory to the discussion because it can address important higher education concerns and bring issues of identity to the forefront of the teaching and learning research conversation. Thus, in an effort to examine the intergroup relations embedded in the instructional context and provide a theoretical framework for the current study, I now review three theories of identity: (1) Social Identity Theory (SIT), (2) Common Ingroup Identity Model\(^7\) (CIIM), and (3) Communication Accommodation Theory (CAT).

**Social Identity Theory**

Much of the intergroup research has its roots in SIT (Tajfel & Turner, 1986). SIT contends that people categorize the world and place themselves in to some groups and not

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\(^7\) Gaertner et al. (1996) label the Common Ingroup Identity Model as a model; however, they argue that it is a theoretical framework of identity. The term *model* is used in this manuscript to maintain consistency with the original authors’ phrasing.
in to others. SIT describes the ways in which people categorize their social worlds into ingroups and outgroups based on perceptions of social identities. When these identities are salient within a context they describe and determine behavior within that context (Hornsey & Hogg, 2000; Tajfel, 1978; Tajfel & Turner, 1986).

As such, SIT proposes that people come to understand their self-concept in terms of their personal and social identities (Harwood, Giles, et al., 2005; Tajfel & Turner, 1986) To review, personal identity is a perception of what makes an individual unique with regard to various personality characteristics, interests, and values (Harwood et. al., 2005; Tajfel & Turner, 1986) and when personal identity is salient behavior is governed by personal interests. According to Tajfel (1978), social identity results from and individual’s identification with social groups and the emotional attachment he or she feels towards that group. When social identity is salient the goals and needs of the collective tend to predict behavior (Gaertner & Dovidio, 2000).

Moreover, when social identities are salient, individuals engage in activities and hold attitudes that promote a positive image for the ingroup compared to the outgroup (Tajfel, 1978 #328). According to Hornsey and Hogg (2000) achieving this differentiation “…may include feelings of ingroup pride, ingroup loyalty, derogatory attitudes toward outgroups, and/or prejudicial behavior toward outgroup members” (p. 242). According, Gaertner and Dovidio (2000) whether a person’s personal or social identity is salient “critically shapes how a person perceives, interprets, evaluates, and responds to situations and to others” (p. 37). Therefore, intergroup communication occurs when social identity rather than personal identity is salient for at least one person in the interaction.
The values and emotional attachment people have towards social groups (e.g., religion) help members create a sense of shared identity with others who believe they are from similar social groups. Tajfel and Turner (1986) indicated that individuals want to positively view their own groups and this in turn influences their self-concept. In this way, individuals want to maintain “positive distinctiveness” (i.e., view their social group as superior to others) for their ingroups which helps maintain this positive sense of self. In all, people want to perceive their ingroup and their membership in that group positively (Harwood, 2005).

Additionally, when group membership becomes important to individuals’ self-concept, they will most likely favor their ingroups compared to the outgroups that they do not identify with (Edwards & Harwood, 2003). As a result, members of the outgroup are viewed as a collective lacking individual differences. In other words, ingroup members are unique and distinctive individuals and outgroup members think and behave similarly (Mullen & Hu, 1989; Ryan, Park, & Judd, 1996). This perception results in the outgroup being seen as “just like the rest of them” (i.e., the outgroup members). Ultimately, these perceptions of outgroup members can influence the formation of stereotypes (Rittenour, 2009).

At this juncture, now that the tenets of SIT have been described, I argue it is important to return briefly to the earlier discussion related to viewing the student-teacher relationship as an interpersonal relationship because this notion focuses more on personal identity rather than social identity. Given that many instructional scholars view the student-teacher relationship as an interpersonal relationship, it becomes important for me to describe how adding another frame (i.e., the student-teacher relationship as intergroup)
can result in a more robust understanding of the complexities within the student-teacher relationship.

One reason to frame the teacher-student relationship as an intergroup relationship is because the interpersonal perspective reduces the role of intergroup communication and social identity within the student-teacher relationship. As I mentioned earlier ignoring these social identity aspects can lead to detrimental outcomes for students and teachers alike. Likewise focusing solely on intergroup communication reduces the focus on personal identity. Tajfel and Turner (1986) provide important insight towards remedying these contentions over the need to focus on interpersonal or intergroup communication in research. Tajfel and Turner argued that there are two extremes of social behavior, interpersonal versus intergroup behavior and that pure forms of either interaction are rarely found in everyday life. Purely interpersonal communication behavior occurs when two or more people interact in ways that are fully determined by their interpersonal relationship and individual characteristics and not at all affected by various social groups or categories to which interactants belong. For example, two women who have known each other for 20 years, who know a great deal about each other’s personalities and who have shared experiences together are more likely characterized by their memories and relational history and communication on an interpersonal level than based on their intergroup distinctions.

Purely intergroup communication interactions occur between two or more people (or groups of individuals) when behaviors toward each other are fully determined by their respective memberships in various social groups or categories, and are not at all affected by the personal relationships among the individuals in the group(s). For example, two
groups of students are interacting via video-conference for the first time. One group is comprised of American students from the Midwest in the United States and the other group is Japanese students residing in Japan. In the context of this example, the students would be interacting (perhaps initially) based on their perceptions and potential stereotypes of American students and Japanese students.

Importantly, intergroup communication is related to interpersonal communication in that our interactions with others shape our sense of personal identity, which in turn influences our social identity (Giles & Hewstone, 1982; Gundykunst & Lim, 1986; G. M. Stephenson, 1981). However, Tajfel and Turner (1986) suggested that purely interpersonal and purely intergroup interactions rarely exist. For this reason, communication scholars have begun to use models that place communication as having the potential to be high or low on both intergroup and interpersonal dimensions.

Viewing communication as low and high interpersonal/intergroup accentuates the theoretical possibility that interactions can occur on a continuum of low and high interpersonal/intergroup salience. Therefore, this view provides an opportunity to explore the contributions of both interpersonal and intergroup communication in a given context. Also, this alternate view offers a more complete and rigorous explanation of communication during these interactions. To follow is a brief explanation of the low and high interpersonal/intergroup continuum.

When using the low and high interpersonal/intergroup model, interaction can be seen as high intergroup/high interpersonal and in this situation people would treat each other as individuals but also acknowledge group difference. For example, in a situation where a daughter discloses that she is bisexual to her mother, the mother would probably
have high interpersonal salience with the daughter allowing her to frame the interaction based on the unique person that the mother has always known her daughter to be. Yet, the categorization of the daughter’s sexuality will be salient for both women as they use their understanding of what it means to be “bisexual” to process their conversations.

Interactions can also be seen as low intergroup/high interpersonal and this would look similar to the previous example about the women who have known each other for 20 years. In their interactions their relational history and unique characteristics define their interactions and their knowledge of social group membership may have little bearing on their communication.

When communication is low interpersonal/high intergroup is typical of the previous example with American and Japanese students. In that example, the students’ communication was based primarily on perceptions of each social group with interpersonal characteristics having little influence on their interactions.

Finally, interactions can be low on both intergroup and interpersonal communication and this can take the form of interacting, for example, when people are intoxicated, unable to process interpersonal or intergroup distinctions, or are unmotivated to think about these distinctions (Harwood, Giles, et al., 2005). Harwood et al. (2005) suggest that interactions that are low on both interpersonal and intergroup salience tend to be rare in occurrence.

The teacher-student relationship if viewed along this continuum allows for a richer understanding of the interpersonal and intergroup dynamics that characterize teacher-student communication and the instructional environment as a whole. Importantly, these interpersonal/intergroup distinctions tend to be associated with affect,
and interactions high in group salience tend to be dissatisfying, low in intimacy, and high in conflict. In contrast, interpersonal interactions tend to be strongly associated with positive events (e.g., caring, and concern). However, it is important to note that intergroup interactions can be rewarding and interpersonal interaction can be rife with conflict (Harwood, Giles, et al., 2005; Harwood, Hewstone, Paolini, & Voci, 2005; Williams & Giles, 1996).

In all, I argue that it is important to determine the value of exploring these interpersonal/intergroup communication salience levels within student-teacher interactions because communication can be influenced dependent of which level is salient. Scholars contend that the student-teacher relationship shares characteristics with other interpersonal relationship but submit that this particular type of interpersonal relationship constrained by time (i.e., typically over the course of semesters). As such, it takes time to develop a relationship in which relational partners come to know the unique characteristics of each other, and this can pose problems for students and teachers to engage in high interpersonal interaction. In addition, teachers’ desire to share information that will help students come to see them as unique individuals may not occur as readily as in other relationships (e.g., friendship) because teachers may actively chose not to share personal information with their students (Hosek & Thompson, 2009). For this reason, students may interact with teachers on a low interpersonal/high intergroup level because they may use their perceptions of what “teachers are like” more so than what “this specific teacher is like” and this may result in more negative interactions if stereotypes are at work (e.g., American students interacting with a foreign-born Asian teacher).
Researchers further suggest that the degree of affect one has for their communication partner determines the level and satisfaction present within these interpersonal/intergroup interactions (Harwood et al., 2005). This degree of affect is important within the student-teacher relationship given the prominent role affect plays in the instructional context. This relates to the current study because it will be interesting to determine the role affect for teacher (i.e., interpersonal in nature) and common group-based categorization (i.e., intergroup in nature) play in determining how students’ perceive their interactions with teachers as high/low interpersonal/intergroup interactions and what, if any, implications arise as a result of these distinctions. In other words, if communication is high interpersonal/low intergroup are students more satisfied than when interactions are high intergroup/low interpersonal as research tends to suggest. Determining this outcome may prove useful for proponents of the interpersonal view of the student teacher relationship and highlight the need for teachers to use more interpersonal forms of communication or it may point to the ways in which intergroup interactions are rewarding and/or challenging for students and teachers.

Intergroup researchers argue that the intergroup approach is important because groups are part of our everyday lives and the intergroup perspective provides another tool to examine social behavior and how communication reflects, shapes, and creates our sense of identity in many contexts (Giles, Coupland, & Coupland, 1991; Harwood, 2006). In addition to SIT informing the current study, the Common Ingroup Identity Model (CIIM) is also important to include because it provides a specific focus on variables related to perceptions of common group-based categorization.
Common Ingroup Identity Model

The Common Ingroup Identity model (CIIM) suggests that those in perceived outgroups can come together under a common ingroup. As a result this newly formed common ingroup highlights group members’ commonalities but at the same time allows members to maintain their individuality (Gaertner & Dovidio, 2000). Communication becomes an essential component to the creation and maintenance of the newly categorized common ingroup. Importantly, CIIM suggests that highlighting and allowing common ingroup membership to become salient may reduce outgroup bias and stereotypes. As such, CIIM asserts that contact with the outgroup can enhance intergroup relationship because it reframes the perception of the collective as two distinct groups (i.e., us and them) in to one superordinate group (i.e., we) by highlighting commonalities rather than differences (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1996).

In contrast, outgroup identification could lead to stereotyping and bias. In fact, if students perceive teachers to be in their outgroup this can produce negative instructional outcomes (e.g., negative perceptions of credibility, decreased cognitive, and affective learning). In support of this contention, Park and Rothbart (1982) found that people retain more information in a more detailed fashion when it comes from ingroup members than from outgroup members. Park and Rothbart’s finding is important for students and teachers because a primary education goal is to help students retain information and if students do not believe information from outgroup teachers is credible this can negatively impact the ways in which they process and retain information.

M. Allen, Witt, and Wheeless (2006) in their research found support for CIIM and affective learning. Their findings suggest that when sites for connection and
commonalities between groups are found that those connections and commonalities can lead to affective learning. Although M. Allen et al.’s study did not examine common ingroup status or social identity, their findings are important because they point to the ways in which having a shared common ingroup can influence students liking and valuing of course content. Thus, the current study will add to M. Allen et al.’s research by directly assessing the relationship between common ingroup status on affective learning.

CIIM suggests that bias for one’s ingroup and intergroup conflict can be reduced by illustrating the commonalities among groups. When intergroup conflict is reduced, intergroup interactions can be perceived positively because aspects of shared identity have been highlighted. When this occurs it allows the situation to be framed as an intragroup (i.e., same group) context. For example, in some situations the age differences between teachers and their students may place them into two separate groups (e.g., young adult and middle aged), thus creating potential stereotypes such as old out of touch teacher versus young entitled student. In contrast, by focusing on shared identity (e.g., members of University X students and teachers interactions can perhaps be rendered more positive because the focus is on what makes that similar rather than different in terms of social group membership.

In accordance with SIT and CIIM theorizing, the next section clarifies the specific variables I examine that comprise the conceptual category of Group-Based Categorization: (1) global perceptions of shared social identity and (2) perceived homophily, which is comprised of perceived attitude and background homophily.
Global perceptions of shared social identity. Theoretical and empirical evidence suggests that the category of group-based categorization can be examined by attitude homophily, background homophily, and global perceptions of shared social identity. Edwards and Harwood (2003) argued for a similar approach suggesting that homophily and other indicators of shared social identity should be examined given evidence that there are multiple indicators of social identity embedded within the instructional context. The approach suggested by Edwards and Harwood allows for an examination of the multiple effects of identity perceptions. In other words, individuals typically do not just use one aspect of someone’s social identity (e.g., gender) to determine their perceptions of common ingroup status, but rather look for clusters of identities (e.g., gender and age) to inform their perceptions.

The suggestions offered by Edwards and Harwood’s (2003) study make sense given that when we interact with others, we often take in to account multiple aspects of a person’s identity (as well as our knowledge of our own multiple identities) rather than focusing solely on one aspect (e.g., gender). Similar to the approach used in Hosek’s (2008, 2009) studies, the current study will examine six specific social identities found in extant research that impact students’ perceptions of teacher communication behaviors. These six specific social identities will be combined to create the composite variable of Global Perceptions of Shared Social Identity: (1) political identity, (2) religious identity, (3) sexual identity, (4) racial and ethnic identity, (5) age identity, and (6) gender identity will be combined to create the composite variable of Global Perceptions of Shared Social Identity. To follow, I explain the importance of each of these social identities and their impact in the instructional environment.
**Political identity.** There is much debate about the role teacher political views play or should play in the college classroom. Many conservative legislators and students argue that college campuses, which are frequently perceived to be liberal in nature, often alienate or silence some students. For example, Hebel (2004) recounts a story about a student who asked on the first day of class if the teacher had any prejudices (the student later said that he was referring to writing style prejudices) and the teacher responded, “Yeah, Republicans.” The teacher later indicated that he tends to use humor to engage students, including joking about all political groups, and that this particular course, titled *American Dream/American Realities*, is highly political in nature (the student dropped the course after this incident). Regardless of intent, Hebel argues that comments like these raise red flags for conservative groups who contend that:

Professors who unnecessarily interject their political views into the classroom contribute to conservative students' feelings of isolation on campuses that often seem to be dominated by faculty members with liberal views, these critics say. Several students who say they have Republican leanings argue that their grades have suffered or that their participation in classroom discussions has been stifled by liberal professors. (p. A19)

Although teachers’ political beliefs may impact students’ perceptions of their teachers, satisfaction with courses and students’ feelings of isolation, recent research suggests that teachers’ personal politics have little impact on students’ political beliefs (Mariani & Hewitt, 2008). Mariani and Hewitt (2008) surveyed the political attitudes of 6,800 students at 38 universities about how they changed between their freshman and senior year, including if students’ political attitudes were affected by their professors.
Their findings suggest that 60% of students did not change their political views during college and there was no apparent increase in changes resulting from attending a college with a liberal faculty. However, neither this research nor Hebel’s (2004) commentary empirically explain if students’ perceptions of their teachers’ political identities impact their class engagement or perceptions of teacher behavior. Importantly, recent research has found that students do have opinions about the appropriateness of instructor disclosures about their political identity and how it impacts their perceptions of teachers’ credibility.

Recent research suggests that both students and teachers find it inappropriate (unless specific to class content) for teachers to discuss their political views in class (Nunziata, 2007). Interestingly, recent research has shown that some students found out about their teachers’ political identities after viewing their social networking websites (e.g. Facebook), and, in some instances, found them to be more credible as a result of the information they saw on the websites. In some cases, the teachers did not directly indicate their political affiliation in their profile descriptions, but rather students inferred their political identity from the images and text students saw on the websites (DiVerniero & Hosek, 2011). For example, one student indicated that her instructor never talked about his political activities during class, but when she accessed his Myspace.com profile, there were several pictures of him protesting at various rallies. As a result of seeing these images, the student indicated that she felt more connected to the instructor because she felt like she knew his views, despite the fact that he did not disclose them in class (DiVerniero & Hosek, 2011). These findings underscore the importance of perceptions in the determination of others’ social identities.
In contrast, while discussions regarding political identity appear inappropriate for the classroom context, both students and teachers find it more acceptable to discuss political affiliations and other more “taboo” topics one-on-one or outside of class (Dobransky & Frymier, 2004). In general, research studies suggest that instructors and students do not want in-class discussions about political identity, nor do these types of political discussions change students’ views. The current study is less concerned with how students’ political views change as a result of interaction with instructors, but rather with how the combined effect of this particular social group identity, when examined with other aspects of identity, impacts functioning in the classroom and student-teacher relationships. In doing so, the present study examines students’ political identity salience and includes political identity as part of the measure of global shared social identity to determine if this influences students’ perceptual, relational, and communicative outcomes in the classroom.

Religious identity. In regard to religious identity, there is considerable agreement in the scholarly community that religious practices influence human interaction (Allport, 1954; Allport & Ross, 1967; Spilka, Hood, & Gorsuch, 1985). Previous research suggests that underlying religious motives influence relational choices, behaviors, and practices (Allport, 1959). Religion is of profound importance to many people’s lives and religious group identification is among the more salient defenses of identity (Verkuyten, 2007). Verkuyten (2007) suggests that religion and prejudice are closely tied and religions that provide clear-cut moral truths tend to behave negatively towards out-group members. Research suggest that the more salient religion is for a person, the more
prejudice he or she tends to have for outgroup members (see Batson & Burris, 1994; Scheepers, Gijsberts, & Hello, 2002).

Communication researchers who take a cognitive approach to explaining communication behaviors, suggest that beliefs and attitudes impact message encoding, receiving, and decoding which in turn are associated with and predict communication behaviors (Ajzen & Fishbein, 1980; Heider, 1958). In her research, Nunziata (2007) found that students believed it was inappropriate for instructors to discuss their religious identity in class. However, little is known about how religion as a social identity impacts students’ perceptions of their teachers’ behavior and their own learning.

**Sexual identity.** In contrast to religious identity, perceptions of sexual identity and its impact on students’ perceptions have received considerable attention in extant research. However, despite increased research interest in sexual identity, Heinz (2002) argued the following:

> [T]he every day experience of gay, lesbian, bisexual and transgendered people is still largely excluded from the classroom discussion of U.S. high school and college students. Further, this exclusion is also evident in communication textbooks, syllabi, and curricula; and that unchallenged heterosexism and homophobia among U.S. high school students continue to pose interpersonal and social problems that might be partly resolved by communication pedagogy. (p. 95)

Despite a lack of integration regarding GLBT experiences into course curricula, researchers have found that teachers’ coming out in the classroom can be an effective teaching strategy (Farr, 2000; Rensenbrink, 1996); whereas, nondisclosure of one’s
sexual orientation (at one’s job) has been linked to decreased self-esteem, disconnection from colleagues, and decreased work-productivity (Fassinger, 1995). Ultimately, this should be of concern for teachers given that researchers have found a positive relationship between teacher job satisfaction, self-efficacy, and student nonverbal immediacy (Mottet, Beebe, et al., 2004).

**Race/Ethnicity identity.** Students and teachers race/ethnicity is another important social identity that has received significant attention in higher education literature. One reason to focus on race/ethnicity as a social identity is the results from a recent report in 2003 by the American Council on Education, which suggested that students of color will make up 28% of student population in higher education nationally while only 14% of the nation’s faculty are people of color (Rankin, 2003). These statistics are important when examined in light of research that highlights the positive outcomes for students of color when they have opportunities to interact with teachers from similar races/ethnicities (e.g., W. R. Allen, 1992; Guiffrida, 2005). Guiffrida (2005) argued that African American faculty members are instrumental to African American students at PWIs. Guiffrada stated that the reason for this is that African American students identify with African American faculty members and these faculty members seem to offer more personal attention to African American students. Based on the above statistics, students will continue to have increased intergroup contact and relations, but may have fewer opportunities to interact with teachers who share similar racial and ethnic identities. Further, the existing literature paints a conflicting picture in regard to the ways in which students experience and evaluate teachers of different races/ethnicities.
Researchers suggest that instructors may unknowingly favor students who are of the same race and sex/gender as themselves (Cooper & Good, 1983; Good, 1987). Galguera’s (1998) research in inner city public schools found that students also favored teachers of the same ethnicity. In a meta-analysis review of research on teacher expectations and student race/ethnicity, Tenenbaum and Ruck (2007) found a small but significant effect size related to teachers having higher expectations for European American students over African American and Latino/a children but higher expectations for Asian American students than for European American students. Additionally, recent research in secondary education suggests that African American and Latino/a adolescents perceive that teachers treat students differently based on race/ethnicity (Greene, Way, & Pahl, 2006).

Teachers’ races/ethnicities can also impact students’ perceptions of teacher credibility and it stands to reason that credibility may be influenced by students believing they belong to similar or different social groups (e.g., race/ethnicity and age) from their instructors. For example, Hendrix’s (1997) found that students at PWIs challenged their African American professors’ classroom authority and teaching credentials more often than those of their white professors.

Other research, however, reports a somewhat different pattern. Patton (1999) found that students rated African American instructors, male and female, as more credible than Caucasian instructors. The results of Patton’s (1999) study are quite unique compared to numerous other research studies that illustrate negative perceptions of credibility for non-white teachers. As such, I provide a brief overview of her study and potential reasons for her contrasting research findings regarding credibility and
race/ethnicity. Patton’s study employed a 2 x 2 experimental design with pre- and post-test measures of teacher credibility and demographic information. Four instructors, two female (one African American and one European American) and two male (one African American and one European American) trained in public speaking provided identical videotaped lectures on the nature of public speaking. The videos were played for students enrolled in a basic public speaking course at a large European American dominated university. Results indicate that African American instructors, male and female, were seen as more credible than Caucasian instructors. Additionally, the African American female instructor had higher instructor credibility than any of the other videotaped instructors. The African American male instructor, and both European American instructors were evaluated similarly in terms of their credibility.\(^8\)

Patton (1999) argued that her research findings may be explained by teacher immediacy, novelty, presensitization, and social correctness. In regard to immediacy, Neuliep (1995) found that African American instructors tend to use more immediacy behaviors than the European American instructors do. Also, novelty may have influenced perceptions of credibility for African American teachers because the student population in her study was largely comprised of European American students. Patton expounds on this notion by stating:

"Despite the changes that are occurring in the ethnicity and gender of instructors on college campuses, it is still more common for a college student to have a male

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\(^8\) In Patton’s (1999) study “the main effect of ethnicity was significantly related to 5 adjective pairs of credibility: ‘expert’ (Black instructors with cell means of 5.12 and White instructors with 4.46), ‘competent’ (Black instructors 5.48 and White instructors .40), ‘trained’ (Black instructors 5.47 and White instructors 5.15), ‘bright’ (Black instructors 5.59 and White instructors 5.24) and ‘trustworthy’ (Black instructors 5.18 and White instructors 4.81)."
European American instructor than a non-European American male or female instructor of any ethnicity. Therefore, since students may be more accustomed to their instructors being European American males, they may have evaluated the African American instructors higher due to the novelty or “uniqueness” of the situation and, perhaps, the perception that the African American instructors must be superior to have attained their present position. (p. 132)

Patton (1999) suggested that presensitization and social correctness could have also played a role in her findings. Specifically, students who participated in Patton’s study were required to take a cross-cultural awareness course and, as a result, may be more aware of diversity issues and may not have judged their instructors by their race/ethnicity, but rather on their teaching effectiveness. Finally, Patton contends that since the students were enrolled in a cross-cultural awareness course they may have provided socially desirable answers to avoid appearing prejudiced or biased against non-white teachers.

Glascock and Ruggiero (2006) argued that most of the research on ethnicity and race did not take in to account the views of minority students. As a result of this lack of research, Glascock and Ruggiero conducted their own research at a predominately Hispanic institution. They found that teacher ethnicity and perceptions of competence and caring created a multivariate effect, although effects sizes were small. They also found that Caucasian instructors were rated higher than Hispanic instructors on caring and competence. Interestingly their study found that immediacy and expertise were stronger predictors of perceived student learning than a teacher’s ethnicity was. Glascock’s and Ruggiero’s findings are similar to those found in Hosek’s (2009) study
regarding nonverbal immediacy not being related to shared social identity. However, their findings contrast with those of Hosek (2009) regarding credibility mediating the relationship between teacher behaviors, such as immediacy and affective learning outcomes. Taken together, these studies reinforce the need to clarify the relationship between nonverbal immediacy and social identity and affective learning in the current study.

Researchers have further shown that students favor domestic-teachers and are more motivated to work with them than with foreign-born teachers, which highlight preference for one’s “own kind” (i.e., ingroup; Allport, 1954; de Oliveira, et al., 2009). Interestingly, de Oliveria et al.’s (2009) study found a significant between-group difference among students’ perceptions of domestic and foreign-born instructors’ communication competence at a predominately white institution. Specifically, the domestic-born instructors were rated significantly higher in communication competence than their foreign-born counterparts. The researchers argue that student stereotypes of foreign-born instructors’ lack of communicative skills may influence the ways in which students engage in the learning environment with their teachers. Moreover, students may exert energy to compensate for real or imagined communication deficits on the part of their foreign-born instructor. This can take the form of asking a domestic-born teacher for help, requesting copies of class notes, and/or recording lectures of their foreign-born instructors. However, de Oliveira et al. point out that many of their findings may be moderated by the level of diversity on a particular college campus and dependent on students’ own ethnic identity and social attitudes about diversity.
Similarly, L. L. McCroskey (2002, 2003) found that among primarily Caucasian students, domestic instructors were rated as more effective than foreign-born professors; however, these teachers’ evaluations were found to be correlated with nonverbal immediacy and clarity behaviors more so than teacher ethnicity. Of interest to the current study, de Oliveira et al.’s (2009) research did not examine ethnic identity salience; thus, the current study hopes to determine if social identity is important to students’ perceptions of their teachers’ behaviors and resulting instructional outcomes.

It is clear that student perceptions of ingroup or outgroup status are at work in the instructional environment and they impact students’ perceptions of teacher behaviors and other instructional outcomes. The increasing mandates from university administrations to ensure college graduates are globally competent and able to function in multicultural environments further illustrates the importance of research in this area. Clearly, students’ perceptions of their teachers’ racial and ethnic identities are important to the current investigation given the inconsistent findings in the literature and potential influence on the student-teacher relationship.

**Age identity.** While visible racial and ethnic aspects of students’ and teachers’ identities can highlight social group memberships, age can also serve as an important group categorizer for students and teachers. This is particularly important because stereotypes about age may be prevalent within the teacher-student relationship from the perspective of both interactants (Harwood & Giles, 2005; Williams & Garrett, 2005). The professoriate career has no mandatory retirement age (Ashenfelter & Card, 2002) and, as a result, college instructors may continue to work past traditional retirement age, which increases the likelihood that students will interact with instructors from vastly
different age groups than their own. Researchers argue that age is an identity-laden social category and age groups can be examined as meaningful sources of social identity (Edwards & Harwood, 2003; Harwood, Giles, & Ryan, 1995).

Age conveys important social meanings for people (Garstka, Schmitt, Branscombe, & Hummert, 2004) such that when age is a salient intergroup categorizer, the relationship is often associated with negative attributes (Islam & Hewstone, 1993). Researchers interested in age group-based categorization have found that people identify themselves and others in terms of age group categories (e.g., young adult, middle aged adult, older adult; Bultena & Powers, 1978) and that these categories affect impressions of others (Celejewski & Dion, 1998). As a result of these age categories, people tend to have well-developed expectations, which result in generalized views of each age group. For example, college students are expected to experience a period of “self-discovery,” middle-aged people experience midlife crises, and older adults complain (Williams & Garrett, 2005).

Further, researchers have shown that many older and younger adults have stereotypes of each other that influence their communicative interactions (Hummert, Garstka, Ryan, & Bonnesen, 2004). In particular, Williams and Cockram (2002) found that teachers have negative views of their communication with the “young adulthood” age group (17-28 years of age), which is the group that most U.S. college students tend to fall in to. Their finding is worth noting because, as teachers age, similar negative perceptions of young adults may impact the ways in which they communicate with their students.
In regard to instructional communication research and intergroup communication, Edwards and Harwood (2003) conducted the first known examination of age as a social identity within the instructional context. They examined how age group membership influenced college instructor evaluations. Their findings suggested that students who reported high age group identification (high age group salient) were more likely to notice and comment on their instructors’ age and more likely to favor similar age-instructors. Further, age identification was not associated with relative ages of the instructors, which reinforces the value of perception in the determination of shared social identity with others. Specific to age perceptions, Edwards’s and Harwood’s findings are important, given that age is one aspect of identity that can be discursively managed (old and helpless to young and energetic), physically altered (choice of dress, physical shape, cosmetic surgery), and through forming friendships with younger people (Williams & Garrett, 2005).

Edwards and Harwood’s (2003) findings provide support to the notion that evaluations of instructor effectiveness are associated with age group identities. However, age identification did not have a direct effect on preference for young instructors. They argue that this might be due to the fact that students were asked to describe a “favorite or effective” instructor and that these two stimuli (favorite or effective) may represent different ideas. From an SIT standpoint, this may predict strong effects for a favored instructor, but not indicate an effective instructor. In part this may be due to age stereotypes, which suggest that an older instructor may be perceived as more effective than a younger one (Hummert, Garstka, Shaner, & Strahm, 1994). Similarly, Semlak and Pearson (2008) found that students deemed older instructors as more credible than
younger instructors. They argue that while Edwards and Harwood’s study indicates a preference for younger instructors, this desire may not translate into perceptions of credibility (2008).

In other research related to age group identification and credibility, Nunziata (2007) found that non-traditional students who had teachers who were younger than they were did not perceive the teachers as credible or relatable given the difference in age groups. DiVerniero and Hosek (2011) found the opposite in that one student similar in age to her teacher found him less credible because he was young (though in the same age group) until she looked at his social networking profile and reframed her perception of him, because she noted that he was well-read and had taken “hard” courses in college. In this way, age group identification can enhance and negatively impact credibility. Thus, the student was able to reframe her perceptions and evaluation of the teacher’s credibility. As a result of these inconsistent findings examining age as a social identity warrants further examination.

In all, Edwards and Harwood (2003) tapped into new ground with their study, which found that social group identities do, in fact, influence students’ perceptions and evaluations. Moreover, they exposed the need to continue examining social identity and other intergroup communication behaviors in the instructional context. Given Edwards and Harwood’s findings, it stands to reason that perceptions of global shared social identity may influence instructional outcomes. In addition to age, researchers frequently examine the impact of student and teacher biological sex and gender identity on various instructional outcomes and pay less attention to gender as a social identity.
Gender group identity. Fox and Murry (2000) argue that gender identity is inherently tied to class, race, and social resources. Much of the research that has been conducted on biological sex differences (despite framing their studies as examining gender) between students and teachers and its impact of various outcomes have been met with mixed results. Some researchers have found that teachers tend to favor students of their own sex, race, and ethnicity (Centra & Gaubatz, 2000; Cooper & Good, 1983; Good, 1987). Yet, others find that sex differences do not meaningfully predict teacher evaluations (Feldman, 1992, 1993) or student learning (Glascock & Ruggiero, 2006). In contrast, Centra and Gaubatz (2000) found that students rated same-sex teachers higher on course evaluations. In another study, male teachers were found to be more credible than female teachers (Hargett, 1999). The existing research provides little consensus regarding the impact of student and teacher biological sex in the instructional context.

Based on these conflicting findings Nunziata conducted a review of the 1997-2007 issues of Communication Education to determine how gender has been treated over the past 11 years in instructional communication and communication education research. Hosek (2008) argued that the conflicting findings may result from the fact that researchers measure biological sex rather than gender. By only focusing only on biological sex, researchers have rendered invisible the ways in which gender might influence the instructional context. Shifting the focus to examine gender might offer a broader understanding of student-teacher similarities and difference given that gender is experienced more on a continuum rather than discrete categories of male and female. Further, Martin (2000) argues that gender has been repeatedly ignored or subjects have been treated as gender-neutral in the research. Hosek (2008) echoes similar notions in her
review. Although Martin’s (2000) contentions began with organizational research, her implications must be extended to all research contexts to avoid perpetuating inequality and weakening scholarship in all content areas (Sprague, 1992). In light of this inequity and as a result of the conflicting findings, more research is needed to fully understand how gender, rather than biological sex, as a social identity influences student perceptions of common ingroup status.

The extant research referred to so far illustrates the social identities that are important to this current investigation. However, the studies reviewed tend to examine these aspects of social identity in isolation (e.g., only ethnicity) or in combination with only one other social identity (e.g., age and ethnicity), and typically they are used to examine teacher credibility. Further, if and when these aspects of identity are integrated into a study, they are typically examined as demographic categorical variables (excluding age) which only provide descriptive information. While each of these aspects of one’s identity is important, examining each aspect by itself renders an incomplete picture of how multiple identities are influencing the teaching environment. Moreover, results typically indicate that when there is a significant finding with regard to aspects of identity, the effect sizes are small. Often this leads to the assumption that these aspects of identity are “not important” and effective instruction can occur despite gender, age, ethnicity, sexual identity, political, and religious orientations.

In an effort to address multiple social identity variables, they will be combined during this study’s analysis to form the construct of Global Perception of Shared Social Identity. In addition to examining global perceptions, perceived attitude and background homophily serves as another indicator of group-based categorization.
Perceived attitude and background homophily. In general, perceived homophily refers to the extent to which people believe they have similar attitudes and backgrounds as others (J. C. McCroskey, et al., 1975). Perceived homophily is assessed in terms of two separate dimensions: attitude homophily (e.g., the student believes the teacher shares the same values) and background homophily (e.g., the student believes the teacher comes from a similar economic background).

Researchers have linked perceived homophily to positive outcomes; for example, Elliot (1979) found that a moderate degree of perceived attitude and background homophily between teachers and students was related to perceptions of positive affect for the instructor, which carried over to affect for the course. Further, Rocca and McCroskey (1999) established a positive relationship between perceived homophily and immediacy between students and teachers. In their study, Myers et al. (2009) found that students’ self-reports of their own in-class participation were not significantly related to credibility or task attraction, but were related to social and physical attractiveness and perceived background and attitude homophily of their teachers. Specifically, Myers et al. found that when students perceived their instructors as having similar backgrounds and attitudes to themselves, they were more likely to participate in class than students who felt dissimilar to their teachers. Ultimately, this finding suggests that social perceptions about these teachers were associated with students’ in-class participation.

Myers et al.’s (2009) findings make sense in light of previous research conducted by Gundykunst (1985), in which he found that cultural similarity and type of relationship (e.g., friends or acquaintances) aid in uncertainty reduction. In essence, culturally similar individuals experience more uncertainty reduction because they engage in more
communication as their relationships develop than culturally dissimilar individuals do. Likewise, when individuals feel similar to each other this leads to increased liking, which in turn leads to more communication.

In relation to the current study, Glascock and Ruggiero (2006) posit that perceived homophily increases student-teacher interactions and that this has an overall positive effect on the learning process. In contrast to Glascock and Ruggiero’s contentions, Hosek (2009) found that perceived attitude and background homophily were significant predictors of shared social identity for favored instructors, but only attitude homophily predicted shared social identification for least favored instructors. Hosek (2008) also found that teacher credibility, not perceived homophily, mediated the relationship between shared social identity, teacher communication behaviors, and student learning and affect for teacher. This finding was surprising for two reasons: (1) Edwards and Harwood (2003) suggested that perceived homophily might be a better way to measure ingroup identity and (2) researchers have illustrated positive relationships between perceived homophily and immediacy (Rocca & McCroskey, 1999), affect for teacher and course (Elliot, 1979), and course evaluations (Glascock & Ruggiero, 2006).

Although, Hosek’s (2008) findings contrast Edwards and Harwood’s (2003) suggestion that perceived homophily might be a better indicator of ingroup identity, they do provide support for perceived homophily potentially being part of a larger latent construct of social identity. Theoretically, it stands to reason that perceived homophily and shared social identity are similar constructs, given that they both measure perception of similarity and ingroup categorization. Hosek’s (2008, 2009) pilot studies supported

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9 Homophily and Global Shared Social Identity are different because homophily assesses general ideas about attitudes and backgrounds that are not specific to particular social identities.
this notion because a stronger model fit was found when perceived homophily and shared social identity served as indicators of a larger construct of global shared social identity. For this reason, perceived attitude homophily and background homophily will be measured alongside global shared social identity in the current study. It is important to note that researchers indicate that, when measuring perceived homophily, the dimensions of attitude and background homophily should be examined separately and not combined during data analysis (J. C. McCroskey, et al., 1975; L. L. McCroskey, J. C. McCroskey, & V. P. Richmond, 2006). In accordance with their recommendations, perceived attitude and background homophily will be examined individually, although together they make up the construct of perceived homophily. In all, the focus on global shared social identity, perceived attitude homophily, and background homophily are representative variables of the category of group-based categorization that coincide with the Common Ingroup Identity model.

Although issues of identity have not been examined in instructional research, Communication Accommodation (CAT) represents a theory of interpersonal communication and intergroup communication and can serve as a framework for how teacher communication behaviors can predict group-based categorization in the current study. Thus, in the following, I overview CAT and in doing so illustrate the ways in which the teacher communication behaviors investigated in this study can predict group-based categorization. I will also articulate the ways in which group-based categorization can predict the outcomes I explore in this study.
Communication Accommodation Theory

Communication Accommodation Theory (CAT; Giles, et al., 1991; Shepard, et al., 2001) offers a way to clarify the role of communication and intergroup relationships in the instructional context. As such, I use CAT to explain how students’ perceptions of teachers’ verbal and nonverbal communication messages can predict students’ perceptions of group-based categorization.

CAT can be used to provide insight into the specific communication strategies that people use to convey their social identities and intergroup attitudes (Hecht, Jackson, & Pitts, 2005) because it addresses the ways in which language is used to demarcate various social group memberships and intergroup distinctions during interactions (Shepard, et al., 2001). As such, CAT illustrates the various communication moves individuals can use to increase, decrease, and/or maintain psychological closeness with their conversation partners (Rittenour, 2009).

Specifically, individuals can accommodate (i.e., adapt communication appropriately), overaccommodate (i.e., over adapt beyond what is necessary), or underaccommodate (i.e., not succeed in adapting communication) their communication during conversation.

CAT suggests that accommodative behaviors reduce social distance between conversation partners, while nonaccommodative behaviors increase social distance (Shepard, 2001 #278). Researchers have shown that accommodative behaviors make others feel part of the ingroup and nonaccommodating behaviors seek to position others as part of the outgroup (Hecht et al., 2005; Rittenour, 2009; Rittenour & Soliz, 2009).
CAT has demonstrated important implications for interpersonal, organizational, and family relationships. In regard to the family context, researchers have shown that accommodation mediates the relationship between grandparent/grandchild quality of contact and genitive attitudes towards others (Giles, et al., 1991). Other researchers have shown that nonaccommodation negatively impacts the relationship between in-laws (Rittenour, 2009). Importantly, Rittenour and Soliz’s (2009) study articulated the importance of perceptions in the attribution of accommodative/nonaccommodative behaviors among in-laws. More specifically, they found that regardless of a mother-in-law’s intention (i.e., to accommodate or nonaccommodate), it was the daughter-in-law’s perception of the behaviors that determines the communication as categorization as accommodative or nonaccommodative. These findings are relevant to the current study because students’ perceptions of teacher communication behaviors are at the center of this investigation.

The tenets of CAT present an effective way to connect teacher communication behaviors to group-based categorization. Teachers can use clarity, relevance, self-disclosure, confirmation, and accommodation in ways that either promote feelings of common group-based categorization by highlighting closeness and similarity (i.e., accommodating behaviors) or use them to distance themselves by sharing messages that highlight differences and distinction (i.e., nonaccommodation).

In the following section, I briefly illustrate how the teacher communication behaviors investigated within the present study can be viewed (by students) as accommodative or nonaccommodative, which consequently can result in perceptions of common group-based categorization.
As previously mentioned in this chapter, much of the research literature on teacher clarity has focused on the content, process, and relational dimensions of teacher clarity. Missing from this discussion are the ways in which teacher clarity behaviors might give rise to perceptions of common ingroup status and how this might impact learning. Simonds (Russ, et al., 2002; 1997) argues that a teacher may be an expert in the field, but if he/she cannot communicate that knowledge in a clear and effective way, learning is not achieved. Hence, the teacher can be perceived as being nonaccommodating if his or her communication is unclear, which can result in perceptions of outgroup status between students and teachers.

It stands to reason that if a student perceives a teacher to be unclear in his or her communication this can be viewed as a form of nonaccommodation. For example, Caucasian students in a Midwestern classroom may take an algebra course from a teacher who is a native of India and has a heavy accent. This combination may lead students to believe that the teacher lacks clarity (and perhaps view this as a nonaccommodative communication) if they cannot understand the teacher because of his or her accent. Further, these differences between the students and teacher in the above example may make the intergroup categorizations and social group difference salient for students. This can reinforce negative stereotypes about the credibility of foreign born teachers and impact student learning.

Researchers have shown that nonaccommodation can result in negative perceptual outcomes such as reduced relational satisfaction and reduced feelings of common ingroup status. Clarity can be seen as nonaccommodative to students, and if they perceive that their teachers’ lack of clarity occurs because of differences in
race/ethnicity, dialect, or regional differences, this can result in reinforcing stereotypes and problems related to student learning. Researchers have established some support for the problems related to clarity and learning based on students’ perceptions of teacher race/ethnicity.

Borjas (2000) provides some empirical support to the notion that, in some circumstances, foreign-born instructors may have a negative impact on the academic performance of undergraduates, while others contrast this notion and argue that the issue may not rest in the accents of the instructors “…but [in] the fact that American students are not used to—or are unwilling to—adjust to non-native speakers of English. They may sometimes use the language issue as a means of expressing prejudices and stereotypes” (Alberts, 20008, p. 190). Alberts (2008) found contrasting support to Borjas’s claims with nontraditional, international, and high GPA achieving students, in that they typically found foreign-born instructors to be equally as effective as native-born instructions. She argues that the problem may not rest exclusively with foreign-born instructors’ English speaking skills, but also with students’ attitudes towards these instructors. In fact, researchers have found that American students complain about foreign-born instructors who have strong English speaking competencies and that students perceived a strong accent when the instructor was a different ethnicity than the students, even if the instructor actually spoke standard American English with little accent (Clayton, 2000; Rubin, 1992).

Moreover, while most educators do not consider accents to be teacher misbehavior, researchers have conceptualized it as such in their writing, which may reinforce negative perceptions of non-native teachers’ communication abilities. For
example Kearney, Plax and Allen (2002) define incompetent teachers as those who mispronounce words or speak with accents that are hard for students to comprehend. Despite these conceptualizations, researchers have shown that students can perceive accents as problematic to their learning (Gill, 1994; Kearney, et al., 1991). For example, Gill (1994) found that the degree of similarity or difference between teachers’ and students’ accents (i.e., an outgroup categorizer) influenced students’ comprehension and evaluations, such that similarly-accented teachers were perceived more positively than dissimilarly-accented teachers. Gill also found that students scored lower on comprehension or recall tests when teachers had an accent different from the students, even when the accent was not significantly different from a linguistic standpoint. Although Gill’s study did not focus on the relational impact of these perceptions, it did suggest, that regardless of intent, accented teachers can be perceived by students to be engaging in teacher misbehaviors (or no accommodating to the students’ native language).

These previous findings support notions of outgroup categorization and negative stereotypes consistent with intergroup theorizing, and they make clarity worthy of investigation in the current study. It is important to note that the measure used to examine teacher clarity does not directly assess accent or other cultural linguistic factors; however, based on previous research, it stands to reason that if these factors are present students’ perceptions of teacher clarity can be affected. Therefore, I argue that perceptions of clarity can impact perceptions of common ingroup status.

In addition to teacher clarity, content relevance behaviors have also been shown to influence student outcomes and can serve as another accommodating behavior in this
study. Missing from the research discussion on content relevance behaviors are the ways in which issues of identity and group-based categorization impact the need and perception of relevance in the classroom. By its conceptual definition, content relevance is a form of accommodative communication. To clarify, when teachers use content relevant behaviors they are creating messages in order to meet students’ needs. Content relevant behaviors can meet students’ needs by using topics and activities that relate to students, which, in turn, can create perceptions of inclusion and closeness. Important to the current study, the act of modifying communication to meet the needs of others is at the heart of communication accommodation theorizing.

As previously mentioned, Nunziata (2007) found that the nontraditional students tended to need a sense of connection in the form of relevancy behaviors with their teachers. In fact, one participant in her study acknowledged that he, a 40-something father had a hard time seeing the relevance in examples offered by his 20-something female graduate teaching assistant. In this example, age group categorizers may have prevented the student from viewing the young teacher’s examples as relevant, regardless of the teacher’s intent.

The extent to which students have identity relevant needs and how this is addressed by teachers is not clearly articulated in the current research conceptualizations of relevancy, nor is how using non-relevancy behaviors can create perceptions of nonaccommodation. Therefore, examining the connection between relevancy as a teacher verbal message and the ways in which it predicts group-based categorization is worth investigating.
Self-disclosure presents a rich medium from which students can come to learn about aspects of their instructors’ social group memberships and helps students categorize teachers as part of students’ ingroups or outgroups. When examined as an accommodating behavior, previous researchers have found self-disclosure to play an accommodating role in interpersonal relationships (Rittenour & Soliz, 2009; Weber, Johnson, & Corrigan, 2004). For example, Rittenour and Soliz (2009) found that when mothers-in-law engaged in self-disclosure with their daughters-in-law, this was seen by the daughters-in-law as accommodating behaviors that helped them feel like part of the family (i.e., having common ingroup status). It is apparent that when self-disclosure is viewed as an accommodating behavior, it can foster perceptions of common group-based categorization.

Given that self-disclosure (when it is seen as accommodating) can convey perceptions of common group categorization or common ingroup status, it stands to reason that if teachers choose not to self-disclose this may be perceived as nonaccommodating and increase ingroup and outgroup perceptions. In support of this claim, current research points to the ways in which teachers attempt to control how they use self-disclosure. This may result in students’ perceptions of nonaccommodation if they desire teacher self-disclosure and can create identity dilemmas for teachers who feel they cannot share aspects of their identity with students.

In particular, Hosek and Thompson (2009) found that teachers typically based the ways in which they self-disclosed private information on the content relevance of the disclosure. However, in this same study, Hosek and Thompson found that some teachers felt like they were lacking in authenticity when they could not reveal aspects of their
identity to their students (e.g., sexual identity or co-habitating living status). As a result of this, these teachers felt like they were being “fake” to their own identities and the teachers felt that this reduced their ability to help students grow and understand multiple ways of being. In this sense, what teachers were unable to say may have kept their students from forming perceptions of common ingroup statuses and this could be viewed as a nonaccommodating behavior.

In further support of this potential for lack of self-disclosure being perceived as a nonaccommodative behavior, DiVerniero and Hosek’s (2011) study found that, in the absence of in-class teacher self-disclosures some students are motivated to seek out information on social networking websites (e.g., Facebook) about their teachers. DiVerniero and Hosek’s study found that students used the information on their instructors’ profiles as a way to confirm or supplement instructors’ in-class self-disclosures and, at times, this served as a way to determine students’ perceptions of their teachers’ social identities. As such, students in DiVerniero and Hosek’s study often attempted to confirm suspected social identities, despite the content (or lack thereof) on the teachers’ profiles. This was especially the case especially in the absence of in-class teacher self-disclosure. In fact, a few participants indicated that when their instructors did not self-disclose in-class, this prompted students to look for others ways to find out about them (e.g., online). For instance, one student in the study indicated that she “confirmed” her instructor’s homosexual identity because he lacked photographs of any female partner. In this case, the instructor in question did not indicate his sexual identity in the space provided on the online site, nor did he have any pictures of himself and a
male partner; yet, the absence of pictures with a presumed girlfriend or wife “confirmed”
this suspicion for the student.

The idea that students can create their own perceptions of their teacher’s social
group membership is troublesome, especially when Hosek and Thompson’s (2009) study
demonstrated that teachers worked to maintain the image they presented to their students
by choosing what to disclose to them. Clearly, the choice to be nonaccommodative in
terms of providing less self-disclosure can result in students making their own
interpretations of teachers’ social identities. However, it is important to note that positive
outcomes can result in students seeking out information about their teachers. In fact,
many of the students indicated that they believed the online disclosures they found on
their teachers’ profiles to be honest and that these disclosures helped them better
understand their teachers. In contrast, students indicated that if the information they
found online contradicted in-class behavior or self-disclosure, they tended to considered
the on-line information more reflective of the instructors “actual” personality. This is
consistent with previous research, which suggests that students need to believe
disclosures are honest and true in order for them to be meaningful to them (Nussbaum &
Scott, 1979; Nunziata, 2007). Therefore, regardless of the “realness” of the instructors’
identity online or in-class, it is the students’ perceptions of what is true regarding the
disclosure that makes the disclosure authentic for students.

Clearly, self-disclosure as a verbal teacher behavior represents one way students
can come to learn about their teachers’ identity. Teacher confirmation behaviors
represent another rich source of verbal teacher messages; as such, the discussion now
moves to explaining this indictor of teacher verbal messages.
Interpersonal scholars have suggested that relational messages can be confirming (potentially viewed as accommodative) and disconfirming (potentially viewed as nonaccommodative; Ellis, 2000). Instructional communication scholars, such as Ellis (2000, 2004), demonstrated the links between confirmation and identity development. Ellis (2004) argued that most teacher confirmation behaviors focus on personal interactions between students and teachers (e.g., communicating that the teacher is interested in whether students are learning), which reinforces the interpersonal aspects of this relationship (Frymier & Houser, 2000). Ellis further asserts that college teachers typically have instrumental goals in regard to promoting student learning; yet, students may have relational goals for communicating. This notion supports Martin and colleagues’ work in this area related to students’ relational motives for communicating with their teachers (see M. M. Martin, et al., 2000; M. M. Martin, et al., 1999; Mottet, Martin, et al., 2004; Myers, Martin, & Mottet, 2002). Ellis posits that students seek out these relationships with teachers during a time of self-discovery, when they are trying to find out who they are, what to major in, and how to excel in college life. She states:

In short, many students are discovering and establishing their identities as adults during their college years. The accomplishments of such identity development tasks may be one reason why teacher confirmation plays such a vital role in the teaching and learning process. (2004, p. 16)

Buber (1965) argued that confirmation behaviors may be the most important aspect of human interaction as they allow interactants to create and understand their identity. In a similar vein, Cissna and Sieburg (1981) suggest that through confirmation people not only come to understand who they are and value that sense of self, but they
also connect to others. Thus, it stands to reason that confirmation behaviors used by teachers may impact how efficacious students feel about their own identities and whether or not students align themselves and their teachers to common ingroups.

Clearly, the benefits to using confirmation behaviors in the classroom allude to the ways in which these messages work to confirm individuals’ personal and social identities. Thus, it stands to reason that confirmation behaviors used by teachers may lead to perceptions of similar or dissimilar social group status among students and teachers and have an impact on teacher-student relational functioning. Another teacher verbal message that can predict perceptions of group-based categorization is teacher accommodation behaviors.

Less is known about the role of accommodation in students and teachers relationships, but researchers do know that accommodating communication increases perceptions of common ingroup status (Hect, et al., 2005; Rittenour, 2009; Rittenour & Soliz, 2009). From a cultural standpoint, Mortenson (2006) found that when Chinese students experienced distress, they used avoidant coping strategies, while American students sought emotional support; yet, students from both cultures believed that seeking emotional-based support was more effective than avoidance. Mortenson argues that instructors should be aware of these differences for East Asian international students. Similar to students at PWIs who find meaningful benefits to engaging in interactions with instructors who possess similar aspects to their identity, perhaps East Asian students would also feel more inclined to seek support for those who share their same racial/ethnic identities and understand cultural norms regarding seeking emotional support.
Mortenson’s work highlights the increased rates of academic stress among college students and underscores the need to provide support to students.

Many universities have formal academic support services in place to improve student retention rates (DeBerard, Spielmans, & Julka, 2004; Peach, 2005); yet, due to current economic conditions, many of these services are being downsized (Peach, 2005). These reductions increase student demand for informal academic support from peers and teachers (Thompson, 2008).

Ultimately, supportive communication benefits students; yet, less is known about how teacher accommodation moves can provide support towards multiple perspectives and identities. As previously mentioned, the providing of support for students’ social identities is important to students’ academic and personal well-being. Including accommodation behaviors as an indicator of verbal teacher behaviors aids in the efforts of the current study to understand how teacher accommodation impacts teacher-student relational functioning.

Based on extent research and theorizing, taken together, verbal teacher communication behaviors should predict perceptions of group-based categorization. In order to explore this relationship further, the following hypotheses are proposed:

*H3a: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of perceived attitude homophily.*

*H3b: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of perceived background homophily.*
H3c: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of global shared social identity.

The relationship between nonverbal immediacy and perceptions of group-based categorization as measured by shared social identity was established during the first pilot study, which showed that students’ perceptions of shared social identification were marginally associated with nonverbal immediacy (Hosek, 2008). However, there was a negative relationship between favored teachers’ nonverbal immediacy and shared social identity. This finding is puzzling, given the proliferation of evidence that suggests increased liking of, and satisfaction for, immediate teachers. Therefore, it stands to reason that students would have positive feelings for a favored instructor who was also immediate and with whom the students felt a sense of shared social identity. Perhaps these favored instructors were overly immediate or were perceived as misbehaving, which resulted in the negative association.

Hosek’s (2008) findings that suggested a marginal relationship between nonverbal immediacy and shared social identification is increasingly worthy of further investigation, given the fact that researchers have suggested that nonverbal immediacy can interact with other prosocial communication variables (e.g., motivation, credibility, and confirmation) to reduce negative outcomes and moderate teacher verbal messages (Kearney, Plax, Smith, & Sorensen, 1988; Mottet, Parker-Raley, Cunningham, & Beebe, 2005; Mottet, Parker-Raley, Cunningham, Beebe, & Raffeld, 2006; Thweatt & McCroskey, 1998).
Of particular importance to researchers has been establishing a relationship between immediacy and various instructional outcomes in cross-cultural settings. In particular, researchers have explored the role of immediacy in cross-cultural settings and these studies suggest overall similarities, rather than differences, in terms of how cultural experience teacher immediacy (e.g., White versus Asian; J. C. McCroskey, Sallinen, Richmond, & Barraclough, 1996; Powell & Harville, 1990; Sanders & Wiseman, 1990). McCroskey, et al. (1996) found that teachers who used more immediacy behaviors report greater student involvement and interaction, regardless of cultural expectations. In another study, Zhang, Oetzel, Gao, Wilcox, and Takai (2007) report that immediacy has the strongest relationship to affective learning and that affective learning mediates the relationship between immediacy and cognitive learning among Chinese, Japanese, U.S. and German students. This is important to the present study because immediacy appears to remain powerful even when students interact with teachers from different race and ethnic backgrounds. However, as mentioned earlier, the extent to which students identify with their instructors may also facilitate the impact immediacy has on students’ willingness to communication with their teachers.

Undoubtedly, using nonverbal immediacy can be viewed as a form of accommodation, which might predict perceptions of group categorization. As such, nonverbal immediacy, like accommodation, strives to reduce social distance between interactants, whereby creating increased attraction and liking (Mehrabian, 1971). People tend to include those whom they like and identify with in their ingroups over those in the outgroup.
In all, I continue to examine the relationship between nonverbal immediacy and group-based categorization as a way to extend and clarify the findings from the two studies that preceded the present investigation. To do so, the following hypotheses are proposed:

H4a: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of perceived attitude homophily.

H4b: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of perceived background homophily.

H4c: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of global shared social identity.

As discussed throughout this chapter, students’ perceptions of perceived attitude homophily, perceived background homophily, and global shared social identity can influence instructional outcomes. To further explore the ways in which these group-based categorizers predict learner empowerment, the following hypotheses are proposed:

H5a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of learner empowerment.

H5b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of learner empowerment.

H5c: Students’ perceptions of global shared social identity positively predict students’ perceptions of learner empowerment.
To explore the ways in which perceived attitude homophily, perceived background homophily, and global shared social identity predict in-class participation, the following hypotheses are proposed:

- **H6a**: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of in-class participation.
- **H6b**: Students’ perceptions of perceived background homophily positively predict students’ perceptions of in-class participation.
- **H6c**: Students’ perceptions of global shared social identity positively predict students’ perceptions of in-class participation.

To examine how perceived attitude homophily, perceived background homophily, and global shared social identity predict affective learning, the following hypotheses are proposed:

- **H7a**: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of affective learning.
- **H7b**: Students’ perceptions of perceived background homophily positively predict students’ perceptions of affective learning.
- **H7c**: Students’ perceptions of global shared social identity positively predict students’ perceptions of affective learning.

To examine how perceived attitude homophily, perceived background homophily, and global shared social identity predict affect for teacher, the following hypotheses are proposed:

- **H8a**: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of affect for teacher.
H8b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of affect for teacher.

H8c: Students’ perceptions of global shared social identity positively predict students’ perceptions of affect for teacher.

To examine how perceived attitude homophily, perceived background homophily, and global shared social identity predict relational and communication satisfactions among students and teachers, the following hypotheses are proposed:

H9a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of relational satisfaction with their teachers.

H9b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of relational satisfaction with their teachers.

H9c: Students’ perceptions of global shared social identity positively predict students’ perceptions of relational satisfaction with their teachers.

H10a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of communication satisfaction with their teachers.

H10b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of communication satisfaction with their teachers.

H10c: Students’ perceptions of global shared social identity positively predict students’ perceptions of communication satisfaction with their teachers.

Although perceptions of group-based categorization illustrate the ways in which people assign similarities and differences between social groups, individuals must first come to find these social groups important to them personally. This experience relates to identity salience, which is crucial to the development of individuals’ personal and social
identities. As previously mentioned, determining the extent to which students’ own identities are important to them can play a role in how students come to perceive a sense of similar group-based categorization towards their teacher. In the next section I clarify the importance of including identity as a moderating variable in the current study.

**Identity Salience Moderating the Effects of Group-Based Categorization and Instructional Outcomes**

Tajfel and Turner (1986) argued that internalizing one’s group membership as part of his or her self-concept must occur in order for group membership to become a salient aspect of one’s personal and social identities. Thus, salience of identity is important to examine in the current study because it may predict the extent to which common ingroup status is important to students.

In my initial studies, I examined shared social identity, but I did not examine identity salience; therefore, it was impossible to determine the impact identity salience had on the findings of these studies. For example, if a Latina/Hispanic female student indicated a low degree of shared social identity between herself and her Latina/Hispanic female instructor, it could be that the student’s ethnic/racial identity was not a salient part of the student’s identity. In other words, for this student, her own ethnic and racial identity was not salient, which reduced the likelihood that her teacher’s race/ethnicity was an important group categorizer for the student. As such, the student’s perceptions of her teacher were not influenced by her teacher’s ethnic/racial identity. However, the opposite may be true for students whose identities are very salient (e.g., sexual identity). Thus, in the current study and based on extant research, I expected that students’ own identities need to be salient to establish a meaningful relationship among perceptions of
Another reason to examine identity salience stems from the results of Edwards and Harwood’s (2003) study. In their study, it was the salience of the age group identity that determined if students commented on their instructor’s age. Specifically, those students who commented on their teachers’ age tended to report higher levels of age salience (i.e., these students qualitative comments discussed age and they reported higher scores on the Age Group Identification scale) than students for whom age was not a salient factor reported. Although Edwards and Harwood’s study provided important information to the influence of age salience on teacher evaluations, age only represents one social group category from which students can come to identify with their teachers. In an effort to determine if identity salience (in general) moderates the relationship between students’ perceptions of group-based categorization and instructional outcomes as grounded in the tenets of SIT and the CIIM and to build on the limitations of Hosek’s (2008, 2009) studies, the following hypothesis is posed:

**H11a:** *The degree to which students’ perceptions of perceived attitude homophily predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.*

**H11b:** *The degree to which students’ perceptions of perceived background homophily predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.*

**H11c:** *The degree to which students’ perceptions of global shared social identity
predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.

Throughout this chapter, I have argued for the inclusion of issues of identity, specifically how students’ perceptions of group-based categorization can influence the instructional context and student teacher relationships. I will achieve this by examining the relationships among teacher communication behaviors, teacher credibility, group-based categorization and instructional outcomes. As a review, Table 1 reviews the hypotheses stated throughout this chapter.
Table 1

Hypotheses

H1a: Students’ perceptions of teacher credibility positively predict students’ perceptions of learner empowerment.

H1b: Students’ perceptions of teacher credibility positively predict students’ perceptions of in-class participation.

H1c: Students’ perceptions of teacher credibility positively predict affective learning.

H1d: Students’ perceptions of teacher credibility positively predict students’ affect for the teacher.

H1e: Students’ perceptions of teacher credibility positively predict students’ perceptions of relational satisfaction with their teachers.

H1f: Students’ perceptions of teacher credibility positively predict students’ perceptions of communication satisfaction with their teachers.

H2a: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of teacher credibility.

H2b: Students’ perceptions of teacher nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of teacher credibility.

H3a: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of perceived attitude homophily.

H3b: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of perceived background homophily.

H3c: Students’ perceptions of teacher verbal messages as indicated by clarity, content relevance, self-disclosure, confirmation, and accommodation positively predict students’ perceptions of global shared social identity.

H4a: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of perceived attitude homophily.

H4b: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of perceived background homophily.
H4c: Students’ perceptions of nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of global shared social identity.

H5a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of learner empowerment.

H5b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of learner empowerment.

H5c: Students’ perceptions of global shared social identity positively predict students’ perceptions of learner empowerment.

H6a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of in-class participation.

H6b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of in-class participation.

H6c: Students’ perceptions of global shared social identity positively predict students’ perceptions of in-class participation.

H7a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of affective learning.

H7b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of affective learning.

H7c: Students’ perceptions of global shared social identity positively predict students’ perceptions of affective learning.

H8a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of affect for teacher.

H8b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of affect for teacher.

H8c: Students’ perceptions of global shared social identity positively predict students’ perceptions of affect for teacher.

H9a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of relational satisfaction with their teachers.

H9b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of relational satisfaction with their teachers.
H9c: Students’ perceptions of global shared social identity positively predict students’ perceptions of relational satisfaction with their teachers.

H10a: Students’ perceptions of perceived attitude homophily positively predict students’ perceptions of communication satisfaction with their teachers.

H10b: Students’ perceptions of perceived background homophily positively predict students’ perceptions of communication satisfaction with their teachers.

H10c: Students’ perceptions of global shared social identity positively predict students’ perceptions of communication satisfaction with their teachers.

H11a: The degree to which students’ perceptions of perceived attitude homophily predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.

H11b: The degree to which students’ perceptions of perceived background homophily predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.

H11c: The degree to which students’ perceptions of global shared social identity predicts instructional outcomes (e.g., learner empowerment, in-class participation, affective learning, relational satisfaction, communication satisfaction and affect for teacher) is moderated by students’ identity salience.

The present study focuses on the variables of global shared identity, perceived attitude, background homophily (which are mentioned as parts of the category Group-Based Categorization), and teacher credibility. These variables are expected to serve as mediators between perceptions of teachers’ verbal and nonverbal messages and the perceptual, relational, and communicative outcomes associated with the student-teacher relationship. The hypothesized relationships proposed for this study are presented in Figure 2 and, although a full mediation model is depicted, I will test for partial mediated relationships among the predictors and outcomes. I will also test for partial mediation to account for the likelihood that not all of the significant variance of the relationship between predictor variables (e.g., teacher communication behaviors) and outcome
variables (e.g., learner empowerment) can be accounted for by the direct effect of the mediating variables (e.g., global shared social identity) on the outcome variables (Aiken & West, 1991).
Figure 2 Hypothesized Model[^10]
Summary

Throughout this chapter, I presented the theoretical and research foundations that guide the current study. In doing so, I positioned the intergroup perspective as a hallmark of this study, specifically regarding the category of group-based categorization and argued for its inclusion in instructional communication research. In this chapter, I first overviewed the instructional outcomes that are the goals of this study, followed by clarifying the role that teacher credibility plays in predicting these outcomes. Then, I reviewed the teacher verbal and nonverbal messages that may predict and influence perceptions of teacher credibility. Next, I presented the conceptual area of group-based categorization (as measured by global shared social identity, perceived attitude homophily, and perceived background homophily) and three theories of identity (e.g., SIT, CIIM, and CAT). I also clarified the ways in which teacher communication behaviors can predict perceptions of group-based categorization and in turn how group-based categorization can predict the instructional outcomes investigated in this study. In addition, the notion of identity salience and its role within the current study were detailed. Finally, I presented hypothetical model that was tested in this study was presented.

In all, testing the proposed hypotheses laid out in this chapter extends current knowledge of how group-based categorization influences students’ perceptions of their teachers’ behaviors, students’ own actions in the classroom, and hopefully will improve overall relational functioning surrounding the student-teacher relationship. Further, the results of this study address important higher education issues such as student engagement, student perceptions of teacher evaluations, and student academic and personal well-being. Finally, as a result of this study, I extend intergroup theorizing as a
vital and missing component to understanding the complex landscape of the instructional context. In the next chapter, I articulate the methods used in this study.
Chapter Three

Method

This chapter provides an overview of the methods and procedures for the current study. In this chapter I describe the recruitment process, participants, questionnaire procedures, and design that were used to collect the data for this study. Copies of the recruitment announcement, informed consent documents, and questionnaire are located in Appendices A through C. To begin, I describe the ways in which participants were recruited.

Recruitment Process

The current study investigates the influence of group-based categorization within the student-teacher relationship from the standpoint of college students. In order to be included in the study participants had to be at least 19 years of age\textsuperscript{11}, currently enrolled in college, and be able to respond to the questionnaire while thinking about a target teacher that they have an opportunity to observe and interact with in a traditional face-to-face classroom setting at least 80% of the time.

In order to narrow the scope of the current study and maintain the focus on student-teacher interactions, only students who engage in face-to-face interactions with their teachers were selected to participate in this study. Students who took classes taught completely in an online format were not included. Online courses were defined as those in which 80% of the content was delivered in an online format using the Internet (I. E. Allen & Seaman, 2006).

Arguably, online courses continue to grow in popularity across college campuses

\textsuperscript{11} Participants that were 18 years old ($n = 20$) were allowed to participate in the current study if a parent or guardian signed a consent form that was turned in to the primary researcher. A copy of this Parental Consent Form is located in Appendix A.
and provide students with many benefits (e.g., time flexibility, location flexibility, economic incentives); however, including these types of courses is beyond the scope of the current study. Admittedly, excluding these courses may have limited the variability in the types of courses, and students (i.e., nontraditional student populations) that were included in the current study. In support of this choice, I deferred to research which indicates that when learning occurs asynchronously the nature and range of communicative interactions between students and teachers changes and this environment may not provide the richest opportunities for interaction (Bejerano, 2008). Given the focus of the current study on group-based categorization, it stands to reason that it may be difficult for students to form a meaningful assessment of their similarities and differences between themselves and their instructors in a completely online learning format.

In sum, to ensure students had the opportunity to interact face-to-face with their instructors, traditional classroom contexts were used in favor of completely online curricular formats. In the current study, participants only reported on traditional face-to-face classes.

Participants were recruited between the eighth and twelfth weeks of the Spring 2010 semester. This timeframe was chosen to provide students ample time to interact and form perceptions of their target instructor but limited so that the effects of receiving multiple grades in a course would not unduly influence their initial perceptions of their target instructor.

Students were recruited using the following four methods. First, direct announcements were presented in Communication Studies courses. Second, the research announcement was posted in the University of Nebraska-Lincoln’s Nformation weekly
newsletter, which was sent to all university students’ email addresses. Third, in an effort to increase the variability of student type (i.e., traditional and nontraditional student populations), the research announcement was emailed to 300 nontraditional students12. Fourth, an announcement was posted on the Department of Communication Studies’ Facebook page reminding students about all of the research opportunities ongoing in the department. To increase sample size snowball and network sampling was used to identify friends of participants who might be interested in participating in the study (Gramovetter, 1976). Prior to recruitment and data collection permission was obtained from the university’s institutional review board (IRB) and the approval number is located on the Informed Consent form in Appendix C.

During solicitation participants were provided with a copy of the research announcement or given a website address where they could access the research announcement on their own. A copy of the research announcement is located in Appendix B. Students who participated could receive extra credit when extra credit was offered; however, students were instructed that the teacher they chose to use for completing the questionnaire could not be the same teacher that would give them extra credit for participating in the study.

Participants

The recruitment process described above yielded a total of 472 undergraduate and graduate students. After removing those participants who visited the online questionnaire but did not complete or partially completed the online questionnaire (i.e., less than 95% completion rate), the final number of participants was 348. Kline (2005) indicated that

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12 In collaboration with the director of Registration and Records at the University of Nebraska-Lincoln and his viewing of the study’s IRB approval, he provided the email addresses only of students who were 25 years of age or older. This met one of Butler’s (1998) criteria for defining nontraditional students.
when using Structural Equation Modeling the minimum criteria should be ten participants for every indicator in a hypothesized model (Kline, 2005). The hypothesized model for the current study had 21 indicators and even with the reduced sample size, it remained within Kline’s guidelines. Therefore, a sufficient sample size was collected to analyze the hypothesized model. I now describe the demographic information gathered from the participants.

Participants were asked to provide personal demographic information, information concerning their social group memberships, and information about their target class and teacher who they responded about during the questionnaire. Participants’ age ranged from 18 to 64 years old ($M = 21.3, SD = 4.83$) and students’ perceived age for their target teachers ranged from 23 to 75 years old ($M = 40.1, SD = 12.58$). Due to the large volume of demographic data that were collected, all additional information is presented in Table 2. The demographic data provided by the participants indicates that the sample is adequately representative of the university population to allow external generalizability. In the next sections I describe the procedures used by participants to complete the questionnaire and then explain its design.

Table 2

*Participant, Target Teacher, and Target Class Demographic Data*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td><strong>Participant Demographics</strong></td>
<td></td>
<td></td>
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<tr>
<td>Sex:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>177</td>
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</tr>
<tr>
<td>Female</td>
<td>169</td>
<td>48.6</td>
</tr>
<tr>
<td><strong>School Status:</strong></td>
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<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>69</td>
<td>19.9</td>
</tr>
<tr>
<td>Sophomore</td>
<td>138</td>
<td>39.7</td>
</tr>
<tr>
<td>Junior</td>
<td>69</td>
<td>19.8</td>
</tr>
<tr>
<td>Senior</td>
<td>55</td>
<td>15.8</td>
</tr>
</tbody>
</table>
Graduate Student 8 2.3  
Other (e.g., second bachelors) 10 2.9

**Ethnicity:**
- Caucasian 284 81.6
- Asian 11 3.2
- Hispanic or Latino/a 9 2.6
- Black or African American 6 1.7
- Multiracial 6 1.7
- Other 2 1

**Social Group Memberships:**

*Gender*
- Male 164 47.1
- Female 158 45.4
- Other (e.g., transgendered) 2 0.6

*Sexual Orientation*
- Heterosexual 322 92.5
- Bisexual 6 1.7
- Gay male 2 0.6
- Lesbian woman 2 0.6
- Pansexual 1 0.3

*Religious Affiliation*
- Christian 267 76.7
- Agnostic 23 6.6
- Atheist 12 3.4
- Other 15 4.4
- None/Undecided 15 4.3

*Political Affiliation*
- Republican 156 44.8
- Democrat 76 21.8
- Independent 54 15.5
- Libertarian 12 3.4
- Socialist 4 1.1
- None/Undecided 16 4.6
- Other (e.g., conservative) 5 1.4

*Age Group*
- Young Adults 293 84.2
- Teenagers 23 6.6
- Adults 11 3.2
- Middle Aged 8 2.3
- Older Adult 1 0.3

**College Major (most commonly reported):**
- Business Administration 69 19.8
- Communication Studies 26 7.5
- Engineering 24 6.9
- Teaching, Learning and Education 20 5.7
- Accounting 20 5.7
**Target Teacher Demographics**

**Sex:**
- Male 182 50.9
- Female 169 48.6

**Target Class Information**

**Course Department**

*(most commonly reported):*
- Communication Studies 71 20.4
- English 27 7.8
- Economics 18 5.2
- Modern/Classical Languages 16 4.6
- Math/Math Education 15 4.3
- Business 14 4.0

**Class Size:**
- 1-15 Students 33 9.5
- 16-30 Students 134 38.5
- 31-49 Students 72 20.7
- 50-99 Students 46 13.2
- 100+ Students 62 17.8

**Class Format:**
- Lecture 145 41.7
- Lecture/Discussion 113 32.5
- Discussion-Based 86 24.7

*Note:* Percentage totals only reflect completed responses. Responses that were unclear or not provided by participants are not included in Table 2.

**Questionnaire Design**

In this section I describe the procedures participants engaged in to complete the questionnaire and the questionnaire design. The questionnaire used in this study was piloted using 14 undergraduate students enrolled in three different courses with three different instructors (one being the primary researcher). Those who helped to pre-test the questionnaire offered several minor suggestions for improvement such as ensuring consistent phrasing (e.g., instructor versus teacher) and clarifying the definition of “social group membership.” The pre-testers also helped simplify the wording of the directions
and questions to ensure clarity.

The piloted questionnaire took pre-test participants an average of 30 minutes to complete. During the debriefing session the majority of students indicated that the questionnaire was easy to complete and length was not a problem. These suggestions were carefully considered and changes were made prior to collecting data for the present study. The questionnaire materials and the approved informed consent form are located in Appendix C. The labels for each section of the questionnaire were not visible to the participants but are included in the questionnaire in Appendix C for clarity. In the next section I overview the procedures participants engaged in while completing the questionnaire.

**Questionnaire procedures.** After being solicited for inclusion in the study, students who chose to participate in the study were asked to complete an online questionnaire\(^{13}\) using the website Qualtrics.com. Qualtrics.com uses a secure server that encrypts data during transit to the website and no identifying information was used during analysis. Prior to completing the questionnaire, or seeing any of the questionnaire items, participants read an informed consent form (see Appendix C) and indicated their consent to participate in the study by selecting the “I Agree” tab on the informed consent page of the online questionnaire.

Students were instructed to complete the questionnaire while thinking about the instructor who taught the first class that they attended each week, where they had the opportunity to interact with the teacher in a classroom setting. This design model for collecting data is an adaptation of the “class before this one” or “prior class” model.

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\(^{13}\) All participants were given the option to complete the questionnaire in paper and pencil format; however, all participated completed the survey online.
typically used in instructional communication research (J. C. McCroskey & McCroskey, 2006) that has students report on the instructor who teaches the class immediately prior to the one in which the questionnaire is being completed. For this study, this adapted design model was more accessible than the “prior class” model for two reasons. First, the questionnaire was not administered during an actual class, which is typically the method used in the “prior class” design. Secondly, students could access and complete the online questionnaire at a time of their choosing, and focusing their attention on the first class they attended each week is something each student can easily recall. Nonetheless, the adapted stimulus prompt still ensured that data was obtained regarding multiple courses, disciplines and teachers. To avoid bias, students completing the questionnaire for extra credit were instructed not to complete the questionnaire on the teacher whose course they would receive extra credit in as a result of their participation in this study. Hence, if this occurred, students were asked to think of the next instructor who fits the required criteria of the study. On average, students were able to complete the questionnaire in 45 minutes.

Next, I describe the specific format and measures contained within each section of the questionnaire.

**Questionnaire format and measures.** The questionnaire was divided in to five parts (see Table 3 for summary). The order of the first four parts was randomized using Qualtrics options to prevent potential order effects. Unless otherwise noted, all scale items were measured on a seven-point Likert-type scale with the smallest number (1) indicating lowest levels of the construct and largest number (7) indicating highest levels of the construct (after reverse-coding). All measures have been proven reliable in previous studies or were tested in this study.
Table 3

Summary of Questionnaire Sections

<table>
<thead>
<tr>
<th>Section Label</th>
<th>Measure(s)</th>
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<tr>
<td>Informed Consent</td>
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</tr>
<tr>
<td>I: Teacher Communication Behaviors</td>
<td>Teacher Clarity, Content Relevance, Self-Disclosure, Confirmation, Accommodation</td>
</tr>
<tr>
<td>Verbal Communication Behaviors</td>
<td></td>
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<tr>
<td>Nonverbal Communication Behaviors</td>
<td>Nonverbal Immediacy</td>
</tr>
<tr>
<td>II: Group –Based Categorization</td>
<td>Homophily (Attitude and Background)</td>
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<tr>
<td></td>
<td>Social Identity Salience</td>
</tr>
<tr>
<td></td>
<td>Global Shared Social Identity</td>
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<td>III. Credibility</td>
<td>Teacher Credibility</td>
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<td>IV. Instructional Outcomes</td>
<td>Learner Empowerment, In-Class Participation, Affective Learning,</td>
</tr>
<tr>
<td></td>
<td>Relational Satisfaction, Communication Satisfaction</td>
</tr>
<tr>
<td>V. Demographic Information</td>
<td></td>
</tr>
<tr>
<td>Student Information</td>
<td>Age, Sex, College Level, Major</td>
</tr>
<tr>
<td>Target Teacher Information</td>
<td>Sex, Approximate Age</td>
</tr>
<tr>
<td>Target Class Information</td>
<td>Class Title, Discipline the course was taught from, Class Size, Instructional Methods used in class</td>
</tr>
</tbody>
</table>

*Note.* Demographic information regarding participant race/ethnicity was captured as part of the Social Identity Salience measure.

The first part of the questionnaire included six measures, which asked students’ about their perceptions of a target teacher’s verbal and nonverbal communication behaviors. The five measures of teacher verbal communication behaviors were teacher
clarity, content relevance, self-disclosure, confirmation and accommodation along a measure of nonverbal immediacy that assessed teacher nonverbal communication behaviors. Table 4 provides the means, standard deviations, ranges, and reliabilities for all measures with their corresponding variable name.

Table 4

Means, Standard Deviations, Ranges, and Cronbach Alphas for Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal and Nonverbal Teacher Communication Behaviors:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Clarity</td>
<td>5.41</td>
<td>1.06</td>
<td>.91</td>
</tr>
<tr>
<td>Content Relevance</td>
<td>4.59</td>
<td>1.13</td>
<td>.89</td>
</tr>
<tr>
<td>Teacher Self-Disclosure</td>
<td>3.67</td>
<td>1.32</td>
<td>.95</td>
</tr>
<tr>
<td>Confirmation</td>
<td>5.35</td>
<td>1.04</td>
<td>.93</td>
</tr>
<tr>
<td>Accommodation</td>
<td>5.15</td>
<td>1.29</td>
<td>.95</td>
</tr>
<tr>
<td>Nonverbal Immediacy</td>
<td>5.13</td>
<td>.96</td>
<td>.86</td>
</tr>
<tr>
<td>Social Identity Salience</td>
<td>5.30</td>
<td>.89</td>
<td>.87</td>
</tr>
<tr>
<td>Group-Based Categorization:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Homophily</td>
<td>3.78</td>
<td>.89</td>
<td>.86</td>
</tr>
<tr>
<td>Attitude Homophily</td>
<td>4.22</td>
<td>.98</td>
<td>.93</td>
</tr>
<tr>
<td>Global Perceptions of Shared Social Identity</td>
<td>3.64</td>
<td>1.25</td>
<td>--</td>
</tr>
<tr>
<td>Teacher Credibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence</td>
<td>6.05</td>
<td>.98</td>
<td>.90</td>
</tr>
<tr>
<td>Trust</td>
<td>5.97</td>
<td>.93</td>
<td>.89</td>
</tr>
<tr>
<td>Caring</td>
<td>5.25</td>
<td>1.20</td>
<td>.90</td>
</tr>
<tr>
<td>Learner Empowerment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>4.34</td>
<td>1.09</td>
<td>.80</td>
</tr>
<tr>
<td>Meaningfulness</td>
<td>5.21</td>
<td>1.29</td>
<td>.93</td>
</tr>
<tr>
<td>Competence</td>
<td>5.72</td>
<td>.97</td>
<td>.87</td>
</tr>
<tr>
<td>Overall</td>
<td>5.77</td>
<td>.93</td>
<td>.95</td>
</tr>
<tr>
<td>In-class participation</td>
<td>3.75</td>
<td>1.46</td>
<td>.94</td>
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<tr>
<td>Affective Learning</td>
<td>5.45</td>
<td>1.38</td>
<td>.89</td>
</tr>
<tr>
<td>Communication Satisfaction</td>
<td>5.22</td>
<td>1.22</td>
<td>.95</td>
</tr>
<tr>
<td>Relational Satisfaction</td>
<td>5.15</td>
<td>1.09</td>
<td>.81-.82</td>
</tr>
<tr>
<td>Affect for Teacher</td>
<td>5.91</td>
<td>1.28</td>
<td>.92</td>
</tr>
</tbody>
</table>

*Note.* Global Perceptions of Shared Social Identity is a single item question and therefore alpha reliability could not be calculated.
Teacher Communication Behaviors

Teacher clarity. Student perceptions of their teachers’ use of clarity behaviors were assessed using a modified version Chesebro and McCroskey’s (1998) Teacher Clarity Short Inventory (TCSI) instrument. The modified TCSI is a unidimensional scale and contained nine of the original 10 items. One of the original items was omitted because it focused on clarity of course projects rather than teacher clarity behaviors. Example items included “This teacher’s objectives for the course are clear” and “In general, I understand this teacher.” The TCSI scale has attained previous reliabilities ranging from .82 to .92 (Chesebro & McCroskey, 1998; B. K. Simonds, et al., 2006). For the current study, an average score was computed.

Teacher content relevance. Students’ perceptions of the frequency of their teachers’ use of content relevancy behaviors was assessed using a modified version of Frymier and Shulman’s (1995) Content Relevance Scale (CRS). The modified version of the CRS contained nine of the original 12 items. Redundant items were omitted to prevent fatigue along with items related to course assignments in order to maintain the focus on behaviors the teacher used in class. Example items included “This teacher uses examples to make the content relevant to me,” “This teacher asks me to apply content to my own interests.” This scale has attained previous reliabilities ranging from .84 to .88 (Frymier & Shulman, 1995; Mottet et al., 2008). For the current study, an average score was computed.

Teacher self-disclosure. Students’ perceptions of teacher self-disclosure was assessed using Cayanus and Martin’s (2004) Instructor Self-Disclosure Scale (ISD). The ISD is a unidimensional, 18-item scale. The ISD asks students to indicate their level of
agreement on the self-disclosure engaged in by their teacher. Example items included "My instructor expresses his/her beliefs" and "My instructor often talks about his/herself." This scale has attained previous reliabilities ranging from .92 to .96 (Cayanus & Martin, 2004; Hosek, 2009). For the current study, an average score was computed.

**Teacher confirmation.** Students’ perceptions of their teachers’ use of confirmation behaviors were assessed using a modified version of Ellis’s (2000) Teacher Confirmation Measure (TCM). The modified version of the TCM contained 14 of the original 16 items. Redundant items in the TCM measure or those similar to others (i.e., TCSI) were omitted (e.g., “This teacher smiles at the class”). The TCM contained three subscales which assessed confirmation behaviors across three dimensions (italics added to emphasis label of subscale): (a) teachers responses to students questions (e.g., “Is available for questions before and after class”) (five items), (b) demonstrated interest in students and their learning (e.g., “Communicates that he/she is interested in what students are learning”) (six items), (c) teaching style (e.g., “Uses and interactive teaching style”) (five items). This scale has attained previous reliabilities ranging from .93 to .95 for the 16-item measure, with the subscales ranging from .83 to .87 (Ellis, 2000, 2004; Goodboy & Myers, 2008; Schrodt, et al., 2006). Further, confirmatory factor analyses have provided support for discriminant and concurrent validity (Schrodt, et al., 2006). For the current study, average scores for each of the three subscales were computed.

**Accommodative communication.** Students’ perceptions of the accommodative aspects of teacher communication were assessed using a 7-item, Likert-type scale anchored by 1 (strongly disagree) and 7 (strongly agree). This measure was designed
specifically for the student-teacher relationship, and for this study. During the
development of this measure, communication accommodation research was consulted to
ensure questionnaire items reflected the accommodation construct (Harwood, 2000; Lin
& Harwood, 2003; Soliz & Harwood, 2006). Example items included: “This teacher
provides opportunities to discuss multiple onions and perspectives,” “This teacher
welcomes opinions different from his/her own.” I acknowledge that this scale has yet to
be measured to determine its reliability and validity. As such, I tested reliability estimates
after 168 participants completed the questionnaire and obtained a reliability estimate of
.94. This provided increased confidence towards using this measure in the present study.

For the current study, an average score was computed.

**Teacher nonverbal immediacy.** Students’ perceptions of teacher nonverbal
immediacy were assessed using a modified version of Richmond, McCroskey, and
Johnson’s (2003) Nonverbal Immediacy Scale (NIS) instrument. The NIS is the most
current measure of nonverbal immediacy and can be used as a self or other-report
(Mottet, Richmond, & McCroskey, 2006). The modified version of the NIS contained 10
of the original 26 items, designed to measure students’ perceptions of their teachers’
nonverbal behaviors. Redundant items were omitted. Also items regarding touch were
omitted, given the potential for students to misunderstand the intent of the question
regarding appropriate touch behaviors between students and teachers. Careful
consideration was taken to ensure the remaining items continued to represent the
dimensions of nonverbal behavior (e.g., facial expressions, eye contact, kinesics
behaviors, and gestures) outlined in the original NIS. Example items included: “This
teacher gestures when he/she talks to people” and “This teacher’s voice is monotonous or
dull when he/she talks to people.” This measure is a revision of earlier nonverbal immediacy measures which were found to be problematic in terms of reliability estimates (Richmond, et al., 2003). Reliabilities of .90 are reported for the updated NIS, along with increased face validity due to the variation of items and strong predictive validity (Mottet, Richmond, et al., 2006; Richmond, et al., 2003). The NIS has predictive validity with the nonverbal immediacy scale (an early version of the NIS). The raw validity correlations ranged from .58 to .82 and disattenuated validity correlations ranged from .74 to .95 (Richmond, et al., 2003). For the current study, an average score was computed.

The second part of the questionnaire included three measures, which examined the salience of students’ own social identities and group-based categorization. These three measures included social identity salience, homophily (attitude and background), and global shared social identity.

**Social Identity Salience**

The degree to which participants identify with specific social identities (i.e., age, gender, race/ethnicity, sexual orientation, political and religious affiliation) as being salient to their identity were measured using an adapted version of Garstka, Branscombe, and Hummert’s (1997) Age Group Identification Scale (AGIS). The modified version includes two items from the AGIS measure that relate specifically to the importance of group membership to an individual. Example items include: “Being a member of this race/ethnicity is central to who I am as a person” and “I have a clear sense of what it means to be part of this race/ethnicity.” This AGIS measure has attained previous reliabilities ranging from .80 to .83 for the 5-item scale (Edwards & Harwood, 2003; Garstka et al., 1997; Garstka, Schmitt, Branscombe, & Hummert, 2004; Hosek, 2009).
Five versions of this scale were created in order to assess identity salience regarding age group, ethnicity/race, sexual orientation, gender, religion, political affiliation, and an overall identity salience score. This yielded a 12-item measure. The wording of each question was changed with regard to each type of social identification variable being examined. In the current study, an overall average score was computed using the 12-item scale.

**Group-Based Categorization**

**Global perception of shared social identity.** Aron, Aron, and Smollan’s (1992) Inclusion of Other in the Self (IOS) scale was used to assess the extent to which students believed they and their teachers belong to similar social groups (i.e., are in a common ingroup or dissimilar outgroup regarding aspects of social identity). Aron et al. (1992) indicate that the measure is designed to assess interpersonal interconnectedness and relational closeness. For this reason this measure was uniquely suited to measure the degree of perceived shared social identity between students and teachers from the students’ perspective. Also, the IOS assesses closeness to another person and not a larger social group which makes this measure desirable over measures such as the Swann, Gomez, Seyle, Morales, and Huici’s (2009) Identity Fusion scale, which assesses one’s perceived relationships to a social group rather than individual relationships. The IOS consists of seven Venn-like diagrams, each representing different degrees of overlap among two circles. Students were asked to select the set of overlapping circles that best represented the degree to which they believed their target teacher and themselves share the same or different social group identities, in essence students indicated a global
assessment of shared social identity. The IOS has been widely used in research literature and has been found to be a valid and reliable measure.

Although Aron et al. argued that it is not possible to determine inter-item consistency on single item measures, they attempted to approximate reliability by conducting alternate forms of reliability checks using two versions of the IOS scale and attained reliability estimates of .93. Similarly, they conducted test-retest reliability checks between the original scale and responses obtained two weeks later, which achieved a reliability estimate of .83. The IOS has convergent validity with other measures of closeness such as the Sternberg Intimacy scale and discriminant validity. Further, the IOS has predictive validity to other measures such as the Sternberg Intimacy scale for predicting whether or not romantic couples were still in relationships during follow-up interview three months after the conclusion of the study. Based on these findings and the frequent use of the IOS in empirical research, it is presumed reliable within the present study. Participant selections of the Venn-diagrams were re-coded to 1 (no overlap) to 7 (greatest overlap). For the current study, an average score was computed.

Perceived attitude and background homophily. Students’ perceptions of their perceived attitude and background homophily with their instructor were assessed alongside perceived global shared social identity as a potential mediator. Perceived homophily was measured using McCroskey, McCroskey, and Richmond’s (2006) Revised Perceived Homophily scale (RPHS). The modified RPHS consists of 25 items designed to measure students’ perceptions of their perceptions of attitude homophily (e.g., “This person thinks like me.”) and background similarity (e.g., “This person’s
background is similar to mine”). The RPH scale has attained previous reliabilities ranging from .84 to .88 (McCroskey et al., 2006). This measure was chosen over the original scale developed by McCroskey, Richmond, and Daly (1975) based on scholarly research which suggested that the original measure achieved only moderate reliability estimates of .71 to .74 (see Elliot, 1979; Gudykunst, 1985). In a similar vein, during the pilot studies for the current investigation, Hosek (2009) also found acceptable but marginal reliability estimates for background homophily at .70; yet attitude homophily achieved a stronger reliability estimate of .92 when using the original measure.

Researchers have also questioned the validity of the original measure. For these reasons, the RPHS was used in the present study. For the current study, an average score was computed for attitude homophily and background homophily.

**Teacher Credibility**

The third part of the questionnaire contained one measure to assess students’ perceptions of the target teachers’ credibility. Students’ perceptions of teacher credibility was assessed using Teven and McCroskey’s (1997) Teacher Credibility scale. This 18-item measure asked students to evaluate their instructor on three dimensions of credibility using 7-point bipolar scales. The three dimensions of credibility include: competence (e.g., “Untrained/Trained”), trustworthiness (e.g., “Ethical/Unethical”), and goodwill/caring (e.g., “Not understanding/Understanding”). The validity and reliability for this measure and earlier versions is well documented with previous reliabilities for the combined and separate dimensions ranging from .80 to .94 (Banfield, et al., 2006; Schrodt & Witt, 2006; Teven & McCroskey, 1997). For the current study, an average score was computed for the three subscales.
Instructional Outcomes

The fourth part of the questionnaire contained six measures that asked students to reflect on the instructional outcomes of interest in this study (i.e., learner empowerment, in-class participation, affective learning, affect for teacher, teacher/student relational satisfaction, and teacher/student communication satisfaction). This section explains the instructional outcome measures included in the questionnaire.

Learner empowerment. The extent to which students felt a sense of empowerment in their learning was assessed using the shortened version of the Learner Empowerment scale (LES), which was developed and tested by Weber et al. (2005). This 18-item Likert-type scale measured students’ feelings of empowerment across three dimensions of meaningfulness (e.g., “The work that I do for this class is valuable to me”), impact (e.g., “My participation is important to the success of this class”), and competence (“I can do well in this class”). The shortened version is a modification of Frymier et al.’s (1996) original 29-item measure. Weber et al. argued that the factor structure remains strong and consistent and no observed differences exist among the long and short versions of the LES. Further, their findings suggested that the extra items in the long version did not add any statistically significant evidence to suggest that they increase the reliability or descriptive, explanatory, or predictive power over the short version. Previous researchers have established the validity and reliability of the original LES and its subscales (Frymier, et al., 1996; Weber & Patterson, 2000), with previous reliability estimates ranging from .88 to .95 for each of the three subscales and from .89 to .93 for the total index. Additionally, when shorter versions of the LES have been employed (i.e., 30-item or 18-item), reliability estimates remain consistently strong ranging from .88 to
.93 for each of the three subscales and .91 for the total index (Schrodt, et al., 2008, November; Weber, et al., 2005). In fact, Weber et al. argued that these are nearly identical reliability estimates to those obtained from when using the 29-item measure.

For these reasons and to reduce participant fatigue and general length of the questionnaire, the modified 18-time version of the LES was used in this study. For this study, the three dimensions of empowerment served as indicators of the Learner Empowerment latent construct in the model and a composite score will be computed using the subscales for each dimension. Additionally, a total average score was computed using the 18-item scale along with averages for the three subscales.

**Student in-class participation.** Students’ participation was assessed using a modified version of Fassinger’s (1995) measure of classroom participation. For this study, one item was omitted from the original measure. This item asked participants to indicate numerically how often they made a comment or asked a question during a typical class period and was omitted based on arguments set forth by researchers who have used this measure in a similar manner. These researchers argue that it is possible for participants to under- or overestimate the number of times they participate during a class period, and for this reason I chose to omit the first question for this study (Goodboy & Myers, 2008; Myers & Rocca, 2007). The modified version asked participants to indicate the frequency with which they engaged in class discussion. Example items included "I contribute to class discussion more so than my classmates" and "I frequently volunteer in class." This scale has attained previous reliabilities ranging from .92 to .93 (Goodboy & Myers, 2008; Myers, et al., 2009; Myers & Rocca, 2007). For the current study, an average score was computed.
**Student affective learning.** Affective learning deals with attending to, altering, or reinforcing students’ attitudes, values, and underlying emotions or feelings as they relate to the knowledge and skills they have developed (Mottet & Beebe, 2006). Affective learning was measured using a modified version of McCroskey’s (1994) Affective Learning Scale (ALS). This modified 6-item measure has two sub-factors with each sub-factor containing 7-point bipolar scales. The first sub-factor (3 items), measures students’ attitude about the content they are learning using the following bipolar adjectives: bad/good, valuable/worthless, and negative/positive. Higher mean scores reflected more positive attitudes towards the course content. This sub-factor will be labeled “Attitude” throughout the remainder of the manuscript.

The second sub-factor (3-items), measures students’ interest in taking additional coursework in the same content are during their college career using the following bipolar adjectives: not likely/likely, would not/would, and not interested/interested. Higher mean scores reflect greater interest in taking additional courses in college. For the current study, an average score was computed by combining scores on the two subscales.

**Teacher-Student relational satisfaction.** Current relational satisfaction was assessed using an adapted version of Huston, McHale, and Crouter’s (1986) marital opinion questionnaire (MOQ). This measure was used to evaluate relational satisfaction because it evaluates participants’ current feelings (Vangelisti, Young, Carpenter-Theune, & Alexander, 2005). The directions for the scale were adapted to reflect the present investigation so that participants responded regarding their feelings about the current relationship with their instructor. The scale is composed of nine of the original 11 sets of
adjective pairs and asks participants to rate on 7-point scales their feelings about their
current relationship (e.g., (1) “empty” to (7) “full.”). The adjective pair which asked
participants if they felt free/tied down in their relationship was omitted since it did not tap
in to the student-teacher relationship as clearly and appropriately as the other items. In
essence, the nature of being tied down or free is suited for the intent of the original
measure regarding relational satisfaction among romantic partners. As such, this item
was removed in order to maintain the focus on measuring student/teacher relational
satisfaction that is not romantic in nature. This served a dual purpose since this item is a
“filler” item that was removed during scoring (Huston, et al.). An additional single-item
measure asked participants to indicate their overall relational satisfaction ranging from
(1) completely satisfied to (7) completely dissatisfied. The adapted version for this study
is comparable to the modified version Vangelisti (1992) used to measure adolescent
relational satisfaction with their parents. Three of the 10 items were reverse coded such
that higher scores reflect higher levels of teacher-student satisfaction. Per Huston et al.’s
guidelines, two items that serve as fillers were dropped from the analysis (free-tied down,
hard-easy) prior to averaging the remaining eight semantic differential items ($\alpha = .81$).
The average score of these items were then averaged with the additional single item
which measured global satisfaction to provide an overall student-teacher relational
satisfaction score ($M = 5.15, SD = 1.09$). Reliability is assessed by calculating the
Cronbach’s alpha for the first ten items and then correlating that average of those items
with the global satisfaction item. This scale has attained previous reliabilities ranging
from .91 to .95 for the 10 sets of adjective pairs and a correlation coefficient of .96
between the 10 semantic differential totals and the single-item measure (Koenig Kellas,
In the current study, this correlation of .82, along with an alpha of .81 suggests that this scale is reliable.

The modified version of the MOQ was chosen over other measures such as Hecht’s (1978) Interpersonal Communication Satisfaction Inventory (ICSI) and Goodboy, Martin, and Bolkan’s (2009) Student Communication Satisfaction scale (SCSS) because these measures focus on students’ perceptions of the communicative satisfaction with their teachers as opposed to their relational satisfaction. More specifically, the ICSI measures communication satisfaction surrounding a specific conversation and do not represent a global assessment of communication satisfaction. Whereas, the SCSS is an appropriate measure to assess student communication satisfaction with an instructor given that the items focus on global satisfaction over the course of a semester and represent communication satisfaction with a non-intimate partner, the focus remains on the satisfaction with the communicative encounter (Goodboy, et al., 2009). While these measures represent valid operationalizations of communication satisfaction, within the current study it is important to analyze the relational satisfaction between students and teachers given the argument set forth in Chapter Two regarding the interpersonal qualities embedded in the student-teacher relationship. Also, it stands to reason that the extent to which students feel a sense of connection or perceive their teachers to be in their common ingroup may have implications for how satisfied they are with this particular relationship.

**Student communication satisfaction.** Students’ communication satisfaction with their instructor was measured using Goodboy et al.’s (2009) Student Communication Satisfaction scales – short form (SCSS). The SCSS is a global measure of students’
communication satisfaction with their instructions. As previously mentioned, the SCSS represents an appropriate measure to examine student communication satisfaction with their instructors because the questions are designed to solicit perceptions regarding students’ communicative satisfaction with their instructors. The 8-item scale is a shortened version of the original 24-item measure. Example items include “My communication with my teacher feels satisfying” and “I dislike talking with my teacher.” Goodboy et al. argued that the 8-item measure is preferable to the 24-item measure given its brevity, the two measures are theoretically isomorphic, and initial studies reported nearly identical results regardless of which version was used. The 8-item version of the SCSS has attained previous reliabilities ranging from .96 to .98 (Goodboy, et al., 2009).

Although the SCSS has not been widely used to date given its recent development, initial results suggest concurrent validity with the Attributional Confidence Scale, revised Affective Learning Measure, and Student Motives for Communicating scales, in addition to establishing initial discriminant validity with the ICSI. For the current study, an average score was computed.

**Affect for teacher.** Students’ affect for a target teacher was measured by the third sub-factor of McCroksey’s (1994) Affective Learning Scale (ALS). The modified 4-item scale included the following bipolar adjectives: bad/good, non valuable/valuable, unfair/fair and negative/positive. Higher mean scores reflected more positive attitudes towards the target teacher. This original 16-item scale, which included all three subscales has attained previous reliabilities ranging from .92 to .96 for the 16-item measure (Goodboy & Myers, 2008; Hosek, 2009), with subscales ranging from .82 to .95 (Mottet, et al., 2008). For the current study, an average score was computed.
The fifth part of the questionnaire asked students to provide the following demographic information regarding the target teacher: (a) teacher’s biological sex, (b) approximate age, (c) title of the class, (d) the discipline the course is taught from, (e) class size, and (f) primary instructional method (i.e., lecture, lecture/discussion, activity based). Additionally, this part of the questionnaire includes a series of demographic questions about the participant such as, age, student status (e.g. traditional/nontraditional), college level (e.g., freshman, sophomore, junior or senior), and major.

During data analysis I discovered that the total percentage of missing data was less than 1% (i.e., .69% total missing data) and as a result of this low percentage, missing values were replaced with the series mean for each variable (Harlow, 2005).

Summary

In this chapter I described the methods used to collect data. The self-report questionnaires and procedures used to assess college students’ perceptions of teacher communication behaviors, teacher credibility, group-based categorization, and instructional outcomes were all discussed. The next two chapters present the data analysis and results of this study, which were derived from the data gathered from the questionnaires. Specifically, in Chapter Four I address the principles, processes and results of the Confirmatory Factor Analysis on the hypothesized model. In Chapter Five I explain the principles, processes, and results of the Structural Analysis on the hypothesized model.
Chapter Four

Confirmatory Factor Analysis (CFA) Results

This study examines the ways in which teacher verbal and nonverbal communication messages along with perceptions of credibility and group-based categorization impact instructional outcomes. I examined the data by performing a series of structural equation modeling (SEM) analyses using Mplus 4.0 (Muthen & Muthen, 2006). SEM was chosen over other statistical approaches (e.g., multiple regression) for four main reasons. First, this statistical approach allows researchers to test the unique and combined effects of teacher verbal and nonverbal messages and group-based categorization on instructional outcomes. For example, through SEM, I am able to investigate the ways in which each teacher verbal behavior predicts group-based categorization and examine their combined contributions as a latent construct on group-based categorization. Second, SEM corrects for measurement error and estimates the variances and covariances in one analysis which provides a more accurate assessment of the unbiased population parameters in a given model (Kline, 2005). In general, the benefit of accounting for measurement error rests in the fact that traditional analysis (e.g., regression) ignores errors that can reside in the independent variables and this can result in incorrect or misleading research conclusions (Raykov & Marcoulides, 2006).

Third, using SEM allows researchers to examine complex relationships such as those presented in the hypothesized model for this study. Examining these complexities is possible with SEM because it allows the researcher to test the direct and indirect effects between the latent constructs (Raykov & Marcoulides, 2006). The hypotheses I posed in the previous chapter address the direct effects from the teacher communication
behaviors (e.g., verbal and nonverbal) to the dependent variables (e.g., learner empowerment, in-class participation, affect for teacher, affective learning, and student-teacher satisfaction). Importantly, in adopting a SEM approach I was able to determine the direct effects of teacher communication behaviors, if any, on the outcome variables as well as determining the mediation effects, if any, that resulted from teacher credibility and group-based categorization (i.e., attitude homophily, background homophily, and global shared social identity). By examining complex relationships, I address the critiques from researchers who suggest that instructional research tends to focus heavily on linear relationships between variables and lacks a complex understand of multiple variables and how they impact the learning environment (Sprague, 1992, 2002).

Fourth, an important benefit of SEM is that the procedure allows researchers to analyze the hypothesized model and resulting hypotheses using a two-step SEM approach (Anderson & Gerbing, 1988) and examine the validity of the measured used in a study. Anderson and Gerbing (1988) explain the process as follows:

The model-building task can be thought of as the analysis of two conceptually distinct models. A confirmatory measurement, or factor analysis, model specifies the relations of the observed measures to their posited underlying constructs, with the constructs allowed to intercorrelate freely. A confirmatory structural model then specifies the causal relations of the constructs to one another, as posited by some theory. (p. 411)

Anderson and Gerbing (1988) further argued that conducting separate estimation (and modifications) of the measurement model (i.e., conducting confirmatory factor analysis) prior to estimating the measurement model and structural models together
provides important gains in theory testing and establishing construct validity. Further, Bentler (1978) contends that examining the measurement model alongside the structural model allows a comprehensive confirmatory assessment of construct validity.

To summarize the two-step approach, first I conducted a confirmatory factor analysis (CFA) to examine the measurement structure of the latent constructs and indicators in the model. In the second phase I inspected the structural model to answer the hypotheses of this study.

To ensure clarity and to appropriately describe each phase of the data analysis process I have separated the results of the current study into two chapters. The current chapter describes the purpose and results surrounding the confirmatory factor analysis (CFA) and describes the second step in the process, testing the structural model.

**Purpose of Confirmatory Factor Analysis in SEM**

To begin, I explain the purpose of conducting a CFA when using structural equation modeling. According to Raykov and Marcoulides (2006), the factor analysis step in model testing was originally developed by psychologists interested in studying unobservable, hypothetical variables (e.g., motivation, intelligence, and learning). Social scientists tend to refer to these unobservable variables as latent variables/constructs and concur that the degree to which an individual exhibits this unobservable latent variable can be directly observed and measured on proxy dimensions of the latent variable known as indicators (e.g., scores on an intelligence test). When researchers’ conduct exploratory factor analysis (EFA) the goal is exploratory for the purpose of determining how many factors, or latent constructs, are needed to effectively explain the relationships among a set of observable measures (e.g., to determine the factor structure on a given scale
measure). In contrast, when researchers’ conduct confirmatory factor analysis (CFA) the relationships among the measures already exist and the CFA serves to test and confirm the preexisting relationship. In other words, the goal of an EFA is to determine the factor structure and the goal of CFA is to confirm and study the particulars of the implicit factor structure (Raykov & Marcoulides).

CFA is useful in determining the measurement structure of the latent variables in a model. According to Anderson and Gebring (1988), “A confirmatory factor analysis model, or confirmatory measurement model, specifies the posited relations of the observed variables to the underlying constructs, with the constructs allowed to intercorrelate freely” (p. 411). The measurement model (i.e., CFA) provides an assessment of convergent and discriminant validity (Campbell & Fiske, 1959) and once acceptable convergent and discriminant validities are found then structural model testing is conducted in order to confirm that the given constructs behave similarly to other related constructs of interest within the study (i.e., nomological validity; Cronbach & Meehl, 1955). In regard to the current study, before I could test the hypothesized structural model, I needed to confirm the validity of the latent variables by determining if the observed variables actually represented the latent variables in the manner in which I proposed in Chapter Two.

In all, establishing measurement validity is important to all research studies because it is ultimately needed to derive significant empirical results (Levine, 2005). However, Levine (2005) argued that much of the published communication literature fails to accurately report or test for validity and this renders little knowledge in regard to the convergent and divergent validity of the constructs we study. Although Levine
indicates that validation studies provide some evidence of validity, they do not provide a
guarantee of validity. Ideally, Levine argued that a program of validation research would
include multiple methods to indicate a stable and consistent factor structure and
replication across multiple contexts and samples in order to establish convergent,
discriminant, and predictive validity. Levine contends that CFA is a useful way to
provide information on validity because it indicates whether items measure the same or
different constructs. Finally, Levine points out a troubling occurrence regarding the lack
of validation when he states, “Few scales are so thoroughly validated that assurance of
validity is unnecessary” (p. 337). In the present study, I explore the convergent and
divergent validity of the constructs under investigation and in doing so address Levine’s
concerns and add to the limited body of knowledge regarding the validity of these
instructional communication constructs.

In the process of CFA, theory is first consulted to derive the model that is to be
tested and then the model is tested for consistency using the observed data. Once the
analysis is conducted the statistical program (in the case of the current study Mplus)
provides recommended modifications to improve the proposed model fit. If any
modifications are to be made to the model it must be done by consulting theory and
empirical research. In other words, only modifications that are supported and consistent
with extant research and theorizing should be made.

Now that I have clarified the purpose of CFA, the next section describes the
results of the CFA on the original hypothesized model presented in Chapter Two. Then I
explain the subsequent modifications that resulted from the CFA analysis.
Preliminary Results of Initial Confirmatory Factor Analysis

In this section, I summarize a 4-pronged CFA analysis approach. First I begin by explaining the results of the preliminary CFA. Second, I explain the modifications that resulted from the preliminary CFA. Specifically, I articulate the rationale for the modifications to the teacher verbal communication behaviors and teacher credibility constructs along with modifications to the outcome variables learner empowerment and affective learning. Third, I discuss my reasoning for removing student-teacher relational satisfaction and affect for teacher from the hypothesized model. Finally, I explain the results of the modified measurement model (i.e., CFA) and its associated fit indices.

During the first step I conducted a series of CFA analyses to test the relationship between the nine latent constructs and indictors for this study. I grouped each of the latent variables into their respective indictors using extant research and measures. When a scale utilized subscales, said subscales became the indicators for that latent construct (e.g., teacher credibility has three subscales: competence, caring, trustworthiness, which served as the three indicators of the latent variable of teacher credibility). However, latent constructs that had one indicator or were measured using unidimensional scales were treated as single-indicator constructs (e.g., in-class participation). Table 5 summaries the latent variables and their observable variables (i.e., indicators) that represent each latent variable for the hypothesized model\(^\text{14}\).

\(^\text{14}\) The descriptions listed in Table 5 represent the initial variables proposed in the hypothesized model which was previously described in Figure 2 and do not reflect any modifications that resulted from the CFA. The modifications and subsequent changes to the latent-indicator labels will be described in following sections.
Table 5

*Latent Variables and Corresponding Indicators for Hypothesized Model*

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<tr>
<th>Latent Variable</th>
<th>Indicators</th>
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<tr>
<td>Teacher Verbal Communication Behaviors (VTB)</td>
<td>Clarity, Content Relevance, Self-Disclosure, Confirmation, Accommodation</td>
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<tr>
<td>Teacher Nonverbal Communication Behaviors (NVTB)*</td>
<td>Nonverbal Immediacy</td>
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<tr>
<td>Teacher Credibility (TC)</td>
<td>Competence, Caring, Trustworthiness</td>
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<td>Attitude Homophily</td>
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<td>Background Homophily (BH)*</td>
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<td>Global Shared Social Identity (GSSI)*</td>
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<td>Learner Empowerment (LEmpt)</td>
<td>Impact, Meaningfulness, Competence</td>
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<td>In-Class Participation (ICP)*</td>
<td>In-Class Participation</td>
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<td>Affect for Teacher (AfT)*</td>
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<td>Affective Learning (AL)</td>
<td>Content, Content Area</td>
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<tr>
<td>Student-Teacher Satisfaction (SAT)</td>
<td>Relational Satisfaction, Communication Satisfaction</td>
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</table>

*Note.* * indicates a single indicator of the same name as the latent construct that it represents.

For this analysis, all latent constructs were free to vary with the exception of single- indicator latent constructs. Kline (2005) states that researchers want to use constructs that have multiple indicators because they tend to be more valid and reliable than single-indicator constructs. Although ideal, Kline acknowledges that multiple indicators are not always available and thus the researcher must use single-indicator
constructs. Yet, when using single-indicator latent constructs the researcher can still account for measurement error to achieve a more unbiased assessment of the relationship among the variables. In the current study, I accounted for this by setting the error term for single-indicator latent constructs using the following formula: \((1 - \alpha) \times \text{variance}\) (Bollen, 1989; M. T. Stephenson & Holbert, 2003). This technique is commonly used among researchers because it allows the researcher to manually set the error term (Bollen, 1989).

Ultimately, the goal of conducting a CFA is to determine the convergent and divergent validity of the latent variables. Determining the validities surrounding the latent variables is important because it would allow me to confirm that the observed variables (i.e., indicators) did in fact represent the corresponding latent variable (i.e., convergent validity) and that they were conceptually different from the other indicators indicating divergent validity (i.e., more than one indicator does not measure the same variable). To do this, I inspected three model fit indices: chi-square goodness of model fit test \(\left(\chi^2\right)\), comparative fit index (CFI), root mean squared error of approximation (RMSEA), and standardized root mean square residual (SRMR). These indices report how closely a proposed model fits the observed data based on acceptable values of model fit as (i.e., \(\chi^2\) closer to 0, > .95 for CFI, < .06 for RMSEA, < .08 for SRMR, and \(\chi^2/df < 3\)) outlined by Brown and Cudeck (1993) and Hu and Bentler (1999). In order to account for the sensitivity of sample size, Kline (2005) suggested dividing the chi-square statistic by the degrees of freedom (i.e., \(\chi^2/df\)). This process is known as normed chi-square (NC) and is used to determine overall goodness of fit. Researchers indicate that although here is no
definitive acceptable value, values of 2.0, 3.0, and even 5.0 suggest reasonable fit (Bollen, 1989; Kline, 2005).

To improve model fit and address any issues of convergent/divergent validity, I examined modification indices, indicator-latent loadings, and zero-order correlations. The zero-order correlations are presented in Table 6. According to the standards for model fit (Browne & Cudeck, 1993; Hu & Bentler, 1999) the preliminary CFA values represented a poor model fit: \(\chi^2 (N = 348, 142) = 807.22, p < .001; \chi^2/df = 5.25, CFI = .88, RMSEA = .12 (90\% CI = .108-.124), SRMR = .06.\) As a result of the poor model fit the next step in conducting the CFA was to examine the outputs related to the intercorrelations among the indicators, loadings of the indicators on the latent constructs, and the modification indices to determine where potential modifications could be made to improve model fit.

Based on my inspection of these outputs, I inferred that the poor model fit resulted from validity issues among the latent variables. Specifically, I argue that there were convergent and divergent validity issues with teacher verbal communication behaviors, learner empowerment, affective learning, teacher-student satisfaction, affect for teacher, and attitude homophily. I explain the rationale for the modifications I made to the hypothesized model in the next section.

**Hypothesized Model Modifications**

Based on these threats to divergent and convergent validity, I modified teacher verbal communication behaviors, learner empowerment, affective learning, and removed teacher-student satisfaction, affect for teacher, and perceived attitude homophily from the model. As previously mentioned, modifications should only be made when they are
supported by theory and empirical research. As such, I consulted existing research and theory to ensure that the changes I made were empirically grounded. Therefore, I now explain that rationale and summarize the modifications made to the latent constructs of teacher verbal communication behaviors (TVB), teacher credibility (TC), learner empowerment (LEmp), affective learning (AL), student-teacher satisfaction (SAT), affect for teacher (AfT), and perceived attitude homophily. In the next sections I clarify the rationale for these modifications. It is important to note that the modifications which I explain in the forthcoming sections are not data-driven and do not change the direction or nature of the hypotheses presented in Chapter Two. However, they serve as an initial step to analyzing the measurement model to make sure it accurately reflects and fits the data collected in the present study.

**Modifications to teacher verbal communication behaviors.** In the initial hypothesized model, teacher verbal communication behaviors (TVB) were represented by five observed variables (i.e., indicators): (1) teacher clarity, (2) content relevance, (3) self-disclosure, (4) teacher confirmation, and (5) teacher accommodation. In other words, TVB was represented as a multi-dimensional construct. After running the initial CFA, I modified the latent construct of teacher verbal communication behaviors. Upon examining the correlation matrix (see Table 6), modification indices, the nature of each of the TVB scale item questions and current instructional communication studies using SEM (e.g., Schrodt, et al., 2006; Schrodt et al., 2008; Schrodt, et al., 2009), I argue that the original combined latent construct of teacher verbal communication behaviors posed threats to convergent validity. Specifically, the construct lacked high convergent validity which means that the indicators did not collectively represent a general construct of
teacher verbal communication behaviors (Kline, 2005). To follow, I explain two instances in the present study that illustrated these threats to convergent validity. Further, I clarify how separating the teacher verbal communication behaviors into five individual latent constructs reduces these threats and remains consistent with current instructional communication research employing SEM.

Although the TVBs (excluding self-disclosure) were moderately correlated with each other, the modification indices suggested correlating the residuals of several of the indicators (e.g., accommodation, confirmation, and clarity) and engaging in this practice is a point of contention among researchers. Specifically, researchers have suggested that correlating residuals (i.e., measurement errors) in SEM when done Post-hoc almost always improves model fit (Gerbing & Andersen, 1984) but often does so at the expense of “…theoretical elegance and empirical interpretability of a study” (Bagozzi, 1983, p. 451). In other words, when errors are correlated after data analysis, model fit typically improves but typically results in invalidity (Levine, 2005) and distort the applicability of theory. For these reasons, I chose not to correlate the indicators to improve model fit.

Further, the suggestion to correlate the verbal teacher communication behaviors indicated that they might be better examined as individual latent constructs (i.e., exogenous variables) because exogenous variables are correlated in model testing.
Table 6

Intercorrelations of Indicators

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

(continued on next page)
The recommendation to separate the teacher verbal communication behaviors into individual latent constructs was further affirmed by the lack of strong correlations among self-disclosure and the other TVB indicators. In other words, when intercorrelations are high (e.g., >.85), variables that appear to measure separate things actually measure the same thing (Kline, 2005). For example, the correlation between self-disclosure and content relevance was $r = .39$ which indicates a lack of strong intercorrelations between

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<td>5. Accommodation</td>
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<td>10. Background Homophily</td>
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<td>12. Global Shared Social Identity</td>
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<td>13. Impact (of LEmpt)</td>
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<td>14. Meaningfulness (of LEmpt)</td>
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<td>16. In-Class Participation</td>
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*p < .05, **p < .01
the TVB indicators. For these reasons, it is warranted to examine self-disclosure as a separate latent construct. Further, recent research by Schrodt and colleagues lends support to this decision. In their research they have used SEM to study teacher communication behaviors (i.e., confirmation, clarity, and power) by examining each behavior as a separate latent construct as opposed to combining various teacher behaviors in to one latent construct.

In all, the approach used by Schrodt and colleagues is preferable because it allows for the researcher to examine the unique contributions of each teacher behavior examined within the model. Further, focusing on the teacher verbal communication behaviors as individual latent constructs reduces the threats to construct validity as described above for the present study. For these reasons I modified the latent construct of teacher verbal communication behaviors by creating five separate latent constructs labeled teacher clarity, content relevance, teacher self-disclosure, teacher confirmation, and accommodation. I also noticed threats to divergent validity within the construct of teacher credibility. As such, the next section describes the modifications I made to this latent construct.

**Modifications to teacher credibility.** In the initial hypothesized model and consistent with research and theory (J. C. McCroskey & Teven, 1999b; J. C. McCroskey & Young, 1981; Teven & McCroskey, 1997) the latent construct of teacher credibility (TC) was represented by the three observed variables (i.e., indicators) of competence, trustworthiness, and caring. In examining the modification indices, I observed a potential loading of the two TC indicators of trustworthiness and caring on numerous other latent
variables (e.g., TVB, AH, LEmpt, BH, Aft, and SAT), thus threatening divergent validity.

In an effort to reduce the threats to divergent validity, I elected to modify the latent variable of teacher credibility by creating three parcels using the 18-item TC scale. This approach is consistent with current research which suggests that the threats to validity can be reduced when indicators of teacher credibility are formed using a parceling technique (see Schrodt, et al., 2009). To clarify, parcels are “aggregate-level [indicators] comprised of the sum (or average) of two or more items, responses, or behaviors (Little, Cunningham, Shahar, & Widaman, 2002). The parceling technique offers advantages over using subscales or items as indicators such as greater reliability, increase precision in terms of identifying the latent construct, and fewer parameter estimates (Kline, 2005; Little, et al., 2002).

To create the parcels I used a similar approach to the one used by Schrodt et al. (2006, 2009) in their investigations of teacher credibility. I used a random assignment approach to parcel the credibility construct that assigns items from each dimension of credibility to a given parcel (i.e., each parcel contained two items from each dimension of the credibility construct). Table 7 summaries the item-parcel relationship. In this table, I illustrate the bipolar adjectives and corresponding dimensions of teacher credibility (e.g., competence, trustworthiness, and caring) that were randomly selected to represent each parcel. For example, the first parcel, CPar1, represents items one, three, four, nine, eleven, and twelve of the TC measure. The parceling approach was well suited for the teacher credibility construct; however, additional modifications were needed to the
learner empowerment and affective learning constructs. Next, I explain those modifications.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Parcel</th>
<th>Questionnaire Items</th>
</tr>
</thead>
<tbody>
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<td><em>Teacher Credibility</em></td>
<td>CPar1</td>
<td>1. Intelligent-Unintelligent (COMP)<em>&lt;br&gt;3. Cares about me-Doesn’t care about me (CARE)</em>&lt;br&gt;4. Honest-Dishonest (TRUST)<em>&lt;br&gt;9. Concerned with me-Not concerned with me (CARE)</em>&lt;br&gt;11. Informed-Uninformed (COMP)<em>&lt;br&gt;12. Moral-Immoral (TRUST)</em></td>
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<td>CPar2</td>
<td>2. Untrained-Trained (COMP)</td>
<td>5. Has my interests at heart-Doesn’t have my interests at heart (CARE)<em>&lt;br&gt;6. Trustworthy-Untrustworthy (TRUST)</em>&lt;br&gt;13. Incompetent-Competent (COMP)&lt;br&gt;14. Unethical-Ethical (TRUST)&lt;br&gt;15. Insensitive-Sensitive (CARE)</td>
</tr>
</tbody>
</table>

*Note:* Teacher credibility scale asked students to evaluate their instructor using 7-point bipolar scales. The label COMP represents items from the competence dimension, TRUST represents items from the trustworthiness dimension, and CARE represents items from the competence dimension of teacher credibility. *Items are reverse-coded.
Modifications to learner empowerment and affective learning. After running the initial CFA, I modified the latent constructs of learner empowerment and affective learning by combining them into one latent construct labeled Student Learning Outcomes with learner empowerment and affective learning serving as the two indicators of the construct. Upon investigating the modification indices I noticed multiple loadings for two of the three indicators of learner empowerment (e.g., impact and meaningfulness) on affective learning. While this at once threatens divergent validity because of the multiple loadings, it makes theoretical sense because both the impact and meaningfulness dimensions of LEmpt relate to students’ feelings of liking and appreciation for course content (i.e., affective learning). In addition, upon inspecting the correlation matrix (see Table 6), the meaningfulness dimension of LEmpt exhibited moderate-high correlations with both dimensions of affective learning (e.g., content and content area) at $r = .63$ and $.70$ respectively. As a result of these two factors I argue that it stands to reason that both affective learning and learner empowerment represent similar concepts and can be examined as indicators of overall student learning outcomes. Thus, combining them into a single latent construct with these two indicators was warranted.

In support of this modification I again consulted current instructional communication research using SEM to examine student learning outcomes. In fact, in their study Schrodt et al. (2009) conceptualized student learning outcomes as a latent construct with affective and cognitive learning outcomes, and their affective indicators of student learning were learner empowerment and affective learning. The results of their study indicated that this approach was well suited to their investigation and learner empowerment and affective learning accurately reflected the latent construct of student
learning outcomes during data analysis. Thus, in an effort to remain consistent and
grounded in current research approaches that study learning outcomes using an SEM
approach and to reduce the threats to convergent and divergent validity, I created a new
latent construct of Student Learning Outcomes with the indicators of learning
empowerment and affective learning. Although I modified several of the latent variables
to improve the model, the latent variables of student-teacher satisfaction and affect for
teacher were removed from the model. In the next two sections I explain the rationale for
these choices.

**Removal of student-teacher satisfaction.** After analyzing the results of the
initial CFA, I removed the latent construct of student-teacher satisfaction because of
threats to convergent and divergent validity. Two indicators represented this latent
variable: (a) relational satisfaction, and (b) communication satisfaction. Specifically, the
correlation matrix revealed that both indicators had moderate to high correlations with all
of the variables in this study (except for the self-disclosure indicator of TVB, global
shared social identity, in-class participation, and the affect for content area indicator of
AL). These moderate to high intercorrelations illustrated the potential threats to
convergent and divergent validity because the indicators of student-teacher satisfaction
could be measuring other constructs in the model (Kline, 2005). Furthermore, in
inspecting the modification indices I recognized a potential loading of relational
satisfaction and communication satisfaction on two other latent variables, teacher verbal
behaviors and teacher nonverbal behaviors, thereby threatening divergent validity. In
essence, relational and communication satisfaction may not solely represent the latent
construct of student-teacher satisfaction nor are they conceptually different than the other indicators in the model.

Some support for these measurement issues can be found in current research. For example, those scholars that argue contest the interpersonal nature of the student-teacher relationship because of its lack of equality and time allowable for relational development (see Goodboy, et al., 2009 for a review) would suggest that measuring an interpersonal construct such as relational satisfaction would prove problematic due to the contrasting nature of the student-teacher relationship compared to those interpersonal or familial relationships intended to be investigating using the Marital Opinion Questionnaire (MOQ). In other words, despite the fact that I modified the instructions and a questionnaire item to reflect the student-teacher relationship, the MOQ is typically used to examine satisfaction in interpersonal relationships not the student-teacher relationship.

Moreover, this is the first known study other than Goodboy et al.’s (2009) initial investigation, to use the Student Communication Satisfaction scale and it stands to reason that further reliability and validity standards need to be verified to ensure communication satisfaction is indeed being measured by this scale. Further, based on the differences argued for in extant research perhaps relational satisfaction and communication satisfaction betweens students and teachers represent two distinct constructs rather than indicators of the same latent construct. In all, based on these threats to convergent and divergent validity, I opted to remove the latent variable of student-teacher satisfaction from the model and the current study.

**Removal of affect for teacher.** Upon examining the intercorrelations among affect for teacher and the other variables in the study, I removed the latent variable of
affect for teacher due to threats to divergent validity. To clarify, divergent validity was lacking in the construct of affect for teacher because it was moderate to highly correlated with all the other variables in the study (except for global shared social identity and in-class participation).

**Removal of perceived attitude homophily.** From the inspection of the intercorrelations between perceived attitude homophily I noticed threats to divergent validity. To clarify, divergent validity was lacking in the potential mediating variable of perceived attitude homophily because it was moderate to highly correlated with teacher credibility and perceived background homophily, and this was not the case among the other two mediators (e.g., teacher credibility and perceived background homophily).

To summarize, in this chapter I described the rationale and results surrounding the initial CFA I conducted to test the measurement structure of the hypothesized model proposed for this study. Based on the results of the CFA, theory, and research, I made several modifications to the hypothesized model to improve model fit. Specifically, I separated the five indicators of the latent construct of teacher verbal communication behaviors into five individual latent constructs: (1) *teacher clarity*, (2) *content relevance*, (3) *teacher self-disclosure*, (4) *teacher confirmation*, and (5) *accommodation*. Next, I modified teacher credibility into three parceled indicators. Then, I created a new latent construct of *student learning outcomes* with the indicators of learner empowerment and affective learning. Finally, I removed student-teacher satisfaction, affect for teacher, and perceived attitude homophily from the model and the current study. In order to review and visually illustrate the modifications to the hypothesized model as a result of the CFA, Table 8 shows the revised hypotheses, Table 9 depicts the revised latent variables and
corresponding indicators for the hypothesized model, and Figure 3 presents the revised hypothesized model.
Table 8

Revised Hypotheses after CFA\textsuperscript{15}

\textit{H1a}: Students’ perceptions of teacher credibility positively predict students’ perceptions of learning outcomes as indicated by learner empowerment and affective learning.

\textit{H1b}: Students’ perceptions of teacher credibility positively predict students’ perceptions of in-class participation.

\textit{H2a}: Students’ perceptions of teacher clarity positively predict students’ perceptions of teacher credibility.

\textit{H2b}: Students’ perceptions of content relevance positively predict students’ perceptions of teacher credibility.

\textit{H2c}: Students’ perceptions of self-disclosure positively predict students’ perceptions of teacher credibility.

\textit{H2d}: Students’ perceptions of confirmation positively predict students’ perceptions of teacher credibility.

\textit{H2e}: Students’ perceptions of accommodation positively predict students’ perceptions of teacher credibility.

\textit{H2f}: Students’ perceptions of teacher nonverbal communication behaviors as indicated by teacher nonverbal immediacy positively predict students’ perceptions of teacher credibility.

\textit{H3a}: Students’ perceptions of teacher clarity positively predict students’ perceptions of perceived background homophily.

\textit{H3b}: Students’ perceptions of teacher clarity positively predict students’ perceptions of global shared social identity.

\textit{H4a}: Students’ perceptions of content relevance positively predict students’ perceptions of perceived background homophily.

\textit{H4b}: Students’ perceptions of content relevance positively predict students’ perceptions of global shared social identity.

\textsuperscript{15}Based on the CFA, the original hypotheses surrounding the outcomes of affect for teacher, relational satisfaction, and communication satisfaction were removed from the revised list of hypotheses and the structural model. However, to account for the relationships originally proposed, I conducted Post-hoc analyses of these relationships using linear regressions. The results of these Post-hoc analyses are reviewed in Chapter Five.
H5a: Students’ perceptions of self-disclosure positively predict students’ perceptions of perceived background homophily.

H5b: Students’ perceptions of self-disclosure positively predict students’ perceptions global shared social identity.

H6a: Students’ perceptions of confirmation positively predict students’ perceptions of perceived background homophily.

H6b: Students’ perceptions of confirmation positively predict students’ perceptions of global shared social identity.

H7a: Students’ perceptions of accommodation positively predict students’ perceptions of perceived background homophily.

H7b: Students’ perceptions of accommodation positively predict students’ perceptions of global shared social identity.

H8a: Students’ perceptions of teacher nonverbal communication behaviors as indicated by nonverbal immediacy positively predict students’ perceptions of background homophily.

H8b: Students’ perceptions of teacher nonverbal communication behaviors as indicated by nonverbal immediacy positively predict students’ perceptions of global shared social identity.

H9a: Students’ perceptions of perceived background homophily positively predict students’ perceptions of learning outcomes as indicated by learner empowerment and affective learning.

H9b: Students’ perceptions of global shared social identity positively predict students’ perceptions of learning outcomes as indicated by learner empowerment and affective learning.

H10a: Students’ perceptions of perceived background homophily positively predict students’ perceptions of in-class participation.

H10b: Students’ perceptions of global shared social identity positively predict students’ perceptions of in-class participation.

H11a: The degree to which students’ perceptions of perceived attitude homophily predicts instructional outcomes (e.g., learner empowerment, affective learning, and in-class participation) is moderated by students’ identity salience.
**H11b:** The degree to which students’ perceptions of perceived background homophily predicts instructional outcomes (e.g., learner empowerment, affective learning, and in-class participation) is moderated by students’ identity salience.

**H11c:** The degree to which students’ perceptions of global shared social identity predicts instructional outcomes (e.g., learner empowerment, affective learning, and in-class participation) is moderated by students’ identity salience.
Table 9
*Latent Variables and Corresponding Indicators for Hypothesized Model after CFA*

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Indicators</th>
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<tbody>
<tr>
<td>Teacher Clarity (CL)*</td>
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<td>Content Relevance (CR)*</td>
<td>Content Relevance</td>
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<td>Teacher Self-Disclosure (SD)*</td>
<td>Teacher Self-Disclosure</td>
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<td>Teacher Confirmation (CONF)*</td>
<td>Questioning (QUES) Interests (INT) Style (STY)</td>
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<td>Accommodation (ACC)*</td>
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<td>Teacher Nonverbal Communication Behaviors (NVTB)*</td>
<td>Nonverbal Immediacy (NVI)</td>
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<td>Teacher Credibility (TC)</td>
<td>CPar1</td>
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<td></td>
<td>CPar2</td>
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<td>CPar3</td>
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<td>Background Homophily</td>
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<td>Global Shared Social Identity (GSSI)*</td>
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<td>Learner Empowerment (LEmp)</td>
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<td></td>
<td>Affective Learning (AL)</td>
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<tr>
<td>In-Class Participation (ICP)*</td>
<td>In-Class Participation</td>
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*Note. * indicates a single indicator of the same name as the latent construct that it represents.*
Figure 3: Revised Hypothesized Model

Note. To simplify this figure, the paths that indicate correlations between all of the exogenous variables (i.e., independent variables), proposed mediators (e.g., teacher credibility, attitude homophily, background homophily, and global shared social identity) and the correlations between the endogenous variables (i.e., outcome variables) are not illustrated. However, during model testing these correlations were examined.
After making the modifications to the hypothesized model I ran a second CFA analysis to assess the revised measurement model fit. The second CFA achieved acceptable and significantly improved model fit from the initial CFA: \( \chi^2 (N = 348, 57) = 170.03, p < .001; \chi^2/df = 2.98, \text{CFI} = .97, \text{RMSEA} = .08 (90\% \text{CI} = .063 -.089), \text{SRMR} = .03 \). Based on the second CFA resulting in an acceptable goodness of model fit for the measurement model, I was then able to move forward with testing the structural model characteristics and the hypotheses of this study. As such, in the next chapter I summarize the structural modeling analysis procedures and the results of the hypotheses tested in this study.
Chapter Five

Structural Model Analysis Results

In the current study I proposed a model, grounded in instructional and intergroup communication theory and research, with the goal of predicting the ways in which students’ perceptions of teacher communication behaviors predict perceptions of teacher credibility and group-based categorization on instructional outcomes. The purpose of this second results chapter is to describe the structural model analysis, which is the second phase in the two-step SEM approach outlined by Anderson and Gerbing (1988). Further, I address each of the revised hypotheses as I summarize the procedures and results of the structural model. In order to accomplish the goals of this chapter, I structure it in the following way: First, I present the results of the saturated structural model in which I tested all indirect and direct paths between the predictor and outcome variables. Second, I review the findings for the eleven research hypotheses. To clarify, for the remainder of this chapter all references (unless otherwise noted) to the eleven hypotheses refer to the revised hypotheses presented in Table 8, which resulted from the modifications made to the hypothesized structural model. Third, I clarify the findings surrounding the mediation and indirect effects of the saturated model. Fourth, I explain the results of testing for moderation effects of identity salience on the instructional outcomes. Finally, I discuss the Post-hoc analyses surrounding affect for teacher, relational and communication satisfaction outcomes that were part of the original hypotheses but were removed from the SEM analysis. To begin, I summarize the procedures and results of the saturated model.
Saturated Model Results

To answer the first ten hypotheses, I tested a saturated model, which means that I tested all paths depicted in Figure 3 as well as direct paths from predictor variables to outcome variables in order to assess full and partial mediation (Kline, 2005). The zero-order correlations for the structural model are presented in Table 10.

According to Browne and Cudeck (1993), the saturated model for this study showed acceptable goodness of fit: \( \chi^2 (N = 348, 57) = 170.03 \ p < .001; \ \chi^2/df = 1.88, \ CFI = .97, \ RMSEA = .08 \ (90\% \ CI = .063 - .089), \ SRMR = .03. \) Standardized loadings for the latent-indicator and residual parameters are provided in Table 11. Figure 4 summarizes the results of the hypothesized model.

The hypothesized model accounts for the following variances in each of the endogenous variables: teacher credibility = .72, perceived background homophily = .19, global shared social identity = .12, learner outcomes = .52, and in-class participation = .17. The structural parameters for significant and non-significant direct paths between exogenous and endogenous variables are presented in Table 12. According to Kline (2005), paths that are significant at the \( p < .05 \) level reflect z values higher than 1.96 (i.e., EST/S.E. < 1.96) and 2.58 at the \( p < .01 \) level. Estimates for structural parameter covariances are presented in Table 13. Specifically, Table 12 illustrates that all of the predictor variables displayed significant covariances with each other, except for the relationship among teacher clarity and self-disclosure. Additionally, teacher credibility demonstrated significant covariance with perceived background homophily. The outcome variables of learning outcomes and in-class participation demonstrated
significant covariance with each other. The results of the individual hypotheses are addressed in the next section.
Table 10

*Intercorrelations of Indicators for Structural Model*

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*p < .05, **p < .01
## Table 11

*Hypothesized Model: Estimates for Latent-Indicator and Residual Parameters*

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<td><strong>Residual Parameters</strong></td>
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<td>Learning Outcomes- Affective Learning</td>
<td>.51</td>
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<tr>
<td>In-Class Participation*</td>
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</table>

*Note.* * indicates a single indicator of the same name as the latent construct that it represents.
Table 12

*Hypothesized Model: Structural Parameter Estimates - Direct Effects*

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<th>Structural Parameters-Direct Effects</th>
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*Note.* * indicates significant parameter at $p < .05$; ** indicates significant parameter at $p < .01$; + indicate marginally significant paths (those approaching significant at 90%-94% confidence level based on Z Table inspection).
Table 13

Hypothesized Model: Estimates for Structural Parameter Covariances

<table>
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<tr>
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Note. * indicates significant parameter at $p < .05$; indicates significant parameter at $p < .01$. 
Note. To ensure clarity, the visual placement of latent variables was modified from the original hypothesized model. Solid arrows indicate significant direct paths. Dashed arrows and Standard Estimates in *italics* indicate marginally significant direct paths. Non-significant paths, the covariances between exogenous, and outcome variables are not depicted.

Figure 4. *Results of Hypothesized Model*
Hypotheses

In the present study, I posed eleven revised hypotheses to test a theoretical model to determine the directionality among teacher communication behaviors, teacher credibility, group-based categorization and instructional outcomes. In presenting the hypotheses I review the results of each revised hypothesis and summarize, where applicable, the significant direct and indirect paths between the predictors and outcome variables. Table 11 summarizes the findings for H1-H10 using SEM. Post-hoc analyses surrounding the outcomes of affect for teacher, relational satisfaction, and communication satisfaction that were removed for the SEM analysis were examined using linear regressions and bivariate correlations and are reviewed later in the Post-hoc analysis section of this chapter.

The first set of hypotheses (H1a-H1b) focused on students’ perceptions of teacher credibility positively predicting instructional outcomes. Specifically, this set of hypotheses predicted that teacher credibility would positively predict students’ perceptions of learning outcomes as indicated by learner empowerment and affective learning (H1a) and in-class participation (H1b). As depicted in Table 10, the path from teacher credibility to learning outcomes was marginally significant ($\beta = .15, z = 1.62$ (95% confidence at $p < .05$). This result suggests that students’ learning outcomes as indicated by learner empowerment and affective learning are positively predicted by teacher credibility. However, this result should be interpreted with caution as the extent to which teacher credibility positively predicts learner outcomes only approaches statistical significance. H1b stated that teacher credibility would positively predict in-class participation; however, this hypothesis was not supported.
The second set of hypotheses (H2a-H2f) focused on students’ perceptions of teacher communication behaviors predicting teacher credibility. Specifically, this set of hypotheses predicted that teacher clarity (H2a), content relevance (H2b), self-disclosure (H2c), confirmation (H2d), accommodation (H2d), and nonverbal communication behaviors as indicated by nonverbal immediacy (H2f) would positively predict perceptions of teacher credibility. The second set of hypotheses was partially supported. Specifically, the path from teacher clarity to teacher credibility was significant and related in the proposed direction. Teacher clarity positively predicted teacher credibility ($\beta = .32, p < .05$). The path from teacher confirmation to teacher credibility was significantly related in the proposed direction. Additionally, the path from self-disclosure to teacher credibility was marginally significant ($\beta = -.06, z = -1.39$ (91% confidence at $p < .05$), however, in the opposite direction than originally proposed. Specifically, teacher self-disclosure and teacher credibility were negatively associated. Finally, teacher confirmation positively predicted teacher credibility ($\beta = .59, p < .05$). However, content relevance, accommodation, and nonverbal immediacy did not significantly predict students’ perceptions of teacher credibility.

The third through eighth sets of hypotheses focused on students’ perceptions of teacher communication behaviors predicting perceptions of background homophily and global shared social identity. Specifically, the third set of hypotheses predicted that teacher clarity positively predicted perceptions of perceived background homophily (H3a) and global shared socially identity (H3b). This hypothesis was not supported.

The fourth set of hypotheses predicted that content relevance positively predicted perceptions of perceived background homophily (H4a) and global shared socially identity
(H4b). The fourth hypothesis was supported. Specifically, the path from content relevance significantly and positively predicted perceived background homophily ($\beta$) .31, $p < .05$ and global shared social identity ($\beta$) .27, $p < .05$.

The fifth set of hypotheses predicted that teacher self-disclosure positively predicted perceptions of perceived background homophily (H5a) and global shared socially identity (H5b). The paths from self-disclosure to perceived background homophily and global shared social identity were marginally significant. In contrast to the proposed hypothesis, which suggested that teacher self-disclosure would positively predict students’ perceptions of perceived background homophily, results indicate that self-disclosure negatively predicts perceived background homophily ($\beta$) -.10, $z = -1.43$ (93% confidence at $p < .05$). Additionally, self-disclosure positively predicts global shared social identity ($\beta$) .09, $p < .05$ ($z = 1.37$ which indicates 91% confidence at $p < .05$).

The sixth set of hypotheses predicted that teacher confirmation positively predicted perceptions of perceived background homophily (H6a) and global shared socially identity (H6b). This hypothesis was not supported. Similarly, the seventh set of hypotheses predicted that accommodation predicted perceptions of perceived background homophily (H7a) and global shared socially identity (H7b). This hypothesis was not supported. Likewise, the eighth set of hypotheses predicted that teacher nonverbal communication behaviors as indicated by nonverbal immediacy perceived background homophily (H8a) and global shared socially identity (H8b). This hypothesis was not supported.
The ninth set of hypotheses (H9a-H9b) predicted that perceived background homophily (H9a) and global shared social identity (H9b) would positively predict students’ perceptions of learning outcomes as indicated by learner empowerment and affective learning. This set of hypotheses was not supported. There were no significant paths between learning outcomes and perceived background homophily or global shared social identity.

The tenth set of hypotheses (H10a-H10b) predicted that perceived background homophily (H10a) and global shared social identity (H10b) would positively predict in-class participation. This set of hypotheses was not supported. There were no significant paths between in-class participation and perceived background homophily or global shared social identity.

In order to test for mediation, I examined the direct paths and indirect effects surrounding three potential mediators: (1) teacher credibility, (2) perceived background homophily, and (3) global shared social identity.

When testing for mediation I examined all paths from predictors to outcome variables. As such, the results revealed significant direct paths between several predictor and outcome variables (see Table 11 and Figure 4). Specifically, teacher clarity had a significant negative direct path to in-class participation ($\beta = -.23, p < .05$. Similarly, content relevance had significant positive direct paths to learning outcomes ($\beta = .26, p < .05$ and in-class participation ($\beta = .47, p < .05$. Teacher confirmation had a significant and positive direct path to learning outcomes ($\beta = .37, p < .05$ and nonverbal immediacy had a significant and positive direct path to in-class participation ($\beta = .23, p < .05$. Two additional paths were found to be marginally significant. Self-disclosure negatively
predicted in-class participation ($\beta$) -.13, $z = -1.89$ (91% confidence at $p < .05$).

Accommodation positively predicted in-class participation ($\beta$) .16, $z = 1.38$ (91% confidence at $p < .05$).

To assess mediation, I examined the indirect effects surrounding teacher credibility. Results indicated two marginally significant mediations. First, the path from clarity to learning outcomes was mediated (though marginally significant) by teacher credibility ($\beta$) .05, $z = 1.49$ (93% confidence at $p < .05$; see Figure 5). This finding suggests that teacher clarity is a stronger mediator of students’ perceptions of teacher credibility than either global shared social identity or background homophily. Further, this mediation suggests that a teacher who uses clarity behaviors is likely to be perceived as credible by his or her students, which in turn promotes student learning as indicated by learner empowerment and affective learning.

Similarly, teacher credibility mediated the relationship between clarity and learning outcomes with marginal statistical significance. The mediated findings should be interpreted with caution given that the results are approaching significance for the mediated path, they point to the important role that credibility plays as a mediator among teacher behaviors and learning outcomes (Schrodt, et al., 2009). Moreover, the relationship between teacher credibility and learning outcomes does suggest the potential for teachers who are clear to be perceived as more credible which in turn may increase student learning.
Second, the path from confirmation to learning outcomes was mediated (though marginally significant) by teacher credibility ($\beta = .09$, $z = 1.57$ (94% confidence at $p < .05$; see Figure 6). This finding suggests that teacher confirmation is a strong predictor of students’ perceptions of teacher credibility. In fact, confirmation is a stronger predictor of teacher credibility than clarity, content relevance, self-disclosure, accommodation and nonverbal immediacy. This finding reinforces those found by Schrodt et al. (2009) in which they reported teacher confirmation to be a stronger predictor of teacher credibility than teacher clarity or nonverbal immediacy behaviors. Further, teacher credibility mediated the relationship between confirmation and learning outcomes with marginal statistical significance. Similar to the mediated findings related to teacher clarity and learning outcomes, this finding should be interpreted with caution because the mediated relationship only approached marginal significance and demonstrated an overall weak relationship between confirmation, teacher credibility, and learning outcomes. Moreover,
there is a direct relationship between confirmation and learning outcomes, which indicate that the extent to which teachers use behaviors that confirm their students--asking questions, showing interest in students learning, and using various styles of teaching--influence student learning. Taken together these findings suggest the potential for teachers who use confirming behaviors to be perceived as more credible which in turn may increase student learning.

![Diagram showing the relationship between confirmation, teacher credibility, and learning outcomes.](image)

**Figure 6. Indirect effects and direct paths from confirmation to learning outcomes.**

*Note*. Solid lines indicate significant direct paths dashed lines indicate indirect effects. * indicates p < .05 and +indicates marginally significant direct and indirect paths.

**Moderation Effects of Identity Salience**

The eleventh set of hypotheses predicted that the associated paths between students’ perceptions of perceived attitude homophily, perceived background homophily, and global shared social identity, and instructional outcomes (e.g., learner empowerment, affective learning, and in-class participation) would be moderated by the level of students’ identity salience. In other words, I expected that identity salience or the extent to which group membership is viewed as an important aspect of an individual’s personal and social identity (Tajfel & Turner, 1986) would moderate the relationship between
group-based categorization and instructional outcomes.

Due to the complexity of SEM design I chose to conduct a traditional test for moderation by conducting a series of separate multiple regression analyses using procedures advanced by Aiken and West (1991) and using PASW Statistics 18 (formerly SPSS) statistical software. As a result of conducting regression analyses, I did not examine latent level variables (as was done during SEM analysis); hence, learner empowerment and affective learning were examined as individual outcome variables. As previously mentioned, during the SEM analysis I removed attitude homophily from the structural model analysis based on the modifications outlined in Chapter Four. However, I chose to reintroduce it here to determine if the relationship among perceived attitude homophily and the instructional outcomes was moderated by identity salience when examined separately from the other group-based categorization variables and teacher credibility.

To test hypothesis eleven, I followed the recommendations outlined by Aiken and West (1991) for testing moderation using regression analysis. In doing so, I first standardized all predictor variables (e.g., perceived attitude homophily, perceived background homophily, global shared social identity, and identity salience) by calculating z-scores. Next, I created three interaction terms by multiplying identity salience with each remaining predictor (e.g., perceived attitude homophily, perceived background homophily, and global shared social identity). Nine individual hierarchical regressions were computed to answer H11. For each regression the zero-centered predictors were entered in the first step (i.e., perceived attitude homophily, perceived background homophily, global shared social identity, and identity salience) and the interaction term
entered in the second step. Learner empowerment, affective learning, and in-class participation served as criterion variables. To follow, I review the results of each hierarchical regression.

The first regression tested the extent to which identity salience moderated the relationship between perceived attitude homophily and learner empowerment. As such, I placed identity salience and perceived attitude homophily in the first step and the interaction term of identity salience and perceived attitude homophily in the second step. The dependent variable was learner empowerment. There was not a significant interaction effect, $\Delta R^2 = .002, F (1, 344) = 1.14, p = .287$. Therefore, identity salience did not moderate the relationship between perceived attitude homophily and learner empowerment as predicted.

The second regression examined the extent to which identity salience moderated the relationship between perceived attitude homophily and affective learning. The second regression mirrored the first regression except that the dependent variable was affective learning. There was not a significant interaction effect, $\Delta R^2 = .000, F (1, 344) = .009, p = .924$. Therefore, identity salience did not moderate the relationship between perceived attitude homophily and affective learning.

The third regression tested the extent to which identity salience moderated the relationship between perceived attitude homophily and in-class participation. The third regression mirrored the previous two regressions except that the dependent variable was in-class participation. The regression model indicated a significant interaction effect, $\Delta R^2 = .012, F (1, 344) = 4.45, p < .05$. 
According to Aiken and West (1991) the next step was to decompose the interaction to determine the nature of the relationship among the variables. To decompose the interaction, I computed a separate regression equation for the predictor variable (attitude homophily) and examined slopes (b) at the various levels of the z-scored moderating variable (identity salience) (+1 standard deviation above the mean, the mean, -1 standard deviation below the mean). Attitude homophily was positively related to in-class participation at higher levels of identity salience, \( b_{+1SD} = 0.506 \) and negatively related at lower level of identity salience, \( b_{-1SD} = -0.182 \). Further, there was a weak relationship at the mean level of identity salience \( b_{-1SD} = 0.162 \). Therefore, when students reported higher levels of identity salience (i.e., felt that their social group memberships were important to their identity), they reported increased feelings of similarity in terms of their attitudes towards their teachers, which lead to more in-class participation. However, when students reported less identity salience, having more attitude homophily was associated with less in-class participation.

The fourth regression examined the extent to which identity salience moderated the relationship between perceived background homophily and learner empowerment. As such, I placed identity salience and perceived background homophily in the first step and the interaction term of identity salience and perceived background homophily in the second step. The dependent variable was learner empowerment. There was not a significant interaction effect, \( \Delta R^2 = .000 \), \( F(1, 344) = .040, p = .842 \). Therefore, identity salience did not moderate the relationship between perceived background homophily and learner empowerment.

The fifth regression tested the extent to which identity salience moderated the
relationship between background homophily and affective learning. Again this regression mirrored the previous regression except that the dependent variable was affective learning. There was not a significant interaction effect, $\Delta R^2 = .001$, $F (1, 344) = .188$, $p = .665$. Therefore, identity salience did not moderate the relationship between perceived background homophily and affective learning.

The sixth regression investigated the extent to which identity salience moderated the relationship between perceived background homophily and in-class participation. This regression mirrored the previous analysis except that the dependent variable was in-class participation. There was not a significant interaction effect, $\Delta R^2 = .001$, $F (1, 344) = .26$, $p = .611$. Therefore, identity salience did not moderate the relationship between perceived background homophily and in-class participation.

The seventh regression examined the extent to which identity salience moderated the relationship between a global shared social identity and learner empowerment. As such, I placed identity salience and global shared social identity in the first step and the interaction term of identity salience and global shared social identity in the second step. The dependent variable was learner empowerment. There was not a significant interaction effect, $\Delta R^2 = .000$, $F (1, 344) = .027$, $p = .869$. Therefore, identity salience did not moderate the relationship between global shared social identity and learner empowerment.

The eighth regression tested the extent to which identity salience moderated the relationship between global shared social identity and affective learning. Again this regression mirrored the previous regression except that the dependent variable was affective learning. There was not a significant interaction effect, $\Delta R^2 = .004$, $F (1, 344) =$
Therefore, identity salience did not moderate the relationship between global shared social identity and affective learning.

The ninth regression investigated the extent to which identity salience moderated the relationship between global shared social identity and in-class participation. This regression mirrored the previous analysis except that the dependent variable was in-class participation. There was not a significant interaction effect, $\Delta R^2 = .000$, $F(1, 344) = .137, p = .712$. Therefore, identity salience did not moderate the relationship between global shared social identity and in-class participation.

Post-hoc Analyses

In Chapter Five I described the rationale for removing affect for teacher, relational satisfaction, and communication satisfaction from the hypothesized structural model. Despite this decision, examining the individual relationships among teacher credibility, group-based categorization (i.e., attitude homophily, background homophily, and global shared social identity), and instructional outcomes (e.g., affect for teacher, relational, and communication satisfaction; see Table 1 for review of initial hypotheses) remain important to explore because they can impact student engagement, student evaluations of teaching effectiveness, and student academic and personal well-being.

To explore these relationships, I conducted post-hoc individual regression analyses with teacher credibility, attitude homophily, background homophily, and global shared social identity serving as predictor variables and affect for teacher, relational satisfaction, and communication satisfaction serving as criterion variables.

First, I conducted post-hoc multiple regression analyses to examine the extent to which students’ perceptions of the three sub-dimensions of teacher credibility (i.e.,
competence, caring, and trustworthiness) positively predicted students’ affect for
teachers, relational satisfaction, and communication satisfaction. Results revealed that
teacher credibility was a significant and positive predictor of affect for teachers, $F(3, 344) = 304.2, p < .001$. Specifically, teacher caring was the strongest predictor of affect for teacher, $\beta = .45, p < .001$, followed by trustworthiness, $\beta = .35, p < .001$, and
competence, $\beta = .34, p < .001$. Taken together these findings suggest that students value
and appreciate teachers who illustrate that they care about them.

In regard to the relationship between teacher credibility and teacher-student
relational satisfaction, results revealed that overall teacher credibility was a significant
and positive predictor of teacher-student relational satisfaction, $F(3, 344) = 195.17, p < .001$. Teacher caring was the strongest predictor of relational satisfaction, $\beta = .53, p < .001$, followed by competence, $\beta = .17, p < .01$. Teacher trustworthiness was not a
significant predictor of relational satisfaction, $\beta = .15, p = .08$. These findings indicate
students’ perceptions of relational satisfaction with their teachers function relative to how
caring students perceive their teachers to be. Ironically, the extent to which students
trusted their teachers did not influence how satisfied they felt in their relationships with
their teachers.

Additionally, results revealed that teacher credibility was a significant and a
positive predictor of teacher-student communication satisfaction, $F(3, 344) = 181.40, p < .001$. Teacher caring was the strongest predictor of communication satisfaction,
$\beta = .69, p < .001$, followed by competence, $\beta = .16, p < .05$. Teacher trustworthiness was not a significant predictor of communication satisfaction, $\beta = .03, p = .76$.

Additional post-hoc analyses surrounding affect for teacher revealed that attitude
homophily positively predicted students’ affect for teachers, $F (1, 346) = 226.50, p < .001, \beta = .82, p < .001$, as did background homophily, $F (1, 346) = 53.51, p < .001, \beta = .53, p < .001$, and global shared social identity, $F (1, 346) = 18.07, p < .001, \beta = .23, p < .001$. Taken together, these findings suggest that the degree to which students feel similar to their teachers influences their liking and appreciation for their teachers.

In regard to the relationship among teacher-student relational satisfaction, post-hoc analyses revealed that attitude homophily positively predicted students’ relational satisfaction between students and teachers, $F (1, 346) = 231.40, p < .001, \beta = .70, p < .001$, as did background homophily, $F (1, 346) = 70.84, p < .001, \beta = .51, p < .001$, and global shared social identity, $F (1, 346) = 25.68, p < .001, \beta = .23, p < .001$. Taken together, these findings suggest that the degree to which students feel similar to their teachers’ influences how satisfied they feel in their relationships with their teachers.

Similar to the findings surrounding teacher-student relational satisfaction, attitude homophily, background homophily, and global shared social identity positively predicted teacher-student communication satisfaction. Specifically, post-hoc analyses revealed that attitude homophily positively predicted students’ communication satisfaction with their teachers, $F (1, 346) = 244.30, p < .001, \beta = .80, p < .001$, as did background homophily, $F (1, 346) = 62.02, p < .001, \beta = .54, p < .001$, and global shared social identity, $F (1, 346) = 18.41, p < .001, \beta = .22, p < .001$. Taken together, these findings suggest that the degree to which students feel similar to their teachers influences the extent to which they feel satisfied with their communicative interactions with their teachers.
Summary

In this chapter I described the results of the structural equation model analysis for the relationship among students’ perceptions of teacher communication behaviors, teacher credibility, group-based categorization, and instructional outcomes. In doing so I completed the second phase in the two-step SEM approach (Anderson & Gerbing, 1988). Further, I demonstrated how SEM was used to test the first four hypotheses posed in Chapter Two. First, I tested and reviewed the results of the relationships displayed in the hypothesized model (based on the modifications described in Chapter Four). Second, I discussed the direct paths and indirect effects of between teacher communication behaviors and instructional outcomes. Third, I tested the proposed moderation effects of identity salience to answer the fifth hypothesis. Lastly, I reviewed the post-hoc analyses surrounding affect for teacher, relational satisfaction, and communicative satisfaction. In the final chapter, I offer a discussion of the research findings, provide theoretical and practical implications for researchers, students, and educators, and outline future research efforts that can be derived from this study.
Chapter Six

Discussion

The purpose of this study was to examine teacher communication behaviors, group-based categorization, and teacher credibility from an intergroup perspective, and explore how these variables relate to instructional outcomes. In doing so, I argued that students’ perceptions of their teacher’s credibility and the group-based categories they ascribed to those teachers, would be impacted by the teacher’s communication behaviors, and this in turn would impact student learning outcomes and in-class participation.

In sum, the results of the hypothesized model and moderation analyses indicate that learning outcomes (i.e., learner empowerment and affective learning) and in-class participation are influenced by teacher credibility and teacher communication behaviors. Taken together, group-based categorization (i.e., background homophily and global shared social identity) did not significantly predict students’ perceptions of student learning outcomes or in-class participation behaviors. Despite the lack of significant findings, background homophily and global shared social identity were significantly predicted by teachers’ use of content relevance. Additionally, the relationship between attitude homophily and in-class participation was moderated by students’ perceptions of identity salience. The remainder of this chapter describes the results and implications in greater detail.

In this chapter, I discuss the results of the study as they relate to the conceptual model in Chapter One (see Figure 1). Then, I discuss the findings related to instructional outcomes, teacher credibility, and teacher communication behaviors. Next, I discuss the findings related to teacher communication behaviors, group-based categorization, and
instructional outcomes. I also discuss the results of identity salience, and how it serves as a moderating variable surrounding the relationship among group-based categorization and instructional outcomes. Additionally, I discuss the implications from the Post-hoc analysis. Finally, in the last two sections, I focus on theoretical and practical implications and describe the limitations of the study. Throughout the remaining sections of the dissertation, I present direction for future research studies.

**Instructional Outcomes, Teacher Credibility, and Teacher Communication Behaviors**

Instructional communication researchers have spent the last 30 years exploring the impact of teacher credibility and their research consistently suggests that teacher credibility is one of the most important variables affecting current theorizing and understanding of the student-teacher relationship (Myers, 2001) and teaching effectiveness (Finn, et al., 2009).

In the current study, I asserted (using the revised hypotheses) that students’ perceptions of teacher credibility would positively predict learning outcomes (as indicated by learner empowerment and affective learning) and in-class participation. My assertion is in line with current theorizing that positions credibility as both an outcome of teacher behaviors/characteristics and as a predictor of student outcomes (e.g., learning; Finn et al., 2009).

In addition, I posited that teacher communication behaviors (e.g., clarity, content relevance, self-disclosure, confirmation, accommodation, and nonverbal immediacy) would positively predict students’ perceptions of teacher credibility. The findings of the current study both reinforce and contradict current conceptualization and research
findings about teacher credibility. Specifically, the results of this study show a marginally significant association between teacher credibility and learner empowerment and affective learning (i.e., learning outcomes). It makes sense that the relationship is trending toward statistical significance given that McCroskey et al. (2004) argued that student perceptions of teacher credibility impact student learning outcomes. Similarly, the results of this study reinforce previous research findings. For example, Frymier et al. (1996) suggested that credibility influences perceptions of empowerment and numerous studies have indicated that when students’ perceptions of teacher credibility were higher it led to increases in affective learning (Beatty & Zahn, 1990; McCroskey et al., 2004; Teven, 2001; Teven & McCroskey, 1997; Tibbles et al., 2008). More recently, Schrodt et al. (2009) found teacher credibility to be directly related to empowerment and affective learning when examined as part of a combined construct of learning outcomes. Taken together the findings from the current study and previous research highlight the ways that credibility serves to enhance students’ feelings of empowerment towards their own learning and the affect they feel towards the subject matter they are learning about. That said, future researchers should continue to examine the role teacher credibility plays in aiding students perceptions of empowerment because less is known about this relationship in comparison to the relationship among teacher credibility and affective learning.

Another important finding from the present study relates to in-class participation. Results of the current study indicated that teacher credibility did not significantly predict students’ perceptions of in-class participation. This finding echoes that of Myers et al.’s (2009) study which also failed to establish a significant relationship between teacher
credibility and students self-reports of in-class participation. Rocca’s (2001) study may help clarify the lack of significant findings for in-class participation. Specifically, Rocca (2001) indicated that three variables--environment (e.g., discussion oriented), student characteristics, (e.g., confidence) and teacher characteristics (approachability)--influence student class participation and I argue that these variables offer an explanation as to why the findings from the current study surrounding in-class participation were not significant.

In terms of environment, research indicates that students participate less in classes that are larger than 20 students. In the current study, the class size tended to be quite large. In fact, 37% of the classes had between 16-30 students, 21% had 31-49 students, 18% had 100 or more students, 13% had 50-99, and only 10% of the classes had 1-15 students.

Another factor that constitutes classroom environment is the methods use to facilitate class time. In the current study 42% of the classes were predominantly facilitated through lecture, 33% were lecture/discussion based, and 25% were discussion-based formats. Thus, it stands to reason, that the teaching methods used to conduct class can serve to promote or discourage student participation.

In terms of student characteristics, students also participate more in classes where they feel confident, interested in the topic and classmates, and if they feel the participation is important to the class (Fassinger, 1995, 2000). Temperament, another student characteristic, can also explain students’ participation behaviors. To clarify, temperament is comprised of Eysenck’s (1971) three traits: extroversion (e.g., socialness), neuroticism (e.g., anxiousness), and psychoticism (e.g., aggression).
McCroskey, Richmond, Heisel, and Hayhurst (2004) argue that these traits manifest through various communication behaviors such as willingness to communicate (McCroskey et al., 2004) and communication apprehension (M. J. Beatty, McCroskey, & Heisel, 1998). In support of this notion, Houser and Frymier (2009) indicate that “[t]emperament influences how students communicate thus it seems likely that it also influences how students experience the classroom environment” (p. 38). Therefore, students’ temperament can be used to explain students’ participatory behaviors, independent of their perceptions of a teacher’s credibility. Students learning orientation (i.e., learning-oriented or grade-oriented) also impacts how students respond to teachers and the learning context (Houser, 2005; Houser & Frymier, 2009b; Milton, Pollio, & Eison, 1986). Specifically, learning-oriented students (i.e., those that value course content as important and internally rewarding) have greater internal locus of control (Eison & Pollio, 1986) and greater academic performance than students low in learning orientation or those with a grade-orientation (i.e., value grades and view coursework as a series of obstacles to overcome to get a desired grade (Page & Alexitch, 2003). Dependent on learning orientation, students’ may have more or less motivation to participate in class. Although, I did not measure student characteristics such as temperament and learning orientation, I mention the research surrounding these constructs here because they illustrate other aspects that might have influenced student-participation in the current study.

In terms of teacher characteristics and students in-class participation, it may be that students do not base their participation on how credible they think their teacher is. In support of this notion, Myers (2004) argued that students’ willingness to communicate
inside and outside of class are positively related to student perceptions of teacher credibility. He suggested that students come to a classroom setting expecting their instructors to be credible and therefore perceptions of credibility may have little to do with students’ participatory behaviors. In line with Myers’s rationale, if credibility does not elicit in-class participation then it may have more to do with the student characteristics and environment that were discussed in the previous section.

The findings from the current study also provide insight about the relationship between students’ perceptions of teacher credibility and teacher communication behaviors. Interestingly, only teacher clarity and confirmation behaviors were significant positive predictors of students’ perceptions of teacher credibility in the current study. These findings reinforce those found by previous researchers who established a positive relationship among teacher credibility and teacher clarity and confirmation behaviors (Schrodt et al., 2006; 2009). Likewise, when teachers engage in confirmation behaviors this leads to greater perceptions of teacher credibility and higher teacher evaluations (Schrodt et al., 2006). In all, when teachers use confirmation behaviors, they involve students in class interactions by responding to their questions and convey interest in their students and use interactive teaching styles (Schrodt et al., 2006). It makes sense then that these behaviors promote perceptions of credibility and positive evaluations for teachers (Schrodt et al., 2006) and facilitate increased student motivation, satisfaction, cognitive and affective learning, and participation (Goodboy & Myers, 2008). Ultimately, it behooves teachers to use confirmation behaviors in the classroom because they not only benefit students, but convey to students that their teachers are credible and interested in them as students.
In addition to teacher confirmation behaviors, the results of this study illustrate that teacher clarity also contributes to students’ perceptions of credibility. The current study found that teacher clarity was a positive predictor of teacher credibility, which is similar to Schrodt et al.’s (2009) findings. Thus, the findings from the current study lend additional support to previous studies that highlight the impact of teacher clarity behaviors on a myriad of instructional variables such as student achievement, satisfaction, motivation, and student affect and learning (Avtgis, 2001; Chesebro & McCroskey, 1998, 2001; Chesebro & Wanzer, 2006; Comadena, Hunt, & Simonds, 2007; Hativa, 1998; Houser & Frymier, 2009; Sidelinger & McCroskey, 1997). Ultimately, clarity is a prosocial teacher behavior that leads to perception of credibility (Schrodt et al. 2006; Schrodt et al., 2009) and teachers are encouraged to engage in behaviors (e.g., advanced organizers, summaries, repetition) that provide clear messages to students while presenting class content. In all, clarity and confirmation emerge as predictors of teacher credibility in the current study, and previous research supports this view. However, other variables that have been shown in previous studies (e.g., nonverbal immediacy) to be related to credibility did not emerge as significant predictors of teacher credibility. The next section clarifies these findings from the present study.

In the current study, content relevance, accommodation, and nonverbal immediacy did not significantly predict students’ perceptions of teacher credibility. The research program on student motivation provides a useful framework for explaining these results. Keller (1983) argued that relevance is an aspect of student motivation and ultimately students need to make a personal connection to course content and that supports their personal needs, goals, and future careers. Despite the fact that previous
research points to a relationship between instructor use of relevancy behaviors and increased levels of student motivation (Fymier & Shulman, 1995; Frymier et al., 1996), researchers have found conflicting results during experimental studies that attempted to manipulate relevancy behaviors (Frymier & Houser, 1998). These results prompted Muddiman and Frymier (2009) to suggest that, “relevance strategies reported by instructors and students’ perceptions of relevance may also have limited overlap” (p. 133).

To address the problems with manipulating relevancy behaviors during experimental studies, Muddiman and Frymier (2009) had students generate listings of teacher relevancy behaviors. From their research they argue that students may see relevance as an outcome variable, such that when students are motivated to learn and are engaged, they perceive what they are learning to be relevant. In this way, copious teaching strategies could lead to perceptions of relevance as opposed to relevance leading to perceptions of effective teaching outcomes (e.g., credibility). This may have occurred in the current study. For these reasons, other factors such as student motivation and how relevance was measured within the current hypothesized model (i.e., as a predictor rather than an outcome) may have contributed to how relevant material was to students.

In contrast to numerous studies, the results from the current study failed to find a significant relationship between nonverbal immediacy and teacher credibility. In all, the results regarding nonverbal immediacy in the current study are, in some ways, contradictory to extant research. In recent reviews of the teacher immediacy, researchers often argue that the effects of immediacy are more robust than other teacher communication behaviors (Schrodt, et al., 2009; Witt et al., 2004). However, the results
of the current study add support to Schrodt et al.’s claim that “Contrary to this line of reasoning, however, the results of this study suggest that perceived teacher confirmation and clarity may have a greater influence on student learning than nonverbal immediacy cues” (p. 366). In addition, Hosek (2008) argued that credibility served as a predictor of nonverbal immediacy, in the sense that students need to perceive their teachers are credible in order for behaviors such as immediacy to have an influence on affect for an instructor and student learning. In all these findings call in to question a growing trend that questions the privilege given to immediacy in instructional communication research over other variables that may also impact the learning environment (Schrodt et al., 2009).

There may be two main reasons for the pattern of results in the current study surrounding nonverbal immediacy and teacher credibility. First, it makes theoretical sense that a teacher who is both confirming to students’ efficacy and identity as well as high in teacher clarity may be perceived as nonverbally immediate (Schrodt et al., 2009). As a result the nonverbal immediacy cues become less salient, in favor of confirmation and clarity behaviors (Schrodt, 2009; Houser & Frymier, 2009). Second, it stands to reason that the items that measure confirmation (e.g. shows an interest in students, uses an interactive teaching style) have inherent ties to behaviors that can be viewed as immediate and thus indirectly measures the immediacy students perceive within a behavior (e.g., listening to students questions) as opposed to acknowledging the frequency with which a teacher engages in immediacy behaviors that are recognized within the literature (as in Richmond et al.’s [2003] Nonverbal Immediacy Scale instrument). This argument is in line with that proposed by Schrodt et al. (2009), who also found that confirmation was a stronger predictor of teacher credibility than was
nonverbal immediacy. Clearly, the results of this study favor the theoretical explanation because clarity and conformation did, in fact, emerge as salient predictors of teacher credibility.

Additionally, I proposed that self-disclosure would be a positive predictor of teacher credibility; however, teacher self-disclosure emerged as a negative predictor of teacher credibility. However, the relationship between self-disclosure and teacher credibility only approached statistical significance. Thus caution should be applied when interpreting this finding. Previous researchers found a positive relationship between appropriate teacher self-disclosure and positive teacher evaluations. But when instructor self-disclosures were not related to course content, students viewed them as out-of-place or inappropriate in a classroom (Nussbaum & Scott, 1979; Sorensen, 1989; Lannutti & Strauman, 2006). Perhaps in the current study, teachers were engaging in self-disclosure but students did not perceive the disclosure as relevant and therefore negatively impacted students’ perceptions of teacher credibility. This makes some sense when examined alongside the lack of significant results regarding content relevance and teacher credibility. Finally, it stands to reason that other factors such as type of course, which was not fully examined, may have moderated the relationship among self-disclosure and teacher credibility. In a related study Cayanus and Martin (2004) found a relationship between self-disclosure, course interest, and out of class teacher-student communication; however, they could not establish a relationship between student affect for the instructor or course content. Therefore, they argued that students may appreciate teacher self-disclosure and its function to increase perceptions of approachability but ultimately other factors such as clarity and relevance may provide a more robust understanding of
affective learning. Likewise, other factors (e.g., clarity and confirmation) appear to be more robust predictors of credibility than self-disclosure, as was the case in the current study.

An important implication from the current study arises from the findings surrounding self-disclosure and how teachers manage their private information. My previous research in the area of communication privacy management and instruction, lends some support to this contention. For example, in our study (see Hosek and Thompson, 2009), we found that teachers’ managed privacy boundaries by not disclosing private information, as a way to preserve their credibility and aspects about their personal identities. The teachers in our study indicated that they did not disclose private information to avoid potential negative perceptions from their students and/or institutions about certain aspects of their identity (e.g., religious affiliation, sexual identity). Importantly, the results from the current study suggest that teachers can choose not to engage in self-disclosure in the classroom, and do so, knowing that it may not impact their credibility as significantly as would choosing not to use clarity and confirmation behaviors. Therefore, previous research suggests teacher self-disclosure can help increase perceptions of approachability and liking for teachers but teachers are well advised, based on the current study and previous research, to engage in clarity and confirmation behaviors as a means to promote student learning and manage their own credibility.

Another variable that was hypothesized to predict teacher credibility was teacher accommodation behaviors. The findings of this study did not support this predictive relationship. Perhaps there is no relationship between accommodation and teacher
credibility; however, a more plausible explanation may be due to measurement construction. In essence, although the accommodation items on the questionnaire asked students to respond about the strategies their teacher used to engage others in discussions that reflected diverse viewpoints (e.g., this instructor welcomes opinions different from his/her own) it did not perhaps tap in to the nuances of how teachers adjusted (or not) their communication (through convergence, divergence, maintenance, over-accommodation, non-accommodation) to promote or reduce perceptions of common group-based status/categorization. Ultimately, the main premise of Communication Accommodation Theory (CAT) indicates that people make strategic communicative moves to increase or decrease social distance during interactions with others (Shepard et al., 2001) and the measurement used in the current study may not have captured the full scope of this process between students and teachers. Lin and Harwood (2003) for example state, “CAT suggests that people attune their communication styles or conversation topics to be similar to or different from their partner in order to achieve various relational goals such as group identification or interpersonal solidarity” (p. 539).

Thus, CAT’s applicability resides in its ability to describe, predict, and explain people’s motivations, processes, and the outcomes for these shifts in behavior during conversations (Shepard, et al., 2001).

Unfortunately, the items used to measure accommodation in this study did not fully assess how these linguistic moves occur and the outcomes for such behaviors in the student-teacher relationship. Despite this limitation, as I discussed in Chapter Two, many of the teacher communication behaviors examined in this study (e.g., clarity, relevance, self-disclosure) can be viewed as accommodative or non-accommodative, dependent on
how the teacher engages in the behavior. In further support of the notion that teacher communication behaviors can be perceived as accommodative or non-accommodative, Bourhis, Giles and Lambert (1975) suggested that altering one’s accent to be similar to or different from others demonstrates interethnic solidarity or separation, and if teachers engaged in this behavior they could be perceived as being more or less clear (i.e., accommodating) to their students. The measures used in the current study did not fully assess the accommodative moves of teachers as suggested by Bourhis et al.; thus, future studies should examine how, if at all, teachers engage in accommodative or non-accommodative communication and explore instructional communication outcomes, such as credibility, that may be influenced as a result of accommodation/nonaccommodation.

In the previous section, the results surrounding teacher communication behaviors and credibility were described. The next section explains a second area within the conceptual model by clarifying the results surrounding the relationships among teacher communication behaviors, group-based categorization, and instructional outcomes.

**Teacher Communication Behaviors, Group-Based Categorization, and Instructional Outcomes**

In terms of the relationship among teacher communication behaviors, group-based categorization, and instructional outcomes, the findings of the present study revealed that only content relevance positively predicted perceived background homophily and global shared social identity. In other words, teacher clarity, self-disclosure, confirmation, accommodation, and nonverbal immediacy did not predict students’ perceptions of background homophily or global shared social identity.
In the previous section, I stated that content relevance was not associated with teacher credibility. Perhaps students’ perceptions of teacher credibility function independently from perceptions of relevance (as evidenced by the above results regarding credibility and relevance) and lead to teacher credibility. This make sense because the research literature points to relevance as one teacher communication behavior among a host of others that promote positive perceptions of teacher credibility.

In contrast, background homophily and global shared social identities focus more on aspects that emphasize personal and social identity factors (as argued throughout this manuscript). In terms of background homophily and global shared social identity, it would seem that when teachers share aspects of their background and social group membership with their students this could help students make connections to course content and allow students to see their teachers as part of their ingroup. Based on the previous statement, the findings of the current study surrounding the lack of a significant relationship between self-disclosure and perceived background homophily and global shared social identity are a bit puzzling. In fact, the results indicate that self-disclosure negatively predicted perceived background homophily (which was opposite of what was originally predicted), but positively predicted global shared social identity. In all, this is puzzling because self-disclosure is one way students come to learn about teachers’ personal and social identities. Perhaps the totality of their disclosures can lead to students believing they belong to or do not belong to similar social groups, rather than discrete aspects about what they disclose and the frequency with which they disclose.

Another explanation for why self-disclosure negatively predicted background homophily relates to the fact that a curvi-linear relationship may be at work, such that,
too much self-disclosure can be detrimental to the student-teacher relationship. On one hand, it makes sense that if a teacher discloses too much personal information this can have a negative impact on students’ perceptions of the teacher. However, it might be more likely, in the context of the present study, that teachers could have disclosed personal information that highlighted differences among themselves and their students regarding their backgrounds and social group memberships, which in turn may have led students to see themselves as being part of the outgroup. Further, the achievement of only marginal significance have been due to the fact that students’ perceptions of homophily and group based categorization may have occurred in more indirect ways. For example, self-disclosure requires a person to share personal information willingly with another person and this can be achieved through direct (e.g., face-to-face) and indirect (e.g., social media) channels of communication. Although students can learn information about their teachers based on what the teacher willingly shares with the students inside or outside of class, recent research has suggested that students are increasingly using word of mouth and social media outlets (e.g., Facebook) to obtain information about current and potential teachers (DiVerniero & Hosek, 2011; Edwards, Edwards, Qing, & Wahl, 2007). Therefore, students can use these means to obtain information about their teachers that the teachers may not have disclosed to them personally and make determinations about how similar or different they feel towards their teachers. If students are using these indirect means this adds another layer of complexity in terms of which information and which channel (face to face or mediated) students believe provides them the most salient information about their teachers’ social identities.
Clarity represents another important teacher variable that did not predict perceived background homophily or global shared social identity in the current study. In part, it makes theoretical sense that teacher clarity did not predict perceptions of homophily or global shared social identity. This may be because the rhetorical perspective places clarity as a verbal behavior that helps students organize and process course material (Mottet & Beebe, 2006) rather than helps them feel similar or different to their teachers in terms of background or social group membership. Mottet and Beebe (2006) argued that the rhetorical perspective is teacher-centered in that it emphasizes the way in which teacher behaviors influence student learning rather than focusing on the personal and social dynamics (i.e., homophily and global shared social identity) that influence learning, which is more in line with the relational perspective. Thus, the findings of this study surrounding teacher clarity are not without value because teacher clarity continues to function to demonstrate teacher credibility and to promote student learning. However, more puzzling than the study’s findings regarding teacher clarity behaviors, are the findings surrounding perceived background homophily, teacher confirmation, and accommodation.

The results of this study indicate that students’ perceptions of teacher confirmation behaviors did not predicted students’ perceptions of background homophily or global shared social identity. Given that researchers point to the benefits of teacher confirmation behaviors and identity, it is interesting that confirmation did not help students feel connected to their teachers in terms of background homophily or global shared social identity.
One way people come to understand who they are and connect with others is through confirmative communication (Cissna & Sieburg, 1981). Buber (1957) suggested that the confirmation behaviors allow people to create and understand their identity and may be the most important characteristic of human interaction. More specific to the instructional context, Ellis (2004) asserted students tend to desire relationships with their teachers during the college years because it is a time of self-discovery and identity development. Ultimately she argues, confirmation plays a vital role in the teaching and learning process.

The above arguments help to explain the importance of examining confirmation behaviors in the current study; yet, the assessment instrument used to examine teacher confirmation behaviors was limited in its ability to examine perceptions of group-based categorization. In other words, although confirmation behaviors have been linked to increased perceptions of credibility and teacher evaluations (Schrodt, et al., 2006), cognitive and affective learning, reduced receiver apprehension (Ellis, 200, 2004), class-participation, state motivation, and satisfaction (Goodboy & Myers, 2008), the current assessment limits the type of confirmation behaviors that can be explored and does not directly measure identity confirmation or perceptions of common ingroup status. To summarize, the current measure of teacher conformation focuses on the extent to which teachers listen and respond to students’ questions, demonstrate interest in students as individuals and their learning, and the type of style teachers use in the classroom (e.g., interactive). Ultimately this inability to measure confirmation or perceptions could be one reason for the lack of significant findings.
Another reason that confirmation did not predict perceived background homophily or global shared social identity could be that students perceived their teachers to be disconfirming in their communication. If confirmation as opposed to disconfirmation occurs when individuals recognize, acknowledge, and endorse others’ sense of self and disconfirming behaviors demonstrate indifference and discount the speaker (Sieburg, 1969), it is plausible that the students reported on teachers that they found to be disconfirming and logically this could make students feel dissimilar to those teachers.

That said, given the status placed on confirmation behaviors in current research literature and how confirmation leads to identity confirmation, future research is needed to identify the types of teachers verbal messages that lead to students’ perceptions of identity confirmation and the role, if any, teachers’ own background homophily or social identity play in the confirmation process.

In the current study accommodation did not predict perceptions of background homophily or global shared social identity as expected. The reasons for this outcome are similar to those provided earlier in regard to teacher credibility. Although, I expected that the extent to which teachers acknowledged and engaged in discussions with students about different viewpoints would offer students opportunities to feel similar and/or different to their teachers in terms of the background and social group memberships, this was not the case. I thought this would occur because a discussion about diverse viewpoints, perhaps different from the teachers’ own viewpoints, would allow students to learn more about their teachers’ standpoints and background, which in turn could provide students with insight into the social groups the students believed the teacher belong to or
did not belong to. Perhaps future research that focuses more directly on the actual communicative messages that teachers use to accommodate students social identities would offer more insight to this phenomenon.

In terms of group-based categorization and instructional outcomes, results of this study revealed that neither perceived background homophily or global shared social identity predicted learning outcomes (as indicated by learner empowerment and affective learning) or in-class participation. These findings appear to contradict Myers et al.’s (2009) study that found a relationship among in-class participation and background homophily. In fact, their study showed that students were more likely to participate in classes when they felt similar to their teachers. Also, researchers have shown background homophily to be related to course affect and affect for teacher (both dimensions of affective learning; Elliot, 1979). Post-hoc analyses from the current study revealed similar trends such that attitude and background homophily positively predicted affect for teachers, as did global shared social identity. In addition, the three indicators of group-based categorizations positively predicted relational and communication satisfaction between students and teachers.

The current study’s findings extend Schrodt et al.’s (2009) research that showed that credibility mediated the relationship between teacher communication behaviors and learning outcomes. The fact that homophily and global shared social identity did not mediate these relationships, as initially predicted, is important to note given the goals of this study; however, the fact that credibility emerged as a mediator (albeit approaching statistical significance) provides an important contribution to current theorizing and
models of instructional communication, which I describe in more detail in the discussion on theoretical implications.

The findings from the current study do show that credibility predicts relational outcomes. More specifically, Post-hoc analyses imply that credibility positively predicted perceptions of affect for teachers, relational satisfaction, and communication satisfaction. In other words, the extent to which students view their teachers as credible functions to build interpersonal liking towards the teacher and engenders feelings of connection, along with believing interactions are mutually beneficial.

Interestingly, the caring dimension of credibility was the strongest predictor of communication satisfaction and the trust dimension was not a significant predictor of relational or communication satisfaction. Said in another way, students felt most satisfied with their relationships and communicative interactions with their teachers when their teachers were caring, but trust did not play a statistically significant role in this process. This finding is interesting given the value placed on trust in relationships and can be explained using the counter-claims used by scholars who question the interpersonal conceptualization of the teacher-student relationship. For example, some instructional scholars state that the teacher-student relationship cannot be viewed entirely as an interpersonal relationship given various constraints (e.g., time, depth, relational history). This counterargument can be used to explain the findings of the current study. It appears that students’ perceptions of teacher credibility can influence affect for these teachers, and how satisfied students feel with the student-teacher relationship; however, trust does not appear to influence these perceptions within the current study. Ultimately, it may be too restrictive and unrealistic, from the results of this study, to assume that trust does not
play an important role in the student-teacher relationship. But, the results of the current study do point out that the competence and caring dimensions relate more directly to students’ perceptions of relational functioning, as does homophily and global shared social identity (as discussed in the previous sections).

In all, when teachers are perceived as credible, students report increased feelings of relational and communicative satisfaction with their teachers. This finding adds to the limited research on satisfaction, in particular communication satisfaction, within instructional communication research. Clearly, the positive relationship between teacher credibility and communication satisfaction is noteworthy because it illustrates that credibility not only relates to rhetorical aspects of teaching (e.g., clarity) but also to the relational dimension.

In the previous sections, I explained and justified the findings from the current study. However, two additional factors, course content and teacher personality, may have contributed to the overall lack of significant findings within the current study as a whole.

Many contemporary scholars and educators believe that the current assessment-based teaching and learning culture places emphasis on the learning product rather than the learning process (Harriman, 2005). Weaver (2004) argued that the current pedagogical emphasis focuses on teaching the content rather than on the student. Although the education research literature does not directly attribute differences in teaching style to personality, the research does suggest that teachers possess different beliefs and judgments about how course content should be taught (Shavelson & Stern, 1981). Teachers’ beliefs and judgments have been shown to impact their teaching practices and decision-making in the classroom (Shavelson & Stern, 1981).
Along with Shavelson and Stern (1981), Butty (2001) described how teachers’ instructional practices and teaching styles differed based on teachers’ conceptions of the subject matter and their cognitive processes. Butty further suggested that content areas have different pedagogical traditions. For example, the math content area has a teacher-versus-student-centered tradition, with teachers placing greater emphasis on lectures and textbooks than on the desire to help their students think critically across subject areas and apply their knowledge (Butty, 2001). As Mottet et al. (2008) point out, Butty and other instructional scholars (e.g., Kearney, Plax, & Wendt-Wasco, 1985) have failed to find differences in students’ perceptions of teacher communication behaviors between task (e.g., math/science) and relational (interpersonal communication) type courses. In light of these conflicting results and contentions among research with regard to how course type or course content impacts perceptions of teacher communication behavior, it stands to reason that the type of course that a student responded on could moderate how salient aspects of social identity and group-based categorizations become over the course of a semester. For example, in a class about politics and communication, it is likely that a teacher’s own political identity could be highly salient in discussions about political issues and students would have more opportunities to determine if they feel aligned to their teacher’s political identity (i.e., similar group-based categorization) than they might in a statistics course.

In future studies, researchers should control for and/or examine the potential for class type to moderate the impact of how teacher communication behaviors are viewed by students and how this may explain the different functions group-based categorizations and credibility have on instructional outcomes.
Theoretical Implications

As with all research, it is important to identify how this study contributes to current theoretical understandings of the phenomenon under investigation. This study was guided by the theories that demonstrate the intersections of intergroup, interpersonal, and instructional communication. As such, it offers insight into current theorizing and thinking about the student-teacher relationship and the learning environment. In general, three main theoretical contributions or extensions evolve from this study.

Teacher Credibility

As with previous research (e.g., Finn et al., 2009), the current study highlights the salient and pervasive role teacher credibility plays within the instructional environment and the teacher-student relationship. The current study’s findings reinforced current theorizing and model development surrounding teacher credibility as a predictor variable (Finn et al., 2009; McCroskey et al., 2004), an outcome variable (McCroskey, et al., 2004), and a mediator (Schrodt, et al., 2009). The previous sections clarified the ways in which teacher credibility served as a predictor and an outcome variable in the current model. Therefore, this section focuses on the way teacher credibility functioned as a mediator in the hypothesized model, which highlights current theorizing about teacher credibility.

Results revealed two mediations that approached statistical significance. Specifically, the paths from teacher clarity to learning outcomes (as indicated by learner empowerment and affective learning) and confirmation to learning outcomes were mediated by teacher credibility. These findings are important because they lend support Schrodt et al.’s (2009) and Hosek’s (2008) argument that placing teacher credibility as a
mediator provides a useful way to examine the relationship among teacher communication behaviors and instructional outcomes and add to our theoretical understanding of teacher credibility. In part, the findings of this study support those of Schrodt et al. (2009), which indicated that teacher credibility partially mediated the association among teacher communication messages (e.g., clarity and confirmation) and student learning outcomes (e.g., learner empowerment and affective learning).

Further, the current study’s findings reinforce those of my pilot studies (i.e., Hosek, 2008), which found teacher credibility to mediate the relationship between shared social identity, teacher behaviors, student learning, and affect for instructor. The extent to which students believe that their teacher is credible (in terms of competence, trustworthiness, and caring), impacts their perception of how clear and confirming they perceive the teacher to be. This in turn functions to help student feel empowered and promotes affective learning.

Initially, I argued for the separation of affective learning and learner empowerment as two distinct constructs. However, after conducting the Confirmatory Factor Analysis (CFA), I chose to combine affective learning and empowerment into one latent construct of learner empowerment, a similar practice was employed by Schrodt et al. (2009) who examined affective learning and empowerment as part of a combined latent construct labeled “learning outcomes.” In addition, Schrodt et al. included learning indicators to represent cognitive learning within the latent construct of learning outcomes. Although I did not examine cognitive learning, Schrodt et al.’s research points to the potential for credibility to also mediate perceptions of teacher communication behaviors and learning outcomes. Thus researchers should continue to explore this relationship.
regarding how credibility, empowerment, and affective learning influence cognitive learning, especially since cognitive learning is a primary goal within higher education.

Based on the depth and breadth that teacher credibility has on facilitating student-teacher interactions and ultimately, student learning, it makes sense that Finn et al. (2009) and Schrodt et al. (2009) call for a continued focus on teacher credibility in order to refine the role that credibility plays within the instructional context. In addition to their appeal, I argue that the current study (and pilot studies) provides evidence that there is a need to explore how credibility is related to, predicts, and mediates understudied variables that affect the instructional context, such as, social identities, intergroup relations, and new media technologies (e.g., Facebook; Diverniero & Hosek, 2011). For example, in the current study teacher credibility was positioned alongside homophily and global shared social identity. But perhaps teacher credibility mediates the perception of group-based categorizations and learning outcomes or is an antecedent to perceptions of group-based categorizations when examining the instructional context. As these are questions that frame my current research agenda, I plan to explore these questions in future studies.

In all, the current study extends current theorizing and model development surrounding teacher credibility by focusing on the mediating role credibility plays within the instructional context. In doing so, I extend and lend support to the work begun by Schrodt et al. (2009) and extend my own line of research surrounding the two studies that laid the foundation for this study (e.g., Hosek, 2008, 2009). In all, Finn et al.’s (2009) meta-analysis articulated that researchers examine credibility in a variety of ways in their studies. To illustrate, McCroskey, et al. (2004) articulated the model of instructional
communication that placed emphasis on credibility as both a predictor and as an outcome variable. Schrot et al. (2009), Hosek (2008), and the current study placed credibility as a mediator in the overall instructional process thus demonstrating pervasive role (Myers & Martin, 2006) that ethos plays within instructional communication research. For this reason, I argue that the construct of teacher credibility is infused directly and indirectly at the macro and micro levels of the research process, and its impact should be considered during the design, execution, and interpretation of most, if not all, instructional communication and educational research.

**Teacher Immediacy**

A second theoretical implication derived from this study surrounds the role of teacher immediacy in the instructional context. The research on nonverbal immediacy has undoubtedly been heuristic and produced a substantial body of research; yet, it is not without criticisms and contradictions (for a review, see Witt, Schrot, & Turman, 2010; Witt, et al., 2004b). As such, scholars have recently begun to question the prominence that nonverbal immediacy has received in instructional communication research (Schrot, et al., 2009; Witt, et al., 2010). Researchers have found that nonverbal immediacy accounts for a smaller percentage of the variance than would be expected to explain student learning outcomes (Schrot, et al., 2009). In other studies, nonverbal immediacy was not related to student learning outcomes (Houser & Frymier, 2009; Hosek, 2008; Mottet et al., 2008;) or other teacher characteristics (e.g., credibility) as in the current study.

The results from the current study show that students’ perceptions of teacher nonverbal immediacy do not predict teacher credibility. This finding conflicts with other
researchers who have found a positive relationship between teacher credibility and nonverbal immediacy. Given the contrasting findings within the literature, additional research is needed to determine the role immediacy plays in the instructional context.

As mentioned earlier, it is possible that many teacher communication behaviors contain elements of immediacy (i.e., confirmation behaviors being perceived as immediate as in the current study and Schrot, et al., 2009), and for this reason a more concerted effort is needed to address the fact that numerous variables examined in the instructional communication literature are inherently immediate in nature. Researchers can take several measures to address this concern surrounding the inherent immediacy laden variables within instructional communication research. First, researchers should construct studies that control for immediacy behaviors in order to isolate the specific behaviors under investigation. Second, researchers can engage in model development, as in the current study, to examine the ways in which multiple teacher communication behaviors impact student learning outcomes, as a way to examine the combined effects of the variables under investigation. Finally, researchers can examine nonverbal immediacy as a covariate with their research in order to locate how immediacy functions alongside other variables of interest to instructional scholars.

Overall, I argue the main theoretical contribution that is derived from the current study is the extension of intergroup theorizing and research to the instructional context. The intergroup perspective provides a rich, yet underutilized lens from which to examine intergroup issues within the instructional context. The next section highlights the contribution that the current study makes by integrating intergroup theorizing to instructional communication research and suggests potential areas for future research.
Extending the Intergroup Perspective

Edwards and Harwood (2003) called upon researchers to examine issues of social identity within the instructional context. Similarly, Harwood (2006) stated a broader challenge when he suggested that researchers examine issues of identity within all their studies. To address these challenges set forth by Edwards and Harwood, I extended the work of Edwards and Harwood through my previous studies and the current study by using the intergroup perspective and theorizing in the form of SIT, CCIM, and CAT to explore how, if at all, social identity and group-based categorization impact the instructional context.

Taken together, Edwards and Harwood’s (2003) study, my two pilot studies Hosek (2008, 2009) and the current study highlight the value and richness that the intergroup perspective and intergroup theorizing can offer instructional communication scholarship. Although interpersonal, family, educational, and sociology scholars readily use the intergroup perspective in their research, the integration of this perspective has not been adopted among instructional communication research. Importantly, the findings from the current study underscore the usefulness and need for continued interested and exploration among scholars to recognize intergroup communication and theorizing as another lens from which to examine instructional issues.

The findings of the current study yield three general conclusions and point to ways to further refine the conceptual model from Chapter One. First, content relevance was a positive predictor for both background homophily and global shared social identity; yet, teacher confirmation or accommodation did not predict group-based categorization. Given the theoretical links to confirmation and identity development/reinforcement,
intergroup theories such as CAT should be used more directly to examine the relationship among accommodation, confirmation behaviors, and group-based categorization. For example, future researchers can explore how students’ experience nonaccommodation in the classroom and, how, if at all, this leads to feelings of disconfirmation towards students’ identity development/reinforcement.

Also, group-based categorizations did predict instructional learning outcomes when they were defined as empowerment, affective learning, or in-class participation, but did not predict relational outcomes such as affect for teachers, relational, and communication satisfaction. These findings link group-based categorizations more clearly to the relational dimension of the student-teacher relationship and the resulting implications require further examination.

The current study focused on the student-teacher relationship and how students’ perceptions of teachers’ communication behaviors impacted perceptions of group-based categorization and learning outcomes. However, intergroup interactions can also occur between students throughout the course of a semester and these interactions offer an additional site to explore intergroup relations. From a practical standpoint, students are often placed in groups for assignments and activities and many teachers pre-select the groups for the class to encourage diversity amongst the students. When students are placed in group situations, it stands to reason that they may feel less or more identified with certain group members or the group as a whole, and this can reinforce or challenge perceptions of group-based categorization.

To illustrate how this scenario might occur, I provide the following example: Sue is a non-traditional student (age 33), an African-American woman, a wife, and a new
mother. She is enrolled in an introductory communication course and is assigned to a group with three other students who, in her opinion, belong to vastly different social groups than she does and she questions how well they will work together as a group.

Clearly, shifting the focus to the student-student relationship provides an additional trajectory for future research. Given that employers are increasingly looking for students who can work in a team-based culture, it makes sense that many courses require some form of group work as part of their curriculum. Yet, from an intergroup perspective it becomes important to examine how, if at all, students’ perceptions of group-based categorization impact group commitment, satisfaction, willingness to communicate, conflict management, and learning during group projects because these can impact the end product. In addition, it would also be important to understand how, if at all, students’ perceptions of similar group-based categorizations with their teachers mitigate the impact of student-student intergroup dynamics, and to what extent. In future research, I plan to explore these questions with an eye towards the student-student relationship and instructional outcomes, and consequently the role teachers may play in the interaction.

**Practical Applications**

The present study offers several practical applications for teachers, students, and administrators. Also, these practical implications may offer ways to address the higher education issues presented at the onset of this study.

The findings from this study offer important implications for teachers. The results of this study indicate that teachers should be encouraged to engage in behaviors that build, maintain, and reinforce their credibility. Similarly, teacher clarity and
confirmation behaviors directly predicted students’ perceptions of teacher credibility.

This finding suggests that teachers should engage in behaviors that make content understandable to students such as organizational cues, previews, transitions, summaries, detailed explanations, and examples. At the same time, teachers should show students that they are valuable and important partners in the learning environment (i.e., use confirmation behaviors). Teacher clarity, content relevance, and nonverbal immediacy directly predicted in-class participation; therefore, teachers are encouraged to engage in these behaviors to promote engagement in their classrooms. Additionally, the extent to which teachers use confirmation and content relevance behaviors link directly to learning outcomes (as indicated by empowerment and affective learning), provides another reason teachers should engage in these behaviors.

Finally, teachers should be mindful that when they engage in self-disclosure, as those disclosures may lead students to feel more or less similar to them in terms of background homophily and global shared social identity. If teachers do engage in self-disclosure they should remain authentic to their own identities (Hosek & Thompson, 2009), but make sure that what they disclose is relevant to course content.

Students can also benefit from the findings of this study. The results of the current study demonstrate that students are partners in the learning process, and as such, students should recognize and attend to the ways in which they feel similar to their teachers in terms of homophily (attitude and background) and global shared social identity. Students should focus on these factors because the current study illustrated how homophily and global shared social identity predicted the degree of affect students had towards their teachers. Likewise, these factors influenced how satisfied students were
with the overall student-teacher relationship and how satisfied they were with the communication within the student-teacher relationship.

Overall, these recommendations reinforce those proposed by Martin and colleagues because they argued that students benefit when their intention for communicating with their teachers is based on relational and functional motives as opposed to excuse-making or self-promotion. Ultimately, when students engage in communication with their teachers and feel identified with those teachers, this has the potential to reduce the detrimental effects associated with isolation, self-esteem, and academic performance.

The findings from this study can also benefit teachers and administrators with regard to how teaching performance is measured. Researchers note that students’ evaluations are vitally important to the career trajectory of teachers; so much so, that students’ evaluations are considered valid assessments of a teacher’s success and factor in decisions relating to tenure and promotion (Dennis, 1990; Shingles, 1977). Researchers have criticized the use of these evaluations because they often focus on unchangeable factors such as gender (Basow & Silberg, 1987; Bennett, 1982; Bourhis, et al., 1975) and ethnicity (Hendrix, 1998). In light of the current study’s findings, perhaps a more appropriate approach would be to consider the ways in which social identities, such as gender and ethnicity, become salient to students in their assessment of teachers, their teaching, and their own learning and engagement. The current study demonstrates that homophily and global shared social identity predict affect for teachers. For this reason, administrators and teachers alike should examine evaluations with this in mind, because students may report higher evaluations for teachers whom they feel similar to as
compared to those teachers they feel dissimilar to in terms of homophily and social group membership.

**Limitations**

As with most all research studies, it is important to view the results of this investigation in the context of its limitations. In particular, there are three limitations worth noting. First, relational and communication satisfaction were removed from the SEM analysis. This is a limitation because both variables posed threats to concurrent and divergent validity, and the data analysis revealed that these variables, when examined alongside other instructional communication variables, may not distinctly measure student-teacher satisfaction nor were they psychometrically distinct from the other variables in this study. The choice to remove these variables from the current study, though theoretically and methodologically warranted, limited my ability to examine variables that focused specifically on the relational functioning surrounding the student-teacher relationship. While several valid arguments exist for not examining relational satisfaction using traditional interpersonal-type measures (e.g., MOQ), future researchers should continue examining student communication satisfaction since the measure was developed specifically for the instructional context.

A second limitation involves the sample used in this study. The sampling techniques used to solicit participants produced a relatively homogenous sample. More specifically, the sample lacked diversity with regard to race/ethnicity (82% Caucasian), sexual orientation (93% heterosexual), religious affiliation (77% Christian), and age group (84% young adults). In general, soliciting participants from multiple regions of the United States, abroad, and from multiple institutions, would provide a more robust
sample from which to investigate issues of group-based categorization. Further, the lack of diversity in my sample does not provide a thorough understanding of the experiences that traditionally marginalized social groups such as non-white, GLBT, or non-traditional students have with issues surrounding group-based categorization, and how they impact perceptions and relational functioning between students and teachers.

As a way to address this limitation, I plan to focus some of my future research in this area on the experiences of non-traditional students. Research on the experiences of non-traditional students is needed for many reasons. First, numerous studies have articulated the different needs that non-traditional students (Gorham, 1999; Houser, 2004; Knowles, 1984). Nontraditional students have different needs with regard to learning styles (Knowles, 1984; Richardson & Lane, 1993). Nontraditional students have a greater willingness and desire for their instructors to know about their experiences and incorporate into class how content relates to work/professional life (Houser, 2004b). In a study examining nontraditional students’ expectations for instructor behavior, Houser (Houser, 2004a) found that nontraditional students reported few desires for verbal immediacy and clarity and no desires for nonverbal immediacy. However, Houser (2004) cautions that this lack of desire should not suggest that nontraditional students would respond negatively to these behaviors. Nontraditional students did however report a desire for instructors to see them as adult individuals with experiences and who are responsible for their own learning.

Moreover, and directly linked to my current research, Edwards and Harwood (2003) suggested that future researchers using an intergroup approach should examine the ways in which nontraditional students identify with their instructors in terms of group
identification. To further supplement this proposition, in an earlier study (Nunziata, 2007), I discovered that nontraditional students may desire greater connection and information about instructors’ personal lives to help them build relationships with their instructors. In all, researchers have yet to examine other ways that social identity is salient in the classroom for nontraditional students in comparison to traditional students. In the future I plan to address this limitation by conducting additional studies that examine the extent to which group-based categorizations (e.g., age group identity) impact nontraditional students’ perceptions of teacher communication behavior and student learning.

The third limitation involves the measurement of global shared social identity (GSSI). GSSI was measured using Aron, et al.’s (1992) Inclusion of Other in the Self (IOS) scale which was originally designed to directly assess interpersonal interconnectedness and relational closeness. For the current study, the measure was adapted to examine the extent to which students believed they and their teachers belong to similar social groups. Although the IOS was useful in the current study as a means to examine global shared social identity because it taps in to feelings of closeness to another person, and not a larger social group, alternate measures or creating a measure of group identification specific to the instructional context may be warranted for future studies.

The IOS is a one-item measure, and although researchers argue for its reliability and validity in regards to interpersonal relationships, several issues arise when adapting this measure to examine global shared social identity. Students were promoted to think about all of the various social group memberships that they and their teacher belong to when responding. In using this approach it was impossible to determine if particular
social group memberships played a stronger role in students’ responses. Therefore, future research may benefit from examining specific social identities individually—similar to how Edwards and Harwood (2003) only examined age identity. By examining specific social identities, researchers would be able to provide a more robust understanding as to how, if at all, specific social identities (e.g., gender, age, sexual identity, race/ethnicity) predict instructional outcomes.

**Conclusion**

This study assessed students’ perceptions of teachers’ communication behaviors and how the students’ perceptions functioned to predict group-based categorizations and to what extent these perceptions influenced instructional outcomes. This study was grounded in the intergroup perspective through the use of Social Identity Theory and the Common Ingroup Identity Model, Communication Accommodation Theory. Ultimately, this study reinforced the role of credibility as a salient variable within the landscape of instructional communication research, as it predicts and mediates the relationship among teacher communication behaviors and learning outcomes. In addition, the results from this study establish the roles of teacher clarity and confirmation behaviors as key variables that influence students’ perceptions of teacher credibility, homophily, and global shared social identity. Also, the present study clarified the findings of previous research and offered avenues for future research. In all, the results of this study highlight the contributions that teacher communication behaviors and group-based categorizations can have on instructional outcomes, and provided practical applications for students and teachers to consider as they interact with each other to achieve instructional goals.
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Dear Parent or Guardian:

Your son or daughter is currently enrolled in a Communication Studies course at the University of Nebraska—Lincoln. As part of that course, students will be eligible to earn extra credit for participating in an activity that introduces students to the communication research process. The extra credit opportunities are not mandatory, but they can help a student learn about the research behind Communication Studies knowledge. There will be several options for earning extra credit, including completing a reading/writing project involving current communication studies research or participating in an actual research project being conducted by faculty or faculty supervised graduate students. If students choose this latter option, they have a range of projects on different topics from which they can choose.

The University of Nebraska requires parental consent for students who are under 19 years of age to participate as volunteer subjects for research. Because your son or daughter is currently under 19, in order for him or her to have the option of selecting participation in a research project, your consent is needed. Although there are other options for receiving extra credit, many students find opportunities to participate in research to be of educational value. Each of these projects will have undergone two levels of independent review (one at the departmental level and one at the University level) to assure proper protection of human subjects. Potential benefits of participation include a chance to learn about a particular area of current communication research and about the methods employed in such research.

Examples of tasks that are currently used in such research projects involve completing surveys of one’s communication experiences, engaging in sample conversations to be observed by a researcher, and reporting on one’s plans and goals during communication. All of these projects have been reviewed and approved by the Communication Studies Unit review committee and by the University of Nebraska—Lincoln, Institutional Review Board. While summaries of data obtained in these experiments may potentially be used in scientific journals or presented at professional conferences, no identifying information about a specific individual will be retained (i.e., data from specific individual’s participation is usually anonymous and is always confidential).

Your signature indicates that you have read this letter and agree to allow your son/daughter ____________________________ to participate in research projects of his/her choice as means of earning extra credit in a Communication Studies course at the University of Nebraska—Lincoln.

Signature __________________________________ Date ____________________________

If you have any questions about research participation by students in communication Studies courses, your may contact Dr. Jordan Soliz at 402-472-8326. If you have any questions concerning the rights of research participants, you may contact the University of Nebraska—Lincoln Institutional Review Board (IRB) at 402-472-6965.
APPENDIX B:

Recruitment Announcement

Extending Intergroup Theorizing to the Instructional Context: Testing a Model of Teacher Communication Behaviors, Group Categorization and Outcomes that Influences the Student Teacher Relationship

My name is Angela M. Nunziata Hosek and I am a doctoral candidate in the Department of Communication Studies at the University of Nebraska-Lincoln. I am currently working on my dissertation which focuses on college student identification with their college instructors. I am looking for students who meet the following criteria: (1) must be at least 19 years old, (2) are currently enrolled in college and self-identify as a traditional or nontraditional student and (3) are able to respond to the survey questionnaire while thinking about a target teacher that they have an opportunity to observe and interact with during a face-to-face class.

I am therefore seeking individuals to complete an on-line questionnaire regarding this topic. The on-line questionnaire will take approximately 45-60 minutes to an hour to complete and will only be available March 1st thru March 22, 2010. If needed, the survey dates may be extended in order to gather a sufficient number of participants. To participate, you must meet all of the following criteria:

(a) Be at least 19 years of age,
(b) Currently enrolled in college classes and self-identify as a traditional or nontraditional student, and
(c) be able to respond to the survey questionnaire while thinking about a target teacher that you have an opportunity to observe and interact with during a face-to-face class that you are taking.

If you choose to participate, all of your information will be kept confidential.

If you are willing to participate, please visit the website: http://ssp.qualtrics.com/SE?SID=SV_3ITJ3iM4C1Dyug&SVID=Prod to complete the questionnaire.

If you know of anyone who may be willing to participate in this study, please pass on this announcement to them. If you would prefer to fill out the questionnaire on paper, please contact me at the information listed below.

If you should have any questions or difficulties in connecting to the website, please contact me as soon as possible. I appreciate your help!

Reminder-- the questionnaire will be only available through March 1, 2010 to March 22, 2010.

Thank you for your help.

Angela M. Nunziata Hosek, M.A.
Dr. William Seiler
402-472-0650
amnunziata@huskers.unl.edu
Identification of Project:
Extending Intergroup Theorizing to the Instructional Context: Testing a Model of Teacher Communication Behaviors, Group Categorization and Outcomes that Influences the Student Teacher Relationship

Purpose of the Research:
This is a research project that examines the ways in which college students and teachers’ social identities influence students’ perceptions of teachers’ behaviors. The study also examines students’ engagement and empowerment in the classroom, affective learning, and relational satisfaction with their instructors. Specifically, the study seeks to examine how shared identities among college students and teachers are related to various teaching goals and student learning outcomes. To participate in this study you must be 19 years of age or older, must currently be enrolled in college and self identify as a traditional or nontraditional student. Potential participants must be able to respond to the survey questionnaire while thinking about a target teacher that they have an opportunity to observe and interact with in a face-to-face manner during class. You are invited to participate in this study for extra credit in courses where extra credit is offered.

Procedures:
Participation in this study requires approximately 45-60 minutes of your time. The questionnaire may be completed at any location where you have private internet access. I suggest that you do not complete the survey at work due to the potential for computer use to be monitored. The online survey is located on Qualtrics.com and the website uses a secure server that encrypts data during transit to the website. Qualtrics.com does not use collected or redistribute data in any way shape or form and has met the Safe Harbor data protection requirements. Although the researcher will have access to participants’ email addresses when they submit their survey, and for any extra credit offered to the University of Nebraska-Lincoln students, all identifying labels will be removed before data analysis and reporting. The questionnaire takes approximately 45 to 60 minutes to complete.

Throughout the questionnaire you will answer survey questions about your target instructor’s communication behaviors during class and the degree to which you feel similar and/or different to your target instructor, perceptions of your own behavior in the class your target instructor teaches. You will also be asked to provide demographic information about yourself. At the end of the survey you will have an opportunity to provide the researcher with feedback about the questionnaire.

Risks and/or Discomforts:
There are no known risks associated with participating in a study of this nature. However, the participants will be asked to indicate the degree to which they feel similar to their instructors with regard to (a) race/ethnicity (b) religion (c) political affiliation (d) sexual orientation (e) gender. The researcher will take the following measures to protect the rights and safety of the participants: (1) participants will be free to leave the study or decline participation in the study during any step of the process, (2) all participants names will be changed in the research report to ensure confidentiality, and (3) if a participant suffers emotional or mental distress the researcher will refer them to the UNL Psychological Consultation Center, telephone (402) 472-2351. If you are not a UNL student we recommend that you seek counseling in your community. If you call the UNL Psychological Consultation Center they can provide you with the contact information of a psychological service center in your area. It is the responsibility of each participant to pay for treatment if they choose to seek it out. Researchers will not be held liable for treatment expenses incurred.

Benefits:
There are no direct benefits to the participants. However, the participants involved in this study may gain a greater understanding of the ways in which they perceive their instructors characteristics and communication behaviors as related to their perceived learning.

Confidentiality:
Your responses will be kept strictly confidential and your name will not be associated in any way with the research findings. All consent forms and materials will be kept in a locked drawer in the principal investigator’s office and only the primary
researcher or the secondary research investigator will have access to these files. Results of this research may be presented at professional conventions and included in journal articles.

Compensation:
Students who participate may receive extra credit in their communication studies course where extra credit is offered. The names of the students who participate in this study will be sent to Dr. Jordan Soliz in the Communication Studies department who will compile a list of student names to identify who participated in research for extra credit. This list will be disseminated to the Communication Studies department faculty and graduate teaching assistants so that they can give their students their credit, however the specific study a student participates in will not be identified. Other extra credit opportunities should be provided by instructors for those students who do not qualify or choose not to participate in this study. No monetary compensation will be given to any participants.

Opportunity to Ask Questions:
You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. Or you may call the investigator at any time, office phone, (402) 472-0650. If you have questions concerning your rights as a research subject that have not been answered by the investigator or to report any concerns about the study, you may contact the University of Nebraska-Lincoln Institutional Review Board, telephone (402) 472-6965. Please feel free to voice any and all questions you may have before or during the completion of the questionnaires. If you would like additional information concerning this study after it is complete, please feel free to contact the investigator by phone, mail, or email.

Freedom to Withdraw:
You are free to withdraw from this study at any time. Withdrawal from the study will not adversely affect your relationship with the investigator, the Department of Communication Studies, or the University of Nebraska. Your decision will not result in any loss of benefits for which you are otherwise entitled. If you are a communication studies student you will receive extra credit for your participation, when offered by your instructor. If you choose not to participate, there are alternative options for this extra credit. If you feel any emotional or mental distress from participating in this study please contact the UNL Psychological Consultation Center, telephone (402) 472-2351. Please note that you are responsible for any costs associated with these services.

Consent, Right to Receive a Copy:
You are voluntarily making a decision whether or not to participate in this research study. By clicking the “I Agree” button at the end of this consent form you certify that you have read and understood the information presented.

Name and Phone number of investigator(s)
Angela M. Nunziata Hosek, M.A., Principal Investigator  Office: (402) 472-0650
William Seiler, Ph.D., Advisor  Office (402) 472-2067
APPENDIX C:

Extending Intergroup Theorizing to the Instructional Context: Testing a Model of Teacher Communication Behaviors, Group Categorization and Outcomes that Influences the Student Teacher Relationship

Paper Version of Survey Questionnaire Items*

*The labels for the surveys were not visible to the participants but are contained in the copy of the questionnaire in Appendix C for clarity.

General Survey Instructions

Directions: Thank you for your willingness to complete this survey! As you complete the survey questionnaire you will be answering questions about a "target instructor." To select a specific a “target instructor,” please think of the instructor who teaches the first class that you attend each week. It should be an instructor with whom you have the opportunity to interact with during class (i.e., observe them lecture, ask questions of them, engage them in discussion during or outside of class).

The person you select is your target instructor for the remainder of the questionnaire, please answer all questions about this target instructor and the class he/she teaches when requested. Please answer all questions honestly based on your interpretation of the questions.

**For UNL students completing this questionnaire wanting extra credit, your target instructor cannot be the instructor that will be giving you extra credit. If this is the case please think of the next class you have during the week that meets the above criteria.

Section I: Teacher Communication Behaviors (Verbal Communication Behaviors)

Instructor Clarity

Directions. The next series of questions will ask you to think about how you feel about your target instructor. Answer the following questions by placing the number from the following scale, using the space provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

____This instructor clearly defines major concepts.
____This instructor's answers to student questions are unclear. (R)
____In general, I understand this instructor.
____This instructor's objectives for the course are clear.
____This instructor is straightforward in his/her lectures.
This instructor is not clear when defining guidelines for out of class assignments. (R)

This instructor uses clear and relevant examples.

In general, I would say that this instructor's classroom communication is unclear. (R)

This instructor is explicit in her/his instructions.

Content Relevance

Directions. Now think about how you feel about your target instructor’s behaviors. Answer the following questions by placing the number from the following scale, using the place space provided.

1 = Never; 2 = Rarely 3=Occasionally; 4 = Sometimes; 5 = Frequently 6= Usually; 7 = Always

This instructor uses examples to make the content relevant to me.

This instructor uses exercises or explanations that demonstrate the importance of the content.

This instructor explicitly states how the material relates to my career goals or my life in general.

This instructor connects the material in this class to other classes I’m taking or have taken.

This instructor asks me to apply content to my own interests.

This instructor uses his/her own experiences to demonstrate or introduce a concept.

This instructor uses his/her students’ experiences to demonstrate or introduce a concept.

This instructor uses discussion as a method to help me understand the relevance of a topic.

This instructor uses current events as examples when presenting course content.
**Instructor Self-Disclosure**

**Directions.** For the next series of questions I would like you to think about how your target instructor communicates with you and/or others. Answer the following questions by placing the number from the following scale, using the place provided, with 1 representing *Completely Disagree* and 7 representing *Completely Agree*. Numbers 2 and 6 indicate a strong feeling in either desired direction. Numbers 3 and 5 indicate a fairly weak feeling in either desired direction. Number 4 indicates you are undecided.

<table>
<thead>
<tr>
<th>Completely Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Completely Agree</th>
</tr>
</thead>
</table>

___This instructor expresses his/her beliefs.

___This instructor reveals personal information about his/her personal life.

___This instructor often talks about what he/she does on weekends.

___This instructor seldom talks about him/herself. (R)

___This instructor uses his/her family or friends as classroom examples.

___This instructor often gives his/her opinions about current events.

___This instructor shares his/her dislikes and likes.

___This instructor presents his/her attitudes towards events occurring on campus.

___This instructor discusses his/her feelings.

___This instructor often talks about him/herself.

___This instructor often gives personal examples in class.

___This instructor seldom discusses family or friends. (R)

___This instructor only discusses class related material. (R)

___This instructor rarely discusses his/her personal life. (R)

___This instructor gives his/her opinion about events in the community.

___This instructor is open about his/her feelings with the class.

___This instructor often talks about his/her family and friends.

___This instructor seldom expresses his/her beliefs. (R)
Confirmation

Directions. The next series of questions ask you to think about how you feel about your target instructor’s communication. Answer the following questions by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree 3 = Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6 = Agree; 7 = Strongly Agree

____ This instructor takes time to thoroughly answer students’ questions.

____ This instructor listens attentively when students ask questions or make comments during class.

____ This instructor indicates that he/she appreciates students’ questions or comments.

____ This instructor is available for questions or comments.

____ This instructor is willing to deviate slightly from the lecture when students ask questions.

____ This instructor communicates that he/she is interested in whether students are learning.

____ This instructor communicates that he/she believes students can do well in the class.

____ This instructor asks students how they think the class is going and/or how assignments are coming along.

____ This instructor makes an effort to get to know students.

____ This instructor uses an interactive teaching style.

____ This instructor uses a variety of teaching techniques to help students understand course material.

____ This instructor checks on students’ understanding before going on to the next point.

____ This instructor incorporates exercises into lectures when appropriate.

____ This instructor gives oral or written feedback on students’ work.
Accommodation

**Directions.** The next series of questions asks you to think about your target instructor’s communication during class. Answer the following questions by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree 3= Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

**During class...**

_____...this instructor provides opportunities to discuss multiple opinions and perspectives.

_____...this instructor welcomes opinions different from his/her own.

_____...this instructor promotes discussion about experiences that are different from his/her own.

_____...this instructor takes in to account views that may be different from his/her own.

_____...this instructor encourages discussions from different viewpoints.
Nonverbal Communication Behaviors

Nonverbal Immediacy

Directions: For each item, indicate how often, the target instructor uses the following behaviors when communicating in class. Answer the following questions by placing the number from the following scale, using the space provided.

1 = Never; 2 = Rarely 3=Occasionally; 4 = Sometimes; 5 = Frequently 6= Usually; 7 = Always

____ This instructor uses a monotone or dull voice while talking to people. (R)

____ This instructor has a relaxed body position when he/she talks to people.

____ This instructor avoids eye contact while talking to people. (R)

____ This instructor uses a variety of vocal expressions when he/she talks to people.

____ This instructor gestures when he/she talks to people.

____ This instructor has bland facial expressions when he/she talks to people. (R)

____ This instructor moves closer to people when he/she talks to them.

____ This instructor leans toward people when he/she talks to them.

____ This instructor maintains eye contact with people when he/she talks to them.

____ This instructor smiles when he/she talks to people.
Section II. Group Categorization

General Directions: This next section of the questionnaire asks you to respond to how similar and/or different you feel to your instructor. Please continue thinking about your target instructor as you respond to the following questions.

Perceived Homophily

Directions: Please indicate the number which best describes your feelings about this target instructor. Realize that you may not know the answers to some of these questions, but to the best of your ability think about your own perceptions of them regarding each question.

Answer the following questions by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree

____ This instructor is from a social class (i.e. socioeconomic class) similar to mine

____ This instructor’s status is different from mine (R)

____ This instructor is from an economic situation different from mine (R)

____ This instructor’s background is similar to mine

____ This instructor’s status is like mine

____ This instructor is from a social class different from mine (R)

____ This instructor is from an economic situation like mine

____ This instructor’s background is different from mine (R)

____ This instructor and I come from a similar geographic region

____ This instructor’s life as a child was similar to mine

____ This instructor thinks like me

____ This instructor doesn’t behave like me (R)

____ This instructor is different from me (R)

____ This instructor shares my values

____ This instructor is like me
This instructor treats people like I do
This instructor doesn’t think like me (R)
This instructor is similar to me
This instructor doesn’t share my values (R)
This instructor behaves like me
This instructor is unlike me (R)
This instructor doesn’t treat people like I do (R)
This instructor has thoughts and ideas that are similar to mine
This instructor expresses attitudes different from mine (R)
This instructor has a lot in common with me
Identity Salience

Directions: This next set of questions will ask you about social groups for which you belong (or those which other people place you in) and how significant these are in your life. Please pay particular attention to the directions and questions as you complete this section of the questionnaire.

A.
If you were to indicate your race/ethnicity (e.g., Hispanic or Latino/a, African-American, Caucasian or White etc.) please write what it would be in the space provided: ________________________________.

In the comment box below please provide any additional details, if any, you feel are important to your cultural background, such as specific country or region that your family comes from.

________________________________________________________________________
________________________________________________________________________

Please answer the following questions based on your indication of your race/ethnicity described above by placing the number from the following scale in the space provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____ Being a member of this race/ethnicity is central to who I am.

_____ My race/ethnicity is an important part of who I am.

B.
If you were to indicate your age group (e.g., teenager, young adult, middle age, older adult etc.) please write what it would be in the space provided: ________________________________.

Please answer the following questions based on your above indication of your age group by placing the number from the following scale, in the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____ Being a member of this age group is central to who I am.

_____ My age group is an important part of who I am.
C. If you were to indicate your gender, please write what it would be in the space provided:

__________________________.

Please answer the following questions based on this indication of your sex/gender by placing the number from the following scale, in the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____Being a member of this gender is central to who I am.

_____My gender is an important part of who I am.

D.

If you were to indicate your sexual orientation (e.g., gay, lesbian, straight, bisexual) please write what it would be in the space provided: ____________________________.

Please answer the following questions based on this indication of your sexual orientation by placing the number from the following scale, in the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____Being a member of this sexual orientation is central to who I am.

_____My sexual orientation is an important part of who I am.

E.

If you were to indicate the religion you belong to/affiliate with (this includes atheist and agonistic practices) please write what it would be in the space provided: ____________________________.

Please answer the following questions based on this indication of your religious affiliation by placing the number from the following scale, in the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____Being a member of this religion/religious affiliation is central to who I am.

_____My religion/religious affiliation is an important part of who I am.
F.

If you were to indicate the political group (i.e., republican, democrat, independent, libertarian, socialist, communists, other etc.) you belong to/affiliate with, please write what it would be in the space provided: ________________________________.

Please answer the following questions based on this indication of your political affiliation by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

_____ Being a member of this political affiliation is central to who I am.

_____ My political affiliation is an important part of who I am.
Shared Social Identity

Directions: Now let’s continue thinking about the social groups in which you belong. In other words, groups you belong to or others place you in. For example, if you are a Hispanic man you might see yourself as part of Hispanic and/or Latino/a social group, as one social group you belong to. These can also be social groups that others people place you in. For example, you may not believe that you are part of the “young adult” age group, but others may believe you are and interact in ways with you that indicate these perceptions.

Also, let’s think about those social groups that you perceive you target instructor may belong to (or those which other people put him/her in). For example, you may believe that you target instructor is part of a conservative religious group.

Now that you are thinking about your own social group membership and those that you perceive your target instructor belong to, please think of the extent to which you perceive you and your target instructor to be part of the same social groups.

Please indicate the number which best describes your perceptions about this target instructor and yourself. Answer the following questions by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree 3=Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6= Agree; 7 = Strongly Agree

____I feel as if this instructor and I are members of the same age group.
____I feel as if this instructor and I are members of the same racial/ethnic group.
____I feel as if this instructor and I are members of the same gender group.
____I feel as if this instructor and I are members of the same religion/religious affiliation group.
____I feel as if this instructor and I are members of the same political/political affiliation group.
____I feel as if this instructor and I are members of the same sexual orientation group.
**Directions:** In the previous questions you have been thinking about specific group memberships such as age, gender, religion; however these are not an exhaustive list of all the social groups a person can belong to.

In the pictures below please imagine that one circle represents your knowledge of all the social groups to which you belong and the value and importance you place on being part of those social groups (indicated by the “Y”). The other circle represents your perceptions of all the social groups your instructor belongs and the importance he/she places on being a member of those social groups (indicated by the “T”).

Now think about all the various social groups you and your instructor are/could be part of and overall how similar and/or different you feel to that instructor.

Please select one of the sets of circles below that best represents this feeling.

![Diagram of circles representing knowledge and perceptions of social groups]

Do you believe this difference (if any) between you and your instructor regarding the social groups (i.e., those groups you or your target instructor belong to or others place you or your target instructor in) plays a role in your education? If so, please briefly explain your response:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Section III.
Instructor Credibility

Section IV: This next section will ask about your perceptions of your target instructor’s credibility. Using the numbers and words below, please indicate your perceptions. Numbers 1 and 7 indicate a very strong feeling. Numbers 2 and 6 indicate a strong feeling. Numbers 3 and 5 indicate a fairly weak feeling. Number 4 indicates you are undecided.

<table>
<thead>
<tr>
<th>Intelligent</th>
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<td>Has my interests at heart</td>
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Section IV. Instructional Outcomes

Participation

Directions: Next think about the CLASS taught by your target instructor. Please indicate the number which best describes your behavior in this target class. For each item, circle the number that best characterizes your feelings. Answer the following questions by placing the number from the following scale, using the place provided.

1 = Never; 2 = Rarely 3 = Occasionally; 4 = Sometimes; 5 = Frequently 6 = Usually; 7 = Always

____ I contribute to discussion more so than my classmates.
____ I frequently volunteer my opinion in class discussion.
____ I volunteer when I know the correct response or answer.
____ I contribute to class discussion without hesitation.
____ I express my personal opinion more so than my classmates.

Directions: Next continue thinking about your target instructor and the class he/she teach. Please indicate the number which best describes your feelings about this target instructor and the class he/she teaches. For each item, circle the number that best characterizes your feelings. Numbers 1 and 7 indicate a very strong feeling. Numbers 2 and 6 indicate a strong feeling. Numbers 3 and 5 indicate a fairly weak feeling. Number 4 indicates you are undecided.

I feel the class content is:

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I feel the class content is:

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My likelihood of taking future courses in this content area is:

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My likelihood of taking future courses in this content area is:

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Overall, the Instructor I have in the class is:

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</table>
Learner Empowerment

Directions: Please indicate the number which best describes your perceptions and behavior in this target class. Answer the following questions by placing the number from the following scale, using the place provided.

1 = Strongly Disagree; 2 = Disagree; 3 = Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree; 6 = Agree; 7 = Strongly Agree

1. I have the power to make a difference in how things are done in this class
2. My participation is important to the success of this class
3. I can help others learn in this class
4. I can’t influence what happens in this class (R)
5. My participation in this class makes no difference
6. I can influence the instructor
7. The work that I do in this class is meaningful to me
8. The work that I do for this class is valuable to me
9. The things I learn in this class are useful
10. This class will help me achieve my goals in life
11. The work I do in this class is a waste of my time (R)
12. This class is not important to me (R)
13. I can do well in this class
14. I don’t think that I can do the work in this class (R)
15. I believe in my ability to do well in this class
16. I have what it takes to do well in this class
17. I don’t have the confidence in my ability to do well in this class (R)
18. I feel very competent in this class
Communication Satisfaction

**Directions:** Please indicate the number which best describes how satisfied you feel with your communication with your target instructor. **Answer the following questions by placing the number from the following scale, using the place provided.**

1 = Strongly Disagree; 2 = Disagree 3 = Somewhat Disagree; 4 = Neither Agree nor Disagree; 5 = Somewhat Agree 6 = Agree; 7 = Strongly Agree

***___My communication with this instructor feels satisfying.***

***___I dislike talking with this instructor. (R)***

***___I am not satisfied after talking to this instructor. (R)***

***___Talking with this instructor leaves me feeling like I accomplished something.***

***___This instructor fulfills my expectations when I talk with him/her.***

***___My conversations with this teacher are worthwhile.***

***___When I talk to this instructor, the conversations are rewarding.***

***___This instructor makes an effort to satisfy the concerns I have.***
Relational Satisfaction

**Directions:** Please complete the following questionnaire thinking about your relationship with your target instructor at this current time. Please circle the number that most closely describes your current feelings toward this target instructor.

- Miserable: 1 2 3 4 5 6 7 : Enjoyable
- Hopeful: 1 2 3 4 5 6 7 : Discouraging (R)
- Empty: 1 2 3 4 5 6 7 : Full
- Interesting: 1 2 3 4 5 6 7 : Boring (R)
- Rewarding: 1 2 3 4 5 6 7 : Disappointing (R)
- Doesn’t give me much chance:
  - Lonely: 1 2 3 4 5 6 7 : Friendly
  - Hard: 1 2 3 4 5 6 7 : Easy
- Worthwhile: 1 2 3 4 5 6 7 : Useless (R)

All things considered, how satisfied have you been with your relationship with your **target instructor** at the present time.

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<tr>
<td>Completely Dissatisfied</td>
<td>Completely Satisfied</td>
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<td>Neutral</td>
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</tbody>
</table>
Section V: Class, Instructor and Participant Demographics

What was your target class department, course number, and course name (e.g., COMM 209 Fundamentals of Public Speaking, ENG 151 Writing and Rhetoric, etc.)? Please fill in as much information as you can remember these responses are confidential and anonymous.

44. What is your best guess on the number of people that were in your target class?

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<th>16-30</th>
<th>31-49</th>
<th>50-99</th>
<th>100 or more</th>
</tr>
</thead>
</table>

45. Was your target class instructor: Male Female

46. What is your best guess on your target instructor's age: ______

46. Was your target class:

<table>
<thead>
<tr>
<th></th>
<th>Mostly Lecture Oriented</th>
<th>Even Mixture of Lecture and Discussion</th>
<th>Mostly Discussion Oriented</th>
</tr>
</thead>
</table>

Directions: This last section of the questionnaire will ask you general demographic questions about yourself.

What is your age (in years):

Please indicate your sex:

- Male
- Female

Current status in school (freshman, sophomore etc.):

What is your major?

What type of college or university do you attend:

- Community College
- Technical College
- Private Liberal Arts College
- Public University
- Private University
- Other
How do you identify yourself (please check only one)

☐ Traditional Student: Traditional Students are typically 18-24 years of age and enter college from high school without taking time off in between.

☐ Nontraditional Student: Nontraditional students are typically one or more of the following: (a) 25 years of age or older, (b) have taken a year or more off after high school before entering college, (c) attending college part time, (d) may have dependents to support, (e) or work full time while enrolled and are financially independent.

One more page regarding extra credit!

For University of Nebraska-Lincoln students whose classes offer research participation credit, use the space below please provide your name, the name of the class and instructor’s name for the class you wish to receive credit for participating in this study.

Thank you for your participation. In the space below please provide any questions/comments you have regarding this study.