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The Influence of Instructor Status and Sex on Student Perceptions of Teacher Credibility and Confirmation across Time

Roxanne Heimann
Paul Turman

Many colleges and universities throughout the United States have continued to increase their reliance on graduate teaching assistants (GTAs) entrusting them with the responsibility of covering many entry level courses (Morreale, Hugenberg, & Worley, 2006). However, despite their title of “assistants,” GTAs play an integral role at most institutions since these students teach independent sections (Nyquist, Wulff, & Abbot, 1989), with a documented trend suggesting limited instructional preparation in a number of disciplines (Davis & Kring, 2001; Gunn, 2007; Prieto & Schell, 2008). Training programs have been found to be as in depth as a full course in teaching, to as short as an hour-long workshop where GTAs are given the course text, a standardized syllabus, and access to a course supervisor, resulting in a lack of professional (Myers, 1998; Waldeck, Orrego, Plax, & Kearney, 1997) and social support (Theisen & Davilla, 2006). Research has found that GTAs manage their roles differently than instructors (Feezel & Myers, 1997), employing fewer behavior alteration techniques (Roach, 1999; Golish, 1999), and demonstrated power (Golish, 1999), as well as fostering lower levels of perceived credibility (Golish, 1999).
GTAs possess a number of characteristics (e.g., lack teaching experience, similarity in age to students) that may influence student perceptions of their ability to adequately promote student classroom outcomes (Meyer, Simonds, Simonds, Baldwin, Hunt, & Comadena, 2007). For example, students taught by GTAs produce lower levels of cognitive (Roach, 1997) and affective learning (Cheatham & Jordan, 1972; Roach, 1991), and Roach (1999) noted that GTAs with heightened uncertainty are more likely to experience communication apprehension (CA) in the classroom, affecting both their willingness and ability to communicate. One aspect related to the classroom that GTAs struggle with is their ability to establish credibility with their students, something Feezel and Myers (1997) noted as a major concern for GTAs. Yet, recent research has shown that a number of other communication behaviors, namely teacher confirmation (behaviors that confirm student identities), can help mediate teacher credibility levels (Schrodt, Turman, & Soliz, 2007). These findings suggest that use of a confirming teaching style, while employing behaviors that demonstrate interest in students, and answering questions effectively, can outweigh some of the influence that their instructional status might have on students. In addition to variations based on instructor status, research has also shown student perceptions are influenced by instructor sex differences including credibility (Nadler & Nadler, 2001), classroom climate (Ardovini-Brooker, 2003), and technology use (Schrodt & Turman, 2005; Turman & Schrodt, 2005). With these research findings in mind, the purpose of this investigation is two-fold: 1) to examine the combined influence of instructor status and
sex on student perceptions of teacher credibility and confirmation at the beginning and end of the semester; and 2) to determine the influence of GTA confirmation behaviors on student ratings of instruction across those same time periods.

**Instructor Credibility**

McCroskey (1998) defines instructor credibility as “the attitude of a receiver which references the degree with which the source is seen as believable” (p. 80). Generally, perceived instructor credibility is positively correlated with perceived teaching effectiveness, and instructor credibility is made up of three primary dimensions: competence, trustworthiness, and perceived caring. Competence refers to the perceived knowledge or expertise on the subject matter at hand. Trustworthiness refers to the instructor’s character and honesty, and perceived caring is concern about the students’ welfare (McCroskey & Young, 1981; Teven & McCroskey, 1997). Instructors are not considered credible until they are perceived by students as ranking high in all three dimensions.

Instructor credibility has been linked in research to a variety of behavioral outcomes. In fact, findings from Teven and Hanson (2004) indicate that instructors can boost students’ overall perceptions of credibility simply by using “explicit verbally caring messages” (p. 50). Conversely, teachers who did not use verbally caring messages in interactions with students were seen as less credible. In another study, students’ perceptions of teacher caring were positively correlated with their perceptions of teacher immediacy, responsiveness, asser-
tiveness, and verbal aggressiveness (Teven, 2001). Students who perceive their teachers to be more caring give higher teacher evaluations, evaluate the course content positively, and report they learned more, both cognitively and affectively, in the course (Teven & McCroskey, 1997).

Studies examining all three dimensions of instructor credibility as a whole (i.e. competence, trustworthiness, and caring) further underscore its significance. Students enrolled in courses with an instructor they see as credible are more motivated (Frymier & Thompson, 1992), are more likely to engage in out-of-class communication (Nadler & Nadler, 2001), evaluate the instructor more positively (Schrodt, 2003; Teven & McCroskey, 1997), and are more likely to take additional courses from that person (Nadler & Nadler, 2001). Conversely, instructors who are verbally aggressive, engage in a multitude of teacher misbehaviors, and/or have poor lecturing and presenting abilities (Myers, 2001; Thweet & McCroskey, 1998; Leathers, 1992) have significantly lower perceived credibility from their students.

Research supports the fact that students perceive GTAs differently when compared to full-time faculty members (Cheatham & Jordan, 1972; Golish, 1999; Roach, 1991, 1997, 1999). This is most evident at the start of the semester when students are only able to rely on their initial assumptions about an instructor's overall credibility, suggesting lower ratings for GTAs than professors. Yet, as the semester progresses, it is possible that perceived credibility between the two groups may balance due to GTAs demonstrating competence, showing character, indicating interest in and caring about their students (possibly even more than full-time fac-
ulty), and proving their trustworthiness in day-to-day classroom interactions. For instance, Boehrer & Sarkissian (1985) found that GTAs care more about teaching than other faculty, with further evidence to suggest that they are primarily concerned about their teaching performance (Feezel & Myers, 1997). Furthermore, there is evidence to suggest that students have different expectations of male and female faculty members (Bennett, 1982; Ryan, 1989; Sandler, 1991). While some research indicates a higher perception of credibility for male instructors and professors, (e.g. Nadler & Nadler, 2001), the combined influence of instructor status and sex may produce a unique interaction effect to alter student perceptions across time. Thus, the following research question was set forth to further explore the potential interaction effect that may exist:

RQ1: What influence does instructor status (GTA, instructor/professor) and instructor sex have on students’ perceptions of credibility (perceived caring, trustworthiness, and competency) over the course of the semester?

Perceived Teacher Confirmation

Defined as “the transactional process by which teachers communicate to students that they are endorsed, recognized, and acknowledged as valuable, significant individuals” (Ellis, 2000, p. 266), teacher confirmation represents a context-specific application of a much larger confirmation construct. According to Buber (1957), confirmation is the interactional phenomenon by which we discover and establish our identity as humans.
Not only did Buber view confirmation as perhaps the most significant feature of human interaction, but Watzlawick, Bavelas, and Jackson (1967) suggested it was the “greatest single factor ensuring mental development and stability” (p. 84). This process of endorsing one’s identity occurs through the use of confirming or disconfirming behaviors (Watzlawick et al., 1967). As Cissna and Sieburg (1995) noted, confirming behaviors include (a) an expressed recognition for the existence of others, (b) an acknowledgement of an affiliative relationship, (c) an expressed understanding of another’s self worth, and (d) support for the other individual’s experience. Disconfirming behaviors, on the other hand, involve communicating indifference to the other’s communication attempts, disregarding another’s perception, or disqualifying the other through the use of “name-calling, criticism, blame, and hostile attack” (p. 298).

Although confirmation behaviors have been studied within interpersonal and family contexts for quite some time (e.g., Beatty & Dobos, 1992, 1993; Ellis, 2002; Friedman, 1983; Laing, 1961; Sieburg, 1985), the notion of perceived teacher confirmation has only recently emerged in instructional research. In her program of research, Ellis (2000, 2004) identified four dimensions of teacher confirmation. First, teachers confirm students by responding to questions in such a way that they verbally and nonverbally communicate interest in students’ comments and make themselves available for student interaction outside of class. Second, teachers confirm students by demonstrating interest in, and communicating concern for, their students. Teachers may also use their teaching style to confirm students, in essence, using a variety of techniques and exercises to help stu-
dents understand material, and checking for said student understanding. Finally, teachers can confirm their students by avoiding the use of disconfirming behaviors, such as using rude comments that belittle or embarrass students. Importantly, this fourth dimension failed to cross-validate to a second sample of students (Ellis, 2000). Apparently, the absence of disconfirming behaviors is not an indicator of the presence of confirming behaviors.

Using this tripartite structure of responding to questions, demonstrating interest, and teaching style, Ellis (2000) found that teacher confirmation uniquely explains 30% of the variance in affective learning and 18% of the variance in cognitive learning. Ellis (2004) studied the impact of perceived teacher confirmation on students’ feelings on being confirmed, finding that 61% percent of the variance in students' feelings of confirmation was attributable to perceived teacher confirmation behavior. Additionally, that same study found that confirmation has a large direct effect on receiver apprehension and indirect effects on motivation, affective learning, and cognitive learning (Ellis, 2004).

Overall, then, Ellis’s (2000, 2004) research has demonstrated the importance of teacher confirmation in the college classroom by providing specific behaviors instructors can use to enhance interpersonal relationships with their students. Ellis’s results also provide direct evidence to suggest that perceived teacher confirmation is associated with a variety of instructional outcomes, including, at a minimum, cognitive and affective learning as well as student receiver apprehension and motivation. Given that teacher confirmation involves responding to students’ questions, demonstrating an in-
terest in students, and using a variety of teaching techniques and communication skills to help students achieve course objectives, it stands to reason that confirmation may be influenced by sex and status differences. To test this assumption, the following research question was posed:

RQ2: What influence does instructor status (GTA, instructor/professor) and instructor sex have on students’ perceptions of confirmation (demonstrated interest, responding to questions, and teaching style) over the course of the semester?

Teacher Evaluations

Concurrent with increased interest in teacher credibility and confirmation is a continuing search for instructor behaviors that enhance student learning and teacher evaluations (McCroskey, Valencie, & Richmond, 2004). As Marsh (1984) noted, student ratings of instruction: (a) provide diagnostic feedback to faculty about the effectiveness of their teaching, (b) provide information for students to use in the selection of courses and instructors, and (c) are one of the measures used in deciding who receives tenure and promotion. Schrodt, Turman, and Soliz (2006) examined existing models of perceived understanding of perceived teacher confirmation behaviors and students’ ratings of instruction. Findings supported the confirmation process model whereby perceived teacher confirmation had direct effects on teacher credibility and evaluations, as well as indirect effects on both outcomes. In other words, con-
firmation behaviors “directly enhance teacher credibility and lead to higher teaching evaluations” (Schrodt, et al. p. 19) through perceived understanding. If students’ perceptions of teacher credibility is strongly associated with teacher evaluations (e.g., Schrodt, 2003; Teven & McCroskey, 1997), then one might suspect that communication behaviors that confirm students would ultimately lead to higher teaching evaluations for GTAs. What remains unanswered, however, is whether confirmation behaviors used by GTAs predict student ratings of instruction, and whether such associations are present at the beginning and end of the semester. To further test these associations, the final research question was set forth:

RQ3: How does a linear combination of GTA confirmation behaviors predict student ratings of instruction at the beginning and end of the semester?

METHOD

Participants and Procedures

Participants were 486 undergraduate students enrolled in the basic (hybrid) communication course at a medium sized Midwestern University. Participants included 354 females and 132 males, approximately 19 years of age. Most students classified themselves as “white or Caucasian” (92%), and nearly seven-eighths of students were classified as first-year students (55.1%) or sophomores (31.7%). Since the basic communication course is part of general university requirements, stu-
dents from a variety of majors participated. The data was collected during the second class period (to measure students’ initial perceptions) and again during finals week over the course of two semesters. Those students who did not return surveys at both time periods were not included in the data analysis.

Surveys gathered information on 12 professors/instructors (five males, seven females) and 13 GTAs (five males, eight females). GTAs at this particular institution independently instruct one to two sections of the basic communication class. To equip them to do so, GTAs received a typical four-day training session the week prior to classes starting. In this session, information was presented on GTA responsibilities, pragmatics of the department, classroom management, grading, teaching strategies, and learning styles. Additionally, the GTAs had a weekly hour-long meeting throughout the year. All GTAs had completed at least one semester of teaching prior to this study.

**Instrumentation**

_instructor credibility._ Student ratings of instructor credibility were measured using McCroskey and Young’s (1981) Teacher Credibility Scale (TCS), and Teven and McCroskey’s (1997) nine-item perceived caring scale. The TCS is a 12-item, semantic differential scale asking students to evaluate their instructor in terms of specific bipolar adjectives listed on a seven-point scale. Six of the items measure instructor competence (e.g., “Untrained/Trained”), and six items measure instructor trustworthiness (e.g., “Honest/Dishonest”). These 12 items were combined with the nine-item, semantic dif-
Differential scale developed by Teven and McCroskey (1997) for assessing students’ perceptions of instructors’ caring (e.g., “Sensitive/Insensitive”). Factor analyses conducted by both Teven and McCroskey (1997) and Thweatt and McCroskey (1998) have verified the three-dimensional structure of competence, trustworthiness, and perceived caring. Previous reliability coefficients for the three sub-scales include .89 for Competence, .93 for Caring, and .83 for Trustworthiness (Thweatt & McCroskey, 1998). In this study, the three dimensions produced strong reliability with Cronbach’s alpha coefficients at each time period for Competence (time 1, \( \alpha = .81 \); time 2, \( \alpha = .87 \)) Caring (time 1, \( \alpha = .81 \); time 2, \( \alpha = .88 \)) and Trustworthiness (time 1, \( \alpha = .78 \); time 2, \( \alpha = .84 \)).

**Perceived teacher confirmation.** Perceived teacher confirmation was operationalized using Ellis’s (2000) Teacher Confirmation Scale (TCS). The TCS is a 16-item, Likert-type scale asking students to evaluate the extent to which their teachers exhibited confirming behaviors during the semester. Responses are solicited using a five-point scale ranging from 0 (strongly disagree) to 4 (strongly agree). The TCS measures low-inference behavior across three dimensions. The first dimension, teachers’ responses to questions, includes five items (e.g., “My instructor takes time to answer students’ questions fully”). The second dimension, demonstrated interest in students and in their learning, includes six items (e.g., “My instructor makes an effort to get to know students”). The third dimension, style of teaching, includes five items (e.g., “My instructor uses an interactive teaching style”). Previous confirmatory factor analyses have demonstrated evidence of concur-
<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
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<td><strong>Beginning of Semester</strong></td>
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<td>1. Teacher Evaluation</td>
<td>5.90</td>
<td>.36</td>
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<td>2. Response to Questions</td>
<td>3.25</td>
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<td>.61</td>
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<td>3. Demonstrated Interest</td>
<td>3.38</td>
<td>.38</td>
<td>.90</td>
<td>.47</td>
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<td>4. Teaching Style</td>
<td>3.03</td>
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<td><strong>End of Semester</strong></td>
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<td>5. Teacher Evaluation</td>
<td>5.96</td>
<td>.63</td>
<td>.75</td>
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<td>.89</td>
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<td>6. Response to Questions</td>
<td>3.40</td>
<td>.24</td>
<td>.82</td>
<td>.36</td>
<td>.95</td>
<td>.30</td>
<td>.89</td>
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<td>7. Demonstrated Interest</td>
<td>3.33</td>
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<td>.76</td>
<td>.91</td>
<td>.70</td>
<td>.79</td>
<td>.41</td>
<td>.61</td>
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<td>8. Teaching Style</td>
<td>3.29</td>
<td>.36</td>
<td>.81</td>
<td>.36</td>
<td>.97</td>
<td>.28</td>
<td>.94</td>
<td>.94</td>
<td>.56</td>
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Note. | r values > .60 are significant at the .01 level.
rent and discriminant validity, as well as excellent reliability for the TCS (Cronbach’s alpha = .95), with previous reliability coefficients for the three sub-scales ranging from .83 to .85 (Ellis, 2000, 2004). In this study, the three dimensions produced strong reliability with alpha coefficients at each time period for teachers’ response to questions (time 1, \( \alpha = .84 \); time 2, \( \alpha = .89 \)) demonstrating interest (time 1, \( \alpha = .84 \), time 2, \( \alpha = .86 \)) and teaching style (time 1, \( \alpha = .91 \); time 2, \( \alpha = .94 \)).

Teacher evaluations. To maximize content and construct validity, student evaluations of their instructors were measured using seven items from a departmental teaching evaluation form at a large Midwestern university (e.g., “Overall, I would rate this instructor: Excellent/Poor,” “The instructor’s knowledge of the subject matter was: Excellent/Poor,” etc.). Responses were solicited using a seven-point, semantic differential scale and were recoded so that higher scores reflected higher teaching evaluations. In a previous study, Schrodt (2003) tested the factor structure of the evaluation form and reported a single-factor solution with all seven items loading at .68 or higher. The evaluation form has demonstrated strong reliability with a previous Cronbach’s alpha coefficient of .91 (Schrodt, 2003), and again, in this study the form produced strong reliability with an alpha coefficient of .89 for time one and .93 for time two. Intercorrelations and descriptive statistics for the indicators are provided in Table 1.

Design and Analysis

Research question one and two were answered using a mixed groups factorial ANOVA with follow-up analy-
ses using the LSD procedures to examine the potential change in student perceptions of their teachers’ credibility and confirmation behavior at the beginning and end of the semester. Teacher status (“GTA” and “Instructor/Professor”) and teacher sex (“Male” and “Female”) were both the between-subjects factors, while point-of-time in the semester (second day of class, and last day of class) was the within-subjects factor. Research question three was assessed using a series of linear regression to determine the impact of GTA confirmation behaviors (response to questions, demonstrated interest, and teaching style) on student ratings of instruction at the beginning and end of the semester. Dimension scores on the confirmation and evaluation instruments were aggregated by class to ensure independence. That is, because each student’s ratings on a particular teacher would presumably be affected by the same teacher behaviors, class—rather than individual student—is the appropriate unit of analysis.

**RESULTS**

**Teacher Credibility**

Research question one inquired whether the combined influence of instructor sex (“male” and “female”) and status (“GTA” and “Instructor/Professor”) would influence student perceptions of teacher credibility at the beginning and end of the semester. Separate factorial ANOVA with follow-up analyses using the LSD procedures were used to examine each of the three credibility dimensions: character, trustworthiness, and caring.
Character. The results of the factorial ANOVA revealed no three-way interaction effect of instructor sex by instructor status by time, Wilks $\lambda = .849$, $F$ (1, 19) $3.366$, $p > .05$, $\eta^2 = .15$, nor were there any significant two-way effects for instructor status by time in the semester, Wilks $\lambda = .957$, $F = (1, 19) 8.43$, $p > .05$, $\eta^2 = .02$. There was, however, a main effect for time in the semester Wilks $\lambda = .895$, $F = (1, 19) 2.226$, $p > .05$, $\eta^2 = .11$ and a significant interaction effect of instructor sex and time in the semester, Wilks $\lambda = .623$, $F = (1,19) 11.512$, $p < .001$, $\eta^2 = .38$. Mean comparisons based on instructor sex demonstrate that students perceived female teachers to have significantly more character than their male counterparts at both the beginning and end of the semester. Interestingly, students noted a perceived decrease in male teachers when comparing initial perceptions ($M = 5.76$, $SD = .41$) and perceptions at the end of the semester ($M = 5.48$, $SD = .66$), while female instructors were perceived to have more character as the semester progressed than what was initially perceived (time 1, $M = 6.12$, $SD = .29$; time 2, $M = 6.23$, $SD = .29$).

Trustworthiness. The results of the factorial ANOVA revealed no three-way interaction effect of instructor sex by instructor status by time, Wilks $\lambda = .983$, $F$ (1, 19) $3.22$, $p > .05$, $\eta^2 = .02$, nor were there any significant two-way effects for instructor status by time in the semester, Wilks $\lambda = .997$, $F = (1, 19) 0.63$, $p > .05$, $\eta^2 = .003$, or main effect for time in the semester, Wilks $\lambda = 1.0$, $F = (1, 19) .00$, $p > .05$, $\eta^2 = .00$. There was, however, a significant interaction effect of instructor sex and time in the semester, Wilks $\lambda = .569$, $F = (1,19) 14.366$, $p < .001$, $\eta^2 = .43$. Mean comparisons based on
instructor sex demonstrate that students perceived female teachers to be significantly more trustworthy at both the beginning and end of the semester than male teachers. Interestingly, students noted a perceived decrease in male teachers when comparing initial perceptions \((M = 5.43, SD = .35)\) and perceptions at the end of the semester \((M = 5.21, SD = .40)\), while female instructors were perceived to display more of these behaviors as the semester progressed than what was initially perceived (time 1, \(M = 5.90, SD = .22\); time 2, \(M = 6.10, SD = .26\)).

**Caring.** The results of the factorial ANOVA revealed no three-way interaction effect of instructor sex by instructor status by time, Wilks \(\lambda = .923, F(1, 19) 1.592, p > .05, \eta^2 = .007\), nor were there any significant two-way effects for instructor status by time in the semester, Wilks \(\lambda = .998, F = (1, 19) .044, p > .05, \eta^2 = .002\), or main effect for time in the semester, Wilks \(\lambda = .998, F = (1, 19) .043, p > .05, \eta^2 = .002\). There was, however, a significant interaction effect of instructor sex and time in the semester, Wilks \(\lambda = .672, F = (1,19) 9.263, p < .001, \eta^2 = .33\). Mean comparisons based on instructor sex demonstrate that students perceived female teachers to use significantly more behaviors that demonstrated caring at both the beginning and end of the semester. Interestingly, students noted a perceived decrease in male teachers when comparing initial perceptions \((M = 5.33, SD = .40)\) and perceptions at the end of the semester \((M = 5.00, SD = .65)\), while female instructors were perceived to display more of these behaviors as the semester progressed than what was initially perceived (time 1, \(M = 5.75, SD = .28\); time 2, \(M = 5.95, SD = .28\)).
Teacher Confirmation Behaviors

Research question one inquired whether instructor sex (“Male” and “Female”) and status (“GTA” and “Instructor/Professor”) would influence student perceptions of teacher confirmation behaviors at the beginning and end of the semester. Separate factorial ANOVA with follow-up analyses using the LSD procedures were used to examine each of the three confirmation dimensions: response to questions, demonstrated interest, and teaching style.

Response to Questions. The results of the factorial ANOVA revealed no three-way interaction effect of instructor sex by instructor status by time, Wilks $\lambda = .913$, $F(1, 19) = 1.82, p > .05$, $\eta^2 = .09$, nor were there any significant two-way effects for instructor status by time in the semester, Wilks $\lambda = .994$, $F(1, 19) = .116, p > .05$, $\eta^2 = .006$, or main effect for time in the semester Wilks $\lambda = .963$, $F(1, 19) = .733, p > .05$, $\eta^2 = .049$. There was, however, a significant interaction effect of instructor sex and time in the semester, Wilks $\lambda = .554$, $F(1, 19) = 15.32, p < .001$, $\eta^2 = .45$. Mean comparisons based on instructor sex demonstrate that students perceived female teachers to use significantly more behaviors that demonstrated interest at both the beginning and end of the semester. Interestingly, students noted a perceived decrease in male teachers when comparing initial perceptions ($M = 3.21, SD = .26$) and perceptions at the end of the semester ($M = 3.08, SD = .33$), while female instructors were perceived to display more of these behaviors as the semester progressed than what was initially perceived (time 1, $M = 3.30, SD = .16$; time 2, $M = 3.49, SD = .13$).
Table 2

*Student Perceptions of Instructor Confirmation Behaviors Based on Sex, Status and Time in the Semester*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Initial Class Meeting</th>
<th></th>
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<th>End of the Semester</th>
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<tbody>
<tr>
<td></td>
<td>Male Prof.</td>
<td>Female Prof.</td>
<td>Male GTA</td>
<td>Female GTA</td>
<td>Male Prof.</td>
<td>Female Prof.</td>
<td>Male GTA</td>
<td>Female GTA</td>
</tr>
<tr>
<td>Demonstrated Interest</td>
<td>3.11(.31)</td>
<td>3.45(.18)</td>
<td>3.26(.34)</td>
<td>3.36(.17)</td>
<td>3.08(.38)</td>
<td>3.47(.12)</td>
<td>2.96(.50)</td>
<td>3.54(.16)</td>
</tr>
<tr>
<td>Response to Questions</td>
<td>3.14(.24)</td>
<td>3.35(.17)</td>
<td>3.28(.31)</td>
<td>3.24(.19)</td>
<td>3.06(.48)</td>
<td>3.47(.12)</td>
<td>3.11(.22)</td>
<td>3.50(.14)</td>
</tr>
<tr>
<td>Teaching Style</td>
<td>2.90(.30)</td>
<td>3.10(.17)</td>
<td>3.10(.37)</td>
<td>2.03(.21)</td>
<td>2.88(.32)</td>
<td>3.41(.16)</td>
<td>2.87(.42)</td>
<td>3.45(.20)</td>
</tr>
</tbody>
</table>

Numbers in parentheses are standard deviations. Means displaying different subscripts in the same row differ at p < .05.
Demonstrated Interest. The results of the second factorial ANOVA examining perceived teacher demonstrated interest revealed a three-way interaction effect of instructor sex by instructor status by time in the semester, Wilks $\lambda = .695$, $F (1, 19) = 8.34$, $p < .01$, $\eta^2 = .31$. There were no significant two-way interaction effects for instructor status by time in the semester, Wilks $\lambda = .970$, $F = (1, 19) .59, p > .05$, $\eta^2 = .03$, or main effect for time in the semester, Wilks $\lambda = .96, F = (1, 19) .81, p > .05$, $\eta^2 = .041$. There was, however, a significant interaction effect of instructor sex and time in the semester, Wilks $\lambda = .618$, $F = (1, 19) 11.76, p < .01$, $\eta^2 = .38$. When examining the three-way interaction effect, male professors appeared to have significantly less demonstrated interest when compared to each of the other three groups, while female professors were perceived to display more of these behaviors (see Table 2). At the end of the semester, students perceived male and female professors exactly the same as they had at the start. However male and female GTAs experienced significant changes in their displays of demonstrated interest, yet in inverse directions. Male GTAs were perceived to drop significantly to a level similar to male professors, while female GTAs experienced a significant increase to the level of their female counterparts (see Figure 1). For the interaction effect for sex and time in the semester, a similar trend was represented in the data. Overall, student perceptions at the start of the semester were that female instructors ($M = 3.41, SD = .17$) would engage in significantly more behaviors that demonstrated interest when compared with male instructors ($M = 3.18, SD = .30$). As students reflected back on the semester they perceived that male instructors ($M = 3.02, SD = .40$)
Figure 1: Sex and instructor status trends for demonstrated interest.
used significantly fewer of these behaviors, while female instructors \((M = 3.50, SD = .14)\) used significantly more.

**Teaching Style.** The results of the third factorial ANOVA examining perceived confirmation behaviors displayed in instructors’ teaching style revealed a three-way interaction effect of instructor sex by instructor status by time in the semester, Wilks \(\lambda = .806, F(1, 19) 4.58, p < .05, \eta^2 = .19\). There were no significant two-way interaction effects for instructor status by time in the semester, Wilks \(\lambda = .990, F = (1, 19) .19, p > .05, \eta^2 = .01\). However, there was a significant interaction effect of instructor sex and time in the semester, Wilks \(\lambda = .342, F = (1,19) 36.52, p < .01, \eta^2 = .66\), as well as a main effect for time in the semester, Wilks \(\lambda = .671, F = (1, 19) 9.31, p < .01, \eta^2 = .33\). Examination of the means for the three-way interaction effect depict that male professors appeared to have significantly less demonstrated interest when compared to each of the other three groups, while male GTAs were perceived to display significantly more of these behaviors when compared to female GTAs but not female professors (see Table 2). At the end of the semester, students perceived male professors to be exactly as they expected during the start of the semester. However, male GTAs experienced a significant decline, while female professors and GTAs were perceived to employ significantly more confirmation behaviors in their teacher style as the semester progressed (see Figure 2). For the interaction effect of sex by time in the semester, a similar trend was represented in the data when compared to the previous two confirmation dimensions. Overall, student perceptions at the start of the semester were that male \((M = 3.00, SD = .32)\) and female instructors \((M = 3.06, SD = .21)\).
Figure 2: Sex and Instructor Status Trends for Teaching Style
.17) would display similar amounts of confirmation behaviors as they taught the course. As students reflected back on the semester they perceived that male instructors ($M = 2.88, SD = .33$) used significantly fewer of these behaviors, while female instructors ($M = 3.43, SD = .17$) used significantly more.

**Teacher Evaluations**

Research question two inquired whether students’ initial perceptions of GTA confirmation behaviors employed during the first day of class would impact teacher evaluations. Results of the linear regression analysis produced a multiple correlation coefficient ($R^2 = .86$), accounting for 86% of the shared variance in areas of confirmation and student ratings of instruction, $F(3, 7) = 14.21, MSE = .02, p < .001$. Examination of the beta weights revealed that GTAs’ demonstrated interest in students ($\beta = .78, t = 4.87, p < .001$) was the only significant predictor in the model. Response questions ($\beta = .11, t = .359, p > .05$) and teaching style ($\beta = .16, t = .554, p > .05$) did not emerge as significant predictor in the regression model. When measured at the end of the semester, results of the linear regression analysis again produced a multiple correlation coefficient ($R^2 = .92$), accounting for 92% of the shared variance in areas of confirmation and student ratings of instruction, $F(3, 7) = 25.01, MSE = .05, p < .001$. Examination of the beta weights revealed a slightly different picture with GTAs’ teaching style ($\beta = .80, t = 2.54, p < .001$) emerging as the only significant predictor in the model. Response questions ($\beta = .28, t = .884, p > .05$) and demonstrated
interest ($\beta = -.20$, $t = .146$, $p > .05$) did not emerge as significant predictor in the regression model.

**DISCUSSION**

The purpose of this investigation was to examine the impact that instructor status and sex might have on students’ perceptions of the various dimensions of credibility and confirmation. While students seem to perceive GTAs differently from full-time faculty members in competency (Gorham, Cohen, & Morris, 1999), teaching effectiveness (Roach, 1991), and power (Golish, 1999), general findings from this study suggest that instructor status has no direct affect on perceptions of credibility or confirmation behaviors. However, when instructor status (GTA, Instructor/Professor) was compared across time with instructor sex, there were significant differences. While student perceptions of their female professors and GTAs increased across all three dimensions of credibility (character, trustworthiness, and caring) over the course of the semester, male scores (both GTA and professor) significantly declined. Similar findings were found across all three dimensions of confirmation (response to questions, interest, and style); female professors and GTAs started out higher than males in both categories, and saw a significant increase in student perceptions over the course of the semester. Male scores, both professors and GTAs, significantly declined.

_Credibility._ For all three dimensions of credibility (character, trustworthiness, and caring), female instructors in this study scored significantly higher than males at both points in the semester, regardless of instructor
status. This result was somewhat surprising; typically males are thought to be perceived as more credible instructors in the classroom than females (e.g. Nadler & Nadler, 2001). However, these findings are supported by a growing body of literature. For instance, Patton (1999) also found females to be more credible than male instructors in her investigation of credibility, ethnicity, and sex. These findings have several possible explanations, one of which may be the lack of student expectations. Students arrive at the classroom assuming their instructors will be knowledgeable, professional, helpful, and organized (Hayward, 2003) regardless of sex. Other literature supports the idea that the sex has no bearing on student perceptions of the instructor (e.g. Jordan, McGreal, & Wheeless, 1990; Nadler & Nadler, 1990). Students in this study may have perceived the credibility of female GTAs and instructors to be higher than their general expectations of any GTA or instructor (male or female), and therefore rated them higher than their male counterparts.

Another possible explanation for the findings is the subject matter itself. It is known that the effectiveness of an instructor’s communication behavior varies by course content. Kearney, Plax, and Wendt-Wasco (1985) examined a variety of teaching behaviors in both P (people oriented) and T (task oriented) classes and noted that teaching behaviors that were effective in P – Type classes were not necessarily so in T – Type classes and vice-versa. Thus, given that students have differing expectations of communication behaviors by course type, it is also reasonable to assume that there are varying expectations and perceptions of instructors by content area; though males may be perceived as more credible
sources in the traditionally male-dominated areas of math, science, or computer programming (T – Type classes), it is possible that females are perceived equally or as more credible in people-oriented areas of study, such as English or communication (P – Type classes). Additional research is needed to draw specific conclusions.

These findings have important implications. Results support the assumption that female instructors communicate differently in the classroom, with research discussing the distinction between male and female accepted forms of communication in the classroom (Wheeless & Dierks-Stewart, 1981). Female classroom communication is described as “warm, concerned, passive, interested, caring, and non-dominant” (Patton, 1999, p. 126). Male classroom communication on the other hand is described as more aggressive, cool, and dominant. Though it may be slightly surprising that females were viewed as more credible than males overall, one dimension that should not be surprising is that of perceived caring. Consisting of three dimensions (empathy, understanding, and responsiveness) (McCroskey, 1998), females generally seem to demonstrate perceived caring more often and better than males, as well as confirming behaviors.

Confirmation. In general, students had higher perceptions of female instructors and GTAs than males for all three dimensions of confirmation (responds to questions, demonstrated interest, and teaching style). Both male professors and GTAs were perceived to be lower than females in responding to questions in the initial survey, and reported perceptions decreased throughout the semester. Females (both GTAs and instructors) be-
gan with higher scores and these increased throughout the semester. Male instructors were perceived as demonstrating the least amount of interest while female instructors had the highest amount, both of which were consistent across the semester. Male GTAs dropped in perceived demonstrated interest, and female GTAs gained. Finally, initial perceptions of style indicated low scores for male instructors, male GTAs ranking higher than female GTAs, and female instructors having the most. While male instructors remained constant throughout the semester, perceptions of male GTAs decreased and female instructors and GTAs increased.

Students appear to be accurate in their perceptions of male professors, with little change emerging across each of the aforementioned dimensions. However, students’ initial perceptions of male and female GTAs were not as accurate. Results indicate that based on the first day of class behavior, students expected male GTAs to display many more confirming behaviors than they actually did. Conversely, both female GTAs and instructors were expected to display fewer confirming behaviors than they did, thus exceeding their students’ expectations.

There are a few possible explanations for these findings. Perhaps male GTAs work to make themselves seem accessible and confirming in the first few days of class, but fail to maintain that impression over the course of the semester, whereas female GTAs and instructors do continue to maintain that impression. Females may be caught up in appearing credible (and fearing that they are not) that they are unsuccessful at displaying significant initial confirmation behaviors, yet these behaviors emerge more over time. Though we can
speculate, it is difficult to draw conclusions until more information is obtained about the differences in first day of class behaviors that display how future interactions with students in the classroom will go.

**Teacher Evaluations**

Research question three asked whether student perceptions of teacher confirmation behaviors would predict student ratings of instruction at the beginning and end of the semester. At the start of the semester, 80% of the variance for teacher evaluations was explained by teacher confirmation behaviors, whereby demonstrated interest was the only significant predictor in the model. Ninety-two percent of the variance was accounted for at the end of the semester, however at this time period student perceptions of their GTA’s confirming teaching style was the only significant predictor. These results suggest that a GTA’s ability to demonstrate interest during the first day of class is an important factor in predicting how student rate their quality of instruction. GTA use of behaviors that communicate an interest in students and a belief that they can do well in the class seem to have the strongest influence on students’ initial impressions. However, this finding did not remain consistent throughout the semester as students reflected back on their teacher’s behavior at the end of the semester, and noted that a confirming teaching style was the strongest predictor for student rating of instruction. Being an interactive teacher and varying one’s teaching techniques over time appeared to be the strongest predictor for teacher evaluations.
Limitations and Future Research

Despite the contributions of this study, the results should be interpreted with caution given the inherent limitations of the research design. The use of self-report methods and the homogeneous sample (e.g., predominantly white, undergraduate students) warrants caution, as does the non-experimental design of the research. As previously discussed, one limitation of this study is the lack of knowledge on first day of class behaviors. Although sex accounted for roughly 30-40% of the variance for student perceptions, a number of other qualities about the first day of class (such as whether or not substantial class material was presented, if the class was dismissed early, the presence of “ice breaker” games, etc.) may influence student perceptions. This is a key area for future research. More knowledge on first day of class behavior might explain how student expectations for the instructor are formed, providing valuable insight for GTA training programs. Another interesting area of study is determining which behaviors provide accurate assumptions, and which lead students to form incorrect expectations.

Finally, this study is limited to communication (P – Type) classes, and therefore cannot be generalized to other disciplines. While still useful in its own right, future research is needed to determine which, if any, of these findings are more universal. For example, while P – Type classes may enjoy doing a game or activity on the first day of the term to get to know their classmates (thus bolstering their impressions of their instructor), T – Type classes may find this to be a waste of time and energy, and their instructor to be less credible.
Pedagogical Implications

In conclusion, this study reveals two relevant implications for basic course directors as well as those who teach students in the basic course. First, individual GTAs and instructors can garner valuable information to help themselves in the classroom by understanding the dimensions of credibility and confirmation. Since confirmation behaviors have been found to mediate student perceptions of credibility, GTA training programs may benefit by focusing on the critical confirmation behaviors that GTAs are encouraged to use with their students. Although, establishing credibility is an important aspect for ensuring student learning outcomes, the ability to respond appropriately to student questions, demonstrate interest in their learning, and promoting an interactive teaching style are also important. Second, training programs can be tailored further based on the findings obtained from this investigation. Namely, GTA’s should be reassured that students are just as likely to perceive them to be credible and confirming when compared to more experienced instructors and professors. Much of this can also be attributed to the confirmation behaviors that they promote during the first-day of class. Because main effects for each of the dependent variables fluctuated only slightly over the course of the semester, students appeared to solidify their perceptions shortly after the first class period, which suggests that working to establish one’s orientation toward confirming student behaviors is a critical first-day of class activity. In general, all those who teach the basic course should benefit by understanding how student initial impressions appear to have a meaningful
impact on credibility and confirmation, which then in turn are related to student evaluations.

REFERENCES


