DO STUDENT GRADES AFFECT STUDENT NUMERIC RATINGS OF MARKETING PROFESSORS? APPLYING ATTRIBUTION THEORY TO HELP ANSWER THIS QUESTION

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ABSTRACT

One of the unresolved controversies in marketing education remains whether students' grades affect students' numeric ratings of marketing professors. Attribution theory and the results of two experiments reported in this paper suggest that the relationship between students' grades and students' numeric ratings of professors may be more complex than indicated by the marketing education literature. Two experiments were designed to explore this issue. Experiment number one reports the extent to which students perceive that professor teaching ability causes student grades. Results from this first experiment suggest that students perceive the teaching ability of a caring and friendly professor as an important cause when they expect to receive an "A" in the course, but that students do not perceive teaching ability as an important cause when they expect to receive an "F." The opposite relationship occurs when the students perceive the professor as uncaring and unfriendly. The effects of student grades on satisfaction with the professor depend on the extent to which students perceive the professor as caring and/or friendly in experiment number one. Experiment two suggests that students make a form of the basic attributional error when attributing the cause of their grades. That is, they perceive an expected "A" as caused by student abilities, but do not perceive an expected "F" as caused by their abilities. A three-way interaction effect of gender of the professor, age of the professor, and expected grade of the student on satisfaction with the professor also surfaces in the second experiment.

INTRODUCTION

Student numeric ratings of professors (SNRP) have been the subject of considerable debate and controversy for many years (Clayson 1993; Clayson and Haley 1990; Grimes, Millea, and Woodruff 2004; Paswan and Young 2002). In particular, the important issue of whether student grades affect student numeric ratings of marketing professors remains unresolved (Bacon and Novontny 2002). Student numeric ratings of professors are defined as the numeric ratings students provide in response to questions on a student evaluation questionnaire.

There have been two schools of thought about the effects of grades on SNRP. There are many proponents for each of the two schools.

Advocates of numeric ratings of professors believe that student grades have little or no effect on such ratings. These advocates point to research that supports their position (e.g., Centra 2003; Decanio 1986; Howard and Maxwell 1980; Gramlich and Greenlee 1993; Marlin and Gaynor 1989; Marsh and Roche 2000; Seiver 1983). Therefore, these professors and administrators support the use of SNRP because they believe such ratings provide an accurate indicator of professor teaching effectiveness.

In contrast, critics of SNRP believe that grades received by students and/or other variables affect student numeric ratings of professors and point to research that supports their position (e.g., Ellis, Burke, Lomire, and McCormick 2003; Gomez-Mejia and Balkin 1992; Greenwald and Gilmore 1997; Martinson 2004; Millea and Grimes 2002; Mehdizadeh 1990; Kratutmann and Sander 1999; Worthington and Wong 1979; Zangenehzadeh 1988). Therefore, the critics believe that SNRP are of limited value because of the effects of grades and other exogenous influences surrounding student evaluations (Clayson and Frost 1997). SNRP have an important influence on decisions concerning professor pay, tenure, and promotion at many universities (Millea and Grimes 2002; Yunker and Yunker 2003). Therefore, it is important to determine, if possible, using sound and generally accepted research methods, whether student grades or other variables have an important influence on SNRP.

The purpose of this paper is to help provide marketing faculty with a clearer and more comprehensive under-

standing of the cognitive process through which students develop their numeric ratings. Faculty who teach marketing courses are service providers who provide a skilled performance service (Deighton 1992). Most teach that it is very important for service providers to have a "consumer orientation." Teaching the importance of a consumer orientation might sensitize students taking marketing classes to the issue of whether those professors actually have a "consumer orientation." Friendliness and caring could comprise some elements of a professor's "consumer (i.e., student) orientation." Consequently, it is particularly relevant for marketing educators to understand the effects of "practicing or not practicing" what they teach on SNRP.

Marketing professors teach that SERVQUAL (Parasuraman, Zeithaml, and Berry 1988) can be used to measure service quality. Friendliness and caring are not specific dimensions of SERVQUAL. However, the concept of caring is consistent with the empathy dimension of SERVQUAL, and friendliness is consistent with its assurance dimension. Professors teach that SERVQUAL can provide valuable insight into understanding how consumers develop their perception of quality. Consequently, it is particularly relevant for those professors to understand whether concepts that are similar to the dimensions of SERVQUAL (i.e., caring and friendliness of professors) can extend to aid in understanding how students develop their numeric ratings. Grading of students is an important element of the work, or service, provided by marketing faculty. Therefore, it is important for them to understand the relationships among student grades, friendliness of professors, caring of professors, and the effects of these three variables on SNRP.

Marketing professors teach that characteristics of service providers can have an important influence on consumer perceptions of a service experience (Zeithaml and Bitner 2003). Demographic characteristics are some of the important characteristics of service providers. Consequently, it is particularly relevant for the professors to understand whether their demographic characteristics have an important influence on SNRP. The literature contains some articles, with mixed findings, about the effects of the demographic characteristics of professors on SNRP. For example, some research suggests that gender affects student numeric ratings of professors (e.g., Sidanius and Crane 1989; Whitworth, Price, and Randall 2002) but other research has not found an effect of gender on SNRP (e.g., Ellis, et al. 2003; Foote, Harmon, and Mayo 2003). Additionally, virtually all of this evidence has focused on examining and reporting only main effects of demographic variables of professors on SNRP. Consequently, marketing professors need additional research to help clarify the relationships among their demographic characteristics and SNRP.

The research reported in this paper is justified because it seeks to help fill some important gaps in the information available to marketing professors. Currently, the marketing education literature does not provide marketing faculty a comprehensive understanding of the effects of some variables on SNRP. For example, no reported empirical evidence exists in the marketing education literature concerning whether there are interaction effects of student grades, friendliness of the professor, and caring of the professor on SNRP. Similarly, no reported evidence exists concerning whether there are interaction effects of student grades, gender of the professor, and age of the professor on SNRP. Conversely, the research reported in this paper also examines for possible interaction effects among these variables and applies attribution theory to help explain the effects of these variables on SNRP. Consequently, the research reported here is justified because it seeks to provide marketing professors with a clearer and more comprehensive understanding of the cognitive process through which students develop numeric ratings of their professors. This additional information could help marketing professors become better teachers and thus receive higher student numeric ratings.

Some marketing professors are or will become administrators (e.g., Chairperson of the Marketing Department, Associate Dean, or Dean). Many of them will rely on student numeric ratings of marketing faculty to help make salary and/or promotion determinations. Consequently, they need a more comprehensive understanding of how students develop numeric ratings in order to use the information appropriately for decision-making. This research helps provide some information needed by such administrators when they decide how to use SNRP in salary and/or promotion decisions.

Some marketing professors are engaged in research about the process through which students develop their SNRP. If a generally accepted theory for research in this area existed, it would facilitate additional research and might encourage more marketing professors to do research in the area. Some researchers suggest that attribution theory might help explain SNRP (e.g., Kelsey et al. 2004). Nevertheless, no theory has emerged as dominant for conducting research in this area. Consequently, there is a need for additional theory-based research to help determine the theory marketing professors should use as the theoretical framework for their research concerning field-based SNRP. The research reported in this paper is justified because it provides two appropriate tests of attribution theory. Additionally, the empirical evidence presented here suggests that marketing professors can use attribution theory as an appropriate theoretical framework when they conduct research about the effects of variables on SNRP.

BACKGROUND

The next section of the paper discusses the empirical and theoretical support for the relationships examined in this study, describes the two experiments, and presents the

results of those experiments. Finally, the section includes a discussion of the conclusions and the research implications of this research.

A Professor's Caring and Friendliness

A caring professor is defined as a professor who shows real respect for students and demonstrates a personal interest in student success (Deiro 2003). For example, the professor exhibits a willingness to take the time to improve a student's academic or personal situation by offering advice when asked by the student. Being a caring person appears to be a desirable characteristic of a professor. However, virtually no reported empirical evidence exists concerning whether there is an interaction effect of student grades and the caring of the professor on student satisfaction with the professor. Additionally, little reported empirical evidence exists which identifies whether there are interaction effects of student grades and the caring of a professor on student perceptions concerning whether instructor teaching ability caused the grades. However, some research suggests that students believe the best professors are very caring (Basow 2000; Feletti and Sanson-Fisher 1983). Researchers have indicated that the instructor rather than characteristics of the course has the greatest effect on SNRP (e.g., Marsh 1982; Cashin 1988). Additionally, researchers suggest that student-professor interactions also affect student numeric ratings (Grunenwald and Ackerman 1986).

Additionally, there is virtually no reported empirical evidence that clearly identifies whether there are interaction effects of grades and friendliness of a professor on student satisfaction with the professor. Surprisingly, almost no published, empirical evidence exists that identifies whether there is an interaction effect of the friendliness of the professor and student grades on student perceptions that grades were caused by professor teaching ability. A friendly professor is defined as a professor who seeks to establish a close personal professor-student relationship with his/her students. However, some research suggests that students are likely to give higher student evaluations to professors perceived as friendly (Martin 1984).

Attribution Theory and the Specific Grades Used in this Research

Selection of specific grades provides an essential component of this research as a clear test of attribution theory and a stringent test of whether student grades affect SNRP. Attribution theory makes predictions when individuals perceive an occurrence of a success or a failure. Therefore, an essential part of the research revolved around selecting those grades unambiguously interpreted by students as a success or a failure. The grade "A" is the most unambiguous grade indicator of "success." The

grade "F" is the most unambiguous grade indicator of "failure." The choice to use those two grades, therefore, provides the clearest tests of attribution theory's ability to predict the effects of student grades. Additionally, the two grades provide a clear, strong test of whether grades affect SNRP. For example, if a properly conducted experiment found no difference between the effects of an "A" and an "F" on SNRP, the result could be considered very strong evidence that grades do not affect SNRP. Conversely, if this clear test found that the grades, indeed, do affect SNRP, the result would open the possibility that other conditions may exist where grades also affect SNRP. Simply understanding the effects of an "A" on SNRP is important because some professors feel pressured to give students "As" and so many students receive this grade. Consequently, the grades of "A" and "F" were selected for this research because they provide a clear test of the effects of grades on SNRP and a stringent test of attribution theory's ability to predict the relationship between those two variables.

Extending Attribution Theory to Help Understand Perceptions Students are Likely to Have About Causes of Grades

Attribution theory (Kelly 1967) suggests that individuals seek to understand the cause of events in an effort to bring understanding and/or order to the individual's world. Attributions are explanations an individual makes about of the causes of an individual's outcomes (Weiner 1980). Research suggests, that people make what has been labeled a form of "the basic attributional error" (Kluger and DeNisi 1996). That is, generally, individuals attribute their success to internal factors (i.e., their abilities and/or knowledge), but they attribute their failures to external factors (e.g., bad luck or other people). This basic attributional error might have application to SNRP. That is, attribution theory predicts an expectation that generally, students attribute their successes (e.g., receiving an "A" in a class) to variables within themselves (e.g., their abilities as a student), but attribute failures (e.g., receiving an "F" in a class) to other factors outside of themselves (e.g., bad luck or professor teaching ability). However, other factors can also affect this basic attributional process.

Extending the work of Hareli and Weiner (2002) can provide an attributional foundation for the effects of the caring of a professor on student attributions of causality and on SNRP. They suggest that when a professor makes the effort to be very caring, students likely view that effort as going beyond the basic requirements of being a professor. Generally, Hareli and Weiner (2002) indicate that one result will be student gratitude toward that professor. One way students can express their gratitude would be to perceive that professor teaching ability caused their success in the classroom. They might give that professor higher student numeric ratings, too. Students may also

express their gratitude by perceiving their failure in the classroom as not caused by professor teaching ability. Under this condition, student failure in the classroom should have a less negative effect on SNRP. However, at least one other characteristic of a professor may affect this basic attributional process.

Friendliness of professors might affect student level of gratitude associated with caring professors. For example, when a professor is caring and friendly, a student's sense of gratitude is likely to be very strong. Consequently, students will strongly perceive professor teaching ability caused their success (expecting an "A") in the classroom. Additionally, they are less likely to perceive their failure (expecting an "F") as caused by professor teaching ability. Conversely, when a caring professor is unfriendly, the sense of gratitude is lower and the result would affect the attributional process. That is, a level of gratitude exists because the professor is caring, but a reduced level of gratitude results because students perceive the professor as unfriendly. Consequently, when a professor is caring but unfriendly, students will not as strongly perceive that professor teaching ability caused an "A." Additionally, students more likely perceive that teaching ability of the caring, but unfriendly professor caused at least part of student failure (receiving an "F").

Students may perceive uncaring professors as not going beyond the basic requirements of their position. Therefore, attribution theory suggests that those professors would be subject to the basic attributional error. When students succeed (i.e., expect to receive an "A"), they perceive the cause as student ability rather than professor teaching ability. Accordingly, when an uncaring professor gives an "A" there will be little or no positive effect on student perception that professor teaching ability caused that grade. Conversely when students fail in the classroom (e.g., get an "F") attribution theory predicts most of that failure will be attributed to factors outside of the student (e.g., professor teaching ability). As a result, when this kind of professor gives students failing grades, students perceive the grades as caused by professor teaching ability. The previous discussion leads to the following hypothesis:

H1: There will be a three-way interaction effect of student grades, caring of the professor, and friendliness of the professor on student perceptions that professor teaching ability caused student grades. That is, when a professor is caring, there will be an interaction effect of friendliness of the professor and student grades on the perception that professor teaching ability caused the grades. When the professor is uncaring, there will be no interaction effect, but student grades will affect the perception that professor teaching ability caused the grades.

The Effects of Caring, Friendliness, and Student Grades on Student Satisfaction with Professors

Student satisfaction with a professor is defined as the student's emotional response to the professor-student relationship (Linder-Pelz 1982). Adding a scale of student satisfaction with the professor to a student numeric rating questionnaire may provide a more comprehensive picture of professor performance in the classroom. Additionally, the scale could be less controversial than current scales of effective teaching. At least four reasons exist for adding a scale of student satisfaction. First, there are generally accepted definitions of satisfaction. Second, valid scales of satisfaction that can be applied to measure student satisfaction with their professors are readily available. Third, few researchers will question whether students have the expertise to know if they are satisfied with a professor. Fourth, most universities, colleges, and departments are concerned about student retention and student satisfaction is likely to affect student retention (Lau 2003).

Attribution theory suggests that students will perceive the teaching ability of a caring professor as an important cause of success in the classroom, but not an important cause of failure in the classroom. However, the reverse is true for an uncaring professor. Consequently, the effects of the three independent variables on student satisfaction with the professor might be somewhat similar to the effects of the independent variables on student perceptions that professor teaching ability caused student grades. That is, students will be more satisfied with a caring professor than an uncaring professor regardless of the grade received by the student. The previous discussion suggests hypothesis number two:

H2: Students will be more satisfied with a caring professor who gives an "A" or an "F" than with an uncaring professor who gives the same grade.

Student sense of gratitude toward a caring and friendly professor is likely to be stronger than student sense of gratitude toward a caring, but unfriendly professor. Therefore, the effect of the friendliness of the professor on satisfaction with the professor likely depends on the perceived level of caring of the professor and vice versa. This discussion suggests hypothesis three:

H3: There will be an interaction effect of caring of the professor and friendliness of the professor on student satisfaction with the professor.

EXPERIMENT 1

The Role-Playing Methodology

The role-playing method was used in the two experiments. Role-playing is a generally accepted method for conducting research (Smith, Bolton, and Wagner 1999).

One of the primary advantages of role-playing methodology is that experimental conditions can be created through the role-playing approach that would be extremely difficult to create in the real world. For example, although some professors are very caring individuals and others are less caring, it would be extremely difficult to get the same professor be very caring with one group of students and then be uncaring with another group. Similarly, it would be extremely difficult for the same professor to be very friendly to one group of students, but unfriendly to another group. Additionally, it would be unfair for a professor to randomly give students either an "A" or "F" as the grade in the professor's class. However, within this role-playing experiment, students were randomly assigned to one of the eight scenarios/treatments in the experiment.

In all of the scenarios subjects were asked to imagine that they were a fictitious student named Pat. They were asked to envision being in Pat's shoes and decide how Pat would respond to a situation explained in the scenario. The name Pat was selected as an appropriate name for either a male or a female. Consequently, male and female subjects could identify with Pat in the scenarios (Bendapudi and Leone 2003). All scenarios stated the following: "The professor seemed to communicate with the students in a very satisfactory manner during the class. Pat did not find the professor's class particularly interesting, but the professor wasn't boring either." That information along with the statement, "the professor answered Pat's questions during class in a very satisfactory manner," was designed to provide the same information to all subjects concerning the professor's abilities in the classroom. Pat's activities as a student were described the same in all of the scenarios (i.e., "Pat did the usual amount of studying for the class, Pat usually attended class").

Experiment Number One Independent Variables and Covariates

One hundred fifty two undergraduate business students were subjects in experiment number one. The experiment consisted of three independent variables, with two levels of each of the independent variables. That is, a 2X2X2 full factorial between subjects experimental design was utilized. The first experiment included eight different scenarios. Each subject was exposed to a single scenario. Independent variable number one was the professor's level of caring toward Pat. The professor was described as either very caring or uncaring in the scenarios. The scenario also mentioned that other students perceived the professor as very caring or uncaring. That is, the professor was describe in the scenarios as, "Students in the professor's class talked about how this professor really cared (or did not care) about students." Variable number two was the friendliness of the professor toward Pat. The professor was described as either very friendly or

very unfriendly in the scenarios. Additional information in the scenario related that other students in the class believed that the professor was either very friendly or very unfriendly. Consequently, the manner in which the professor treated Pat was not unique. Variable number three was the grade Pat expected to receive. The scenario indicated that the student expected to receive either an "A" or an "F" for the course.

There were two covariates in this study. The effects of a student receiving a grade (i.e., an "A" or an "F") on student ratings of the professor might depend on the student GPA. For example, a student with a high GPA might perceive a professor giving that student an "F" as unfair and, therefore, give that professor lower student numeric ratings (Worthington and Wong 1979). Conversely, a student with a low GPA who receives an "A" might be influenced by that grade to give the professor higher student numeric ratings. Consequently, student grade point average was a covariate in the study to control for these possible effects. The age of the student might have a similar influence. That is, older students can be more serious students, and, therefore, might be more upset with an "F" than would be younger students. Indeed, Grimes, Millea, and Woodruff (2004) found that the student age was one of the demographic variables that had the greatest influence on SNRP. Therefore, in an effort to control for this possible effect, student age was the second covariate in this study.

The Scales in Experiment Number One

An examination of the effects of the three independent variables on two dependent variables took place. The first dependent variable was the student perceptions that professor teaching ability caused the student grades. A four-item scale was used to measure this construct. Subjects responded to the items on the scale using a seven-point Likert Scale. The second dependent variable was student satisfaction with the professor. This three-item scale was taken from the work of Oliver and Swan (1989). See Table 1 for the items in the scales in both experiments. The reliability of the two dependent variables was examined using Cronbach's Alpha. The reliability of the four-item scale of the construct, student perceptions that professor teaching ability caused the grades, was .89 and the reliability of the three-item scale of satisfaction was .95 The reliability of both constructs exceeded the standard of .70 recommended by Nunnally and Bernstein (1996).

Manipulation Checks

Manipulation checks were conducted to determine whether the manipulations were effective. One hundred fifty two undergraduate business students were subjects in the experiment. Students were asked to identify the

grade they expected to receive, based on the scenarios, on a scale from one to five with an "A" being a one and an "F" being a five. The means for this manipulation check were (M (A) = 1.06 vs. M (F) = 4.53, t = 26.75, p < .001). Consequently, this manipulation was deemed successful. Students were asked whether the professor in the scenarios was described as friendly or unfriendly. All of the subjects selected the correct category. Therefore, this manipulation was deemed effective. Students were asked if the professor in the subject's scenario was caring or uncaring. Two subjects did not respond to this manipulation check, but 90 percent of the subjects who did respond selected the correct category. Therefore, this manipulation was deemed effective. Consequently, experimental results indicated that all of the manipulations were as intended.

Results

Hypothesis number one was supported. That is, there was a three-way interaction effect of caring of the professor, friendliness of the professor, and student grades on student perception that professor teaching ability caused the grades (F [1,141] = 6.66, p < .05). The two-way interactions were consistent with attribution theory when the level of caring was held constant. That is, when the professor was perceived as caring, there was a two-way interaction effect of the student grades and friendliness of the professor on the perception that professor teaching ability caused the grades (F [1,70] = 16.56, p < .001). See Figure 1 and Figure 2. These effects were consistent with attribution theory. When students perceived the professor as uncaring the two-way interaction effect was not statistically significant (F [1,69] = .40, p > .05). Higher numbers indicate that students more strongly agree that professor teaching ability caused student grades in the class. There was a statistically significant effect of grades (M [A] = 2.94 vs. M [F] = 5.12, F [1,69] = 67.79, p < .05) on the perception that professor teaching ability caused the grades when students perceive the professor as uncaring. These effects of student grades were consistent with the predictions of attribution theory. That is, when the professor was uncaring, students did not perceive professor teaching ability as an important cause of student success (expecting an "A") but did perceive professor teaching ability as an important cause of student failure (i.e., expecting an "F" in the course).

Cell means were also consistent with attribution theory. For example, with a caring and friendly professor, students perceived an expected "A" as caused by professor teaching ability, but did not perceive an expected "F" as caused by professor teaching ability. (M [A] caring and friendly = 5.13, vs. M [F] caring and friendly = 3.52, t = 4.48, p < .001). Conversely, the opposite effect occurred with an uncaring professor. That is, with an uncaring and unfriendly professor, students did not perceive professor

teaching ability as the cause of the grade "A," but did perceive it as the cause of students receiving an "F" (M [A] = 2.71 vs. M [F] = 5.12, t = 6.31, p < .001). Students perceived the teaching ability of an uncaring, but friendly, professor' in a similar manner. That is, teaching ability of an uncaring, but friendly, professor was not perceived as the cause of the grade "A," but was perceived as the cause of students receiving an "F" (M [A] = 3.20 vs. M [F] = 5.21, t = 5.10, p < .001).

Hypothesis two was supported; students were more satisfied with a caring professor who gave grades of "A" than an uncaring professor that gave students the same grade (M [A-caring] = 5.48 vs. M [A--[uncaring] = 3.57, t = 6.94, p < .001). They were also more satisfied with a caring professor who gave students an "F" than an uncaring professor who gave students an "F"(M [F–caring] = 3.53 vs. M [F–uncaring] = 2.17, t = 5.28, p < .001). Hypothesis three was supported. There was a two-way interaction effect of caring of the professor and the friendliness of the professor on student satisfaction with the professor (F [1,141] = 6.31, p < .05). See Figure 3 for this effect. Some individuals might associate being caring as a more female characteristic. Therefore, females might be more satisfied with a caring professor than would males. However, a t-test found no difference between males and females on level of satisfaction with a caring professor (M [females] = 4.54 vs. M [males] = 4.35, t = .49, p > .05). Neither of the covariates was statistically significant ([age] F [1,141] = .06, p > .05; [grade point average] F [1,141] = 2.84, p > .05).

## Conclusions from Experiment Number One

Generally, the results of experiment number one were consistent with attribution theory. A large stream of research indicates that most individuals make a form of the basic attributional error when attempting to determine the causes of their successes and failures. Surprisingly, virtually no previous research has examined whether students would respond in a manner consistent with attribution theory when evaluating the teaching abilities of caring and/or friendly professors. However, the results of this experiment are consistent with previous research that suggests that personality characteristics of professors are likely to affect SNRP (e.g., Lowman 1994; Tomasco 1980; Waters, Kemp, and Pucci 1988).

It appears that the perception of a professor as caring or uncaring will likely have an important influence on SNRP. What is less clear is whether this finding supports the use of SNRP as an accurate indicator of teaching effectiveness or whether it helps to refute that idea. For example, if students of professors perceived as caring learn more than students of professors perceived as uncaring, then the results of this experiment could be viewed as supporting the idea that SNRP provide a reasonably accurate indicator of professor teaching effectiveness.

FIGURE 1
FRIENDLINESS OF PROFESSOR BY STUDENT EXPECTED GRADE INTERACTION EFFECT ON PROFESSOR TEACHING
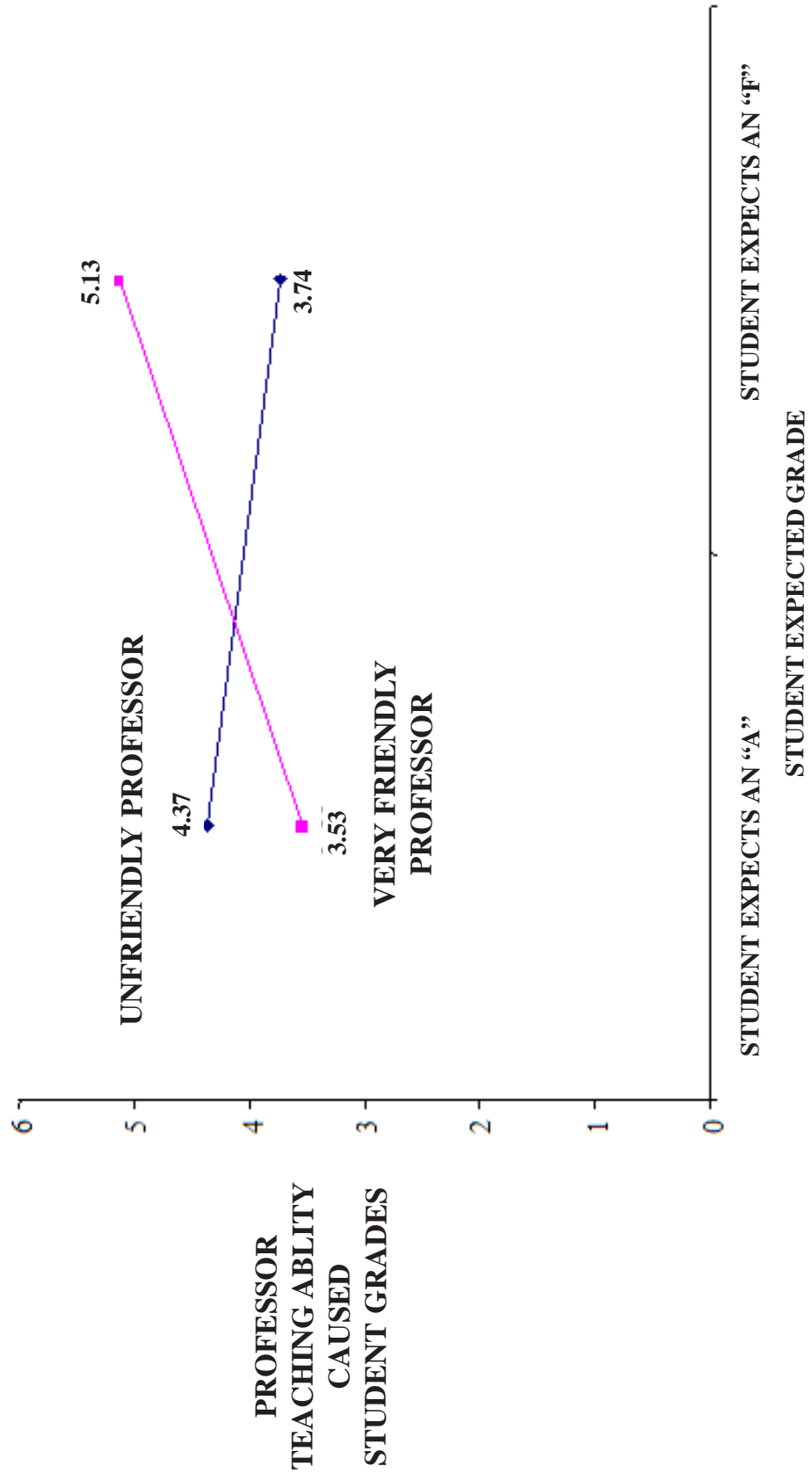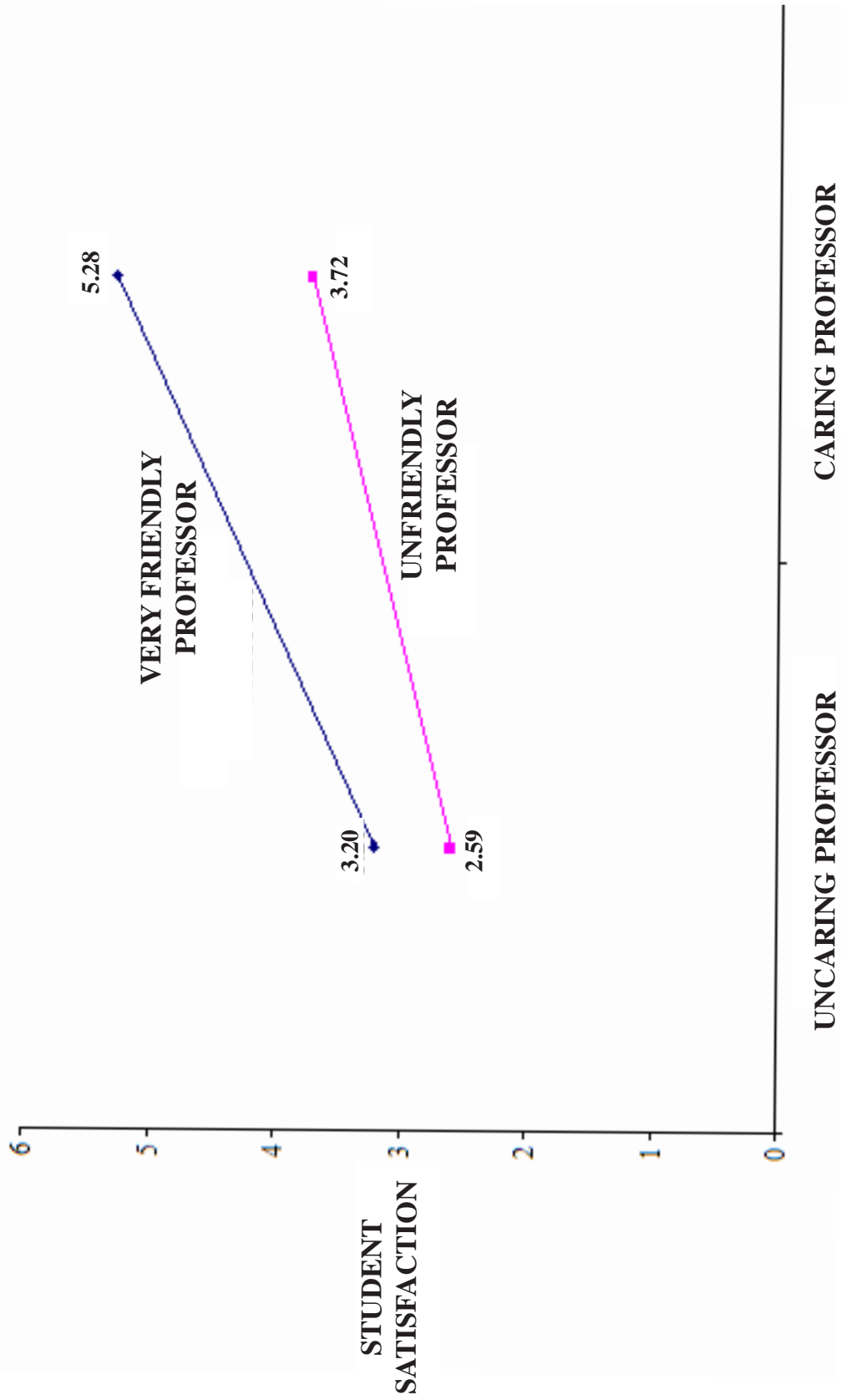
FIGURE 2
THE EFFECTS OF FRIENDLINESS OF PROFESSOR AND STUDENT EXPECTED GRADE ON PROFESSOR TEACHING ABILITY
CAUSED STUDENT GRADES (PROFESSOR IS UNCARING)
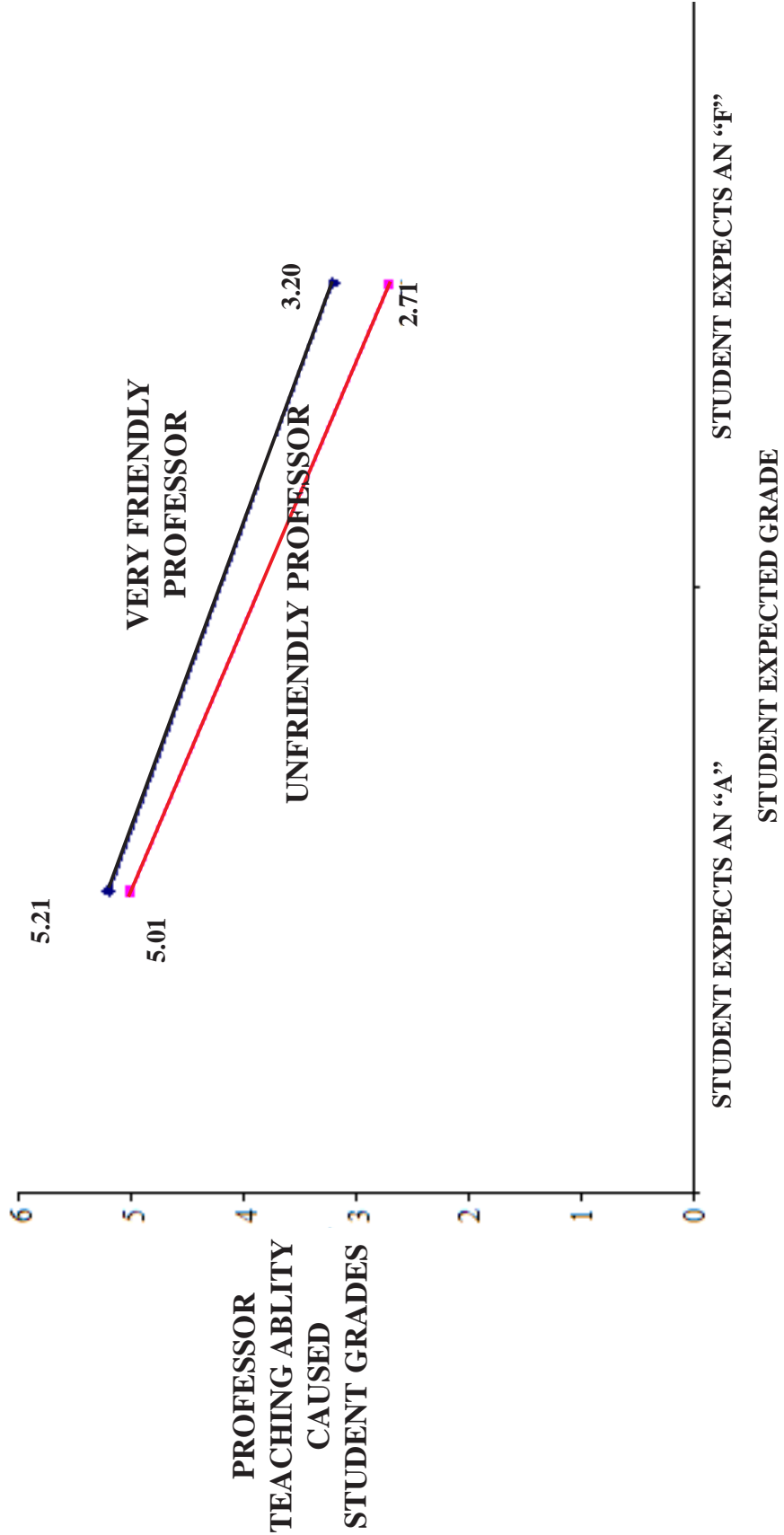
FIGURE 3

CARING BY FRIENDLY INTERACTION EFFECT ON STUDENT SATISFACTION WITH THE PROFESSOR

However, if there is a low correlation between student learning and perceived caring of the professor, then the results of experiment one suggest that SNRP less accurately indicate teaching effectiveness. To resolve this issue, future research needs to identify the relationship between student learning and the perceived caring of professors.

Many marketing professors are caring, but some communicate that characteristic to students better than others do. However, this research suggests it is important for a marketing professor to communicate clearly to his or her students that he/she really cares about them. A marketing professor is likely to benefit if also perceived as friendly. At least the marketing professor should not be perceived by students as unfriendly.

Future research concerning the effects of student grades on SNRP might benefit the discipline if it recognized that the relationship between the two variables might not be a simple relationship. That is, the results of experiment one suggest that future research should be theory-based and focused on identifying conditions under which grades likely affect SNRP as well as conditions under which an affect is unlikely. It might be that what initially appears to be conflicting findings, might not actually be conflicting findings when viewed through the lens of the appropriate theory. Attribution theory should be one of the theories considered by marketing professors for their research concerning the effects of student grades.

Although role-playing is a valid and accepted methodology for conducting research, there are important limitations to this type of research. First, the students were responding to scenarios. If students actually experienced those types of professors discussed in the scenarios, student responses might be different. Second, the only two grades expected were "A" and "F." Grade inflation reportedly is rampant at some universities. For example, Alper (1993) suggests that at some schools "A" is the expected grade and any grade less than an "A" must be based on very strong evidence. Consequently, some students might view an expected "C " or "D" as equivalent to failure. Therefore, future research needs to examine whether student response to a professor who gives students a "C" or "D" is similar to student responses to an "F" as in experiment number one.

The Effects of Professor Gender, Professor Age, and Student Grades on SNRP

Attribution theory can be applied to predict that students will make a form of the basic attributional error (Kluger and DeNisi 1996). That is, students have the perception that their abilities cause their success (i.e., receiving an "A"), but not failure (i.e., an "F"). The previous discussion suggests the following hypothesis.

H4: There will be a difference between student perceptions concerning whether the student abili-

ties caused their grades. That is, students will more strongly perceive their abilities caused an expected "A" than they will perceive that their abilities caused an expected "F."

There is limited research identifying the effect of professor age on SNRP. However, Arbuckle and Williams (2003) found that a young male professor was rated higher by students than either a young female, an old female, or an old male professor. Nevertheless, information portraying older individuals as less competent is quite common in American society. Consequently, when an older professor is the teacher in the classroom, negative perceptions of professor teaching ability might be common among American students. This perception of the older professor might affect attribution concerning the cause of the student grades. That is, when the professor is older, students are more likely to perceive that their abilities caused their grades than when the professor is younger. The previous discussion suggests the next hypothesis.

H5: There will be a difference, based on professor age, between student perceptions concerning whether student abilities caused their grades. That is, when the professor is older, students are more likely to perceive grades as caused by their own abilities than if the professor is younger.

Research concerning the effects of gender on SNRP has been inconsistent. That is, research which supports an effect of gender on SNRP is reported in the literature (e.g., Sidanius and Crane 1989; Whitworth, Price, and Randall 2002). Conversely, other research which has not found an effect of gender on SNRP is also found in the literature (e.g., Ellis et al. 2003; Foote, Harmon, and Mayo 2003). Attribution theory suggests that generally students will attribute failing grades to factors external to the student. However, it might be that students perceive female professors as easier graders than male professors. Although this perception has no substantiation, it could still affect student attributions about the causes of the student grades. Therefore, students may perceive a female professor as less likely to fail students unless they really deserve to fail the course. Consequently, when a female professor gives failing grades, students may partially attribute those grades to student actions. Conversely, when a male professor gives students failing grades, students might partially attribute that grade to the male professor being a tough grader. Therefore, it might be expected that students would be more satisfied with a female professor who fails students than with a male professor who fails students.

Attribution theory suggests the expectation that students primarily attribute an "A" to their own abilities. However, when a female professor gives students "As" that result might be partially attributed to the belief that the female professor is an easier grader instead of attributed to female professor teaching ability. Again although the perceptions have no bases in fact, they might affect

student attributions about the causes of their grades. In contrast, when a male professor gives students "As" that result might be more strongly attributed to the male professor's teaching ability. Consequently, students would be more satisfied with a male professor who gives students an "A" than they are with a female professor that gives the student an "A." Some researchers indicate that there is a positive relationship between lenient grading and SNRP (Greenwald and Gillmore 1997). However other researchers (Bacon and Novotny 2002) suggest that the other variables can moderate the relationship (e.g., achievement striving). The previous discussion suggests hypothesis six.

H6: There will be an interaction effect of gender and student grades on student satisfaction with the professor.

EXPERIMENT 2

Background

The same role-playing methodology was used in experiment number two. In all of the scenarios subjects were asked to imagine that they were in Pat's shoes and decide how Pat would respond to the situation explained in a scenario. Professor teaching ability was described the same way in all of the scenarios. Pat's activities as a student were the same in all of the scenarios, too.

Independent Variables and Covariates

One hundred ten undergraduate business students were subjects in experiment number two. There were three independent variables in this experiment with two levels of each of the independent variables. That is, the experiment was a 2X2X2 full factorial between subjects experimental design. There were two levels of the professor's gender (i.e., male or female). There were two levels of the professor's age (i.e., younger than most professors or older than most professors). There were two levels of grade (i.e., Pat expected to receive an "A" in the course or an "F" in the course). The same covariates (i.e., student's grade point average and age) were also covariates in experiment number two.

The Scales

Experiment number two examined the effects of the three independent variables on two dependent variables. The first dependent variable was student perception that student ability caused student grades. This variable is different from experiment one because experiment one focused on student perception that professor teaching ability caused student grades. The second dependent variable was the same one as in experiment number one, student satisfaction with the professor. The reliability of

the two constructs was examined using Cronbach's Alpha. The reliability of the two-item scale of the construct, student perception that the student abilities caused the grades was .85 and the reliability of the three-item scale of satisfaction was .96. The reliability of both constructs exceeded the standard of .70 recommended by Nunnelly and Bernstein (1996).

Manipulation Checks

Manipulation checks were performed to determine whether the manipulations were successful. Students were asked what grade the student in the scenario expected on a scale from one to five. One was an "A" while five was an "F." There was a statistically significant difference between the means (M [A] = 1.00 vs. M[F] = 4.73, t = 30.21, p < .001). Subjects were asked whether the professor was young or old. Two subjects failed to answer the question, but 98 percent of those that did answer the question selected the correct category. The subjects were asked about the gender of the professor (male or female) in the scenario. All of the subjects selected the correct category. Consequently, it appears that all of the manipulations were as intended.

Results

Student GPA was a statistically significant covariate (F [1,98] = 6.30, p < .05) on student perceptions that student ability caused the grades. However, student age was not a statistically significant covariate (F [1,98] = 3.54, p > .05). Hypothesis four was supported. Student perceptions were greater that student ability caused an "A" than perceptions that student ability caused an "F" (M [A] = 5.63 vs. M [F] = 3.23, t = 11.08, p < .001). The effect of the professor age on the perception that the student ability caused student grades approached statistical significance (M [young] = 4.10 vs. M [old] = 4.68, F [1,98] = 3.79, p = .054). That is, if students perceive the professor as older, they more strongly perceive that student ability caused the grades. This result is consistent with hypothesis five.

There was a three-way interaction effect of professor age, professor gender, and grade on student satisfaction with the professor (F [1,98] = 4.07, p < .05). Therefore, hypothesis six was not supported. Consequently, because there was a three-way interaction, the two-way interaction effects were examined with professor age held constant. There was a two-way interaction effect of grades and gender on satisfaction with the professor when the professor was perceived as younger (F [1,48] = 4.87, p < 05). This interaction effect is consistent with hypothesis six. See Figure 4 for this two-way interaction effect. There was no interaction effect of gender and grade when the professor was perceived as older (F [1,48] = .45, p > .05). The only statistically significant variable that affected

Student Perception that Professor Teaching Ability Caused the Grade (Four Items – answered on a seven-point Likert Scale–Strongly agree to Strongly disagree).

1. Pat would believe that the professor's teaching ability was the primary reason that Pat received this ("A" [OUTSTANDING] or "F" [FAILURE]) grade.

2. Pat would believe that the professor's ability as a communicator caused Pat to receive the ("A" [OUTSTANDING] or "F" [FAILURE]) grade.

3. Pat would believe that the effort that the professor put into teaching the class caused Pat to receive the ("A" [(OUTSTANDING] or "F" [FAILURE]) grade.

4. Overall, Pat would believe that the professor was mostly responsible for the fact that Pat got an ("A" [OUTSTANDING] or "F" [FAILURE]) grade for this course.

Satisfaction with the Professor (Oliver and Swan 1989 – Three-item scale).
Rate how Pat would feel about this professor. **(Place an "X" at the appropriate spot on all three lines).**

    Very satisfied   **Very dissatisfied**

with this professor ___ ___ ___ ___ ___ ___ ___ **with this professor**

    Pleased   **Displeased**

with this professor ___ ___ ___ ___ ___ ___ ___ **with this professor**

    Delighted   **Terrible**

with this professor ___ ___ ___ ___ ___ ___ ___ **with this professor**

Student Perceptions that the Student Abilities Caused the Grade (Two- Items – answered on a seven-point Likert Scale–Strongly agree to Strongly disagree).

1. Pat would believe that Pat's ability as a student was the most important reason that Pat received the ("A" outstanding or " F" failure) grade for the course.

2. Overall, Pat would believe that Pat was the primary cause of Pat receiving the ("A" or "F") grade.

satisfaction with the professor when students perceived the professor as older was student grades. That is, the student grades affected student satisfaction with the older professor (M [A] = 5.19 vs. M [F] = 2.74, F [1,48] = 78.53, p < .001).

Conclusion Associated with Experiment Number Two

The results of experiment number two appear to confirm that students indeed, do make a form of the basic attributional error when developing their perceptions concerning the cause of grades. That is, generally they are likely to credit their own abilities for success (i.e., expecting an "A"), but unlikely to blame their own abilities for their failures (i.e., expecting an "F"). Consequently, all professors might not be rewarded with higher SNRP for giving students "As," but giving students an "F" will likely be attributed to professor teaching ability.

The results of experiment number two also suggest that the relationship between student grades and SNRP might not be a simple relationship. Indeed, the finding of a three-way interaction effect of the student grades, professor gender, and professor age on satisfaction with the professor suggests that the relationship might be more

FIGURE 4
GENDER BY STUDENT EXPECTED GRADE INTERACTION EFFECT ON STUDENT SATISFACTION WITH THE PROFESSOR
(YOUNGER PROFESSORS ONLY)
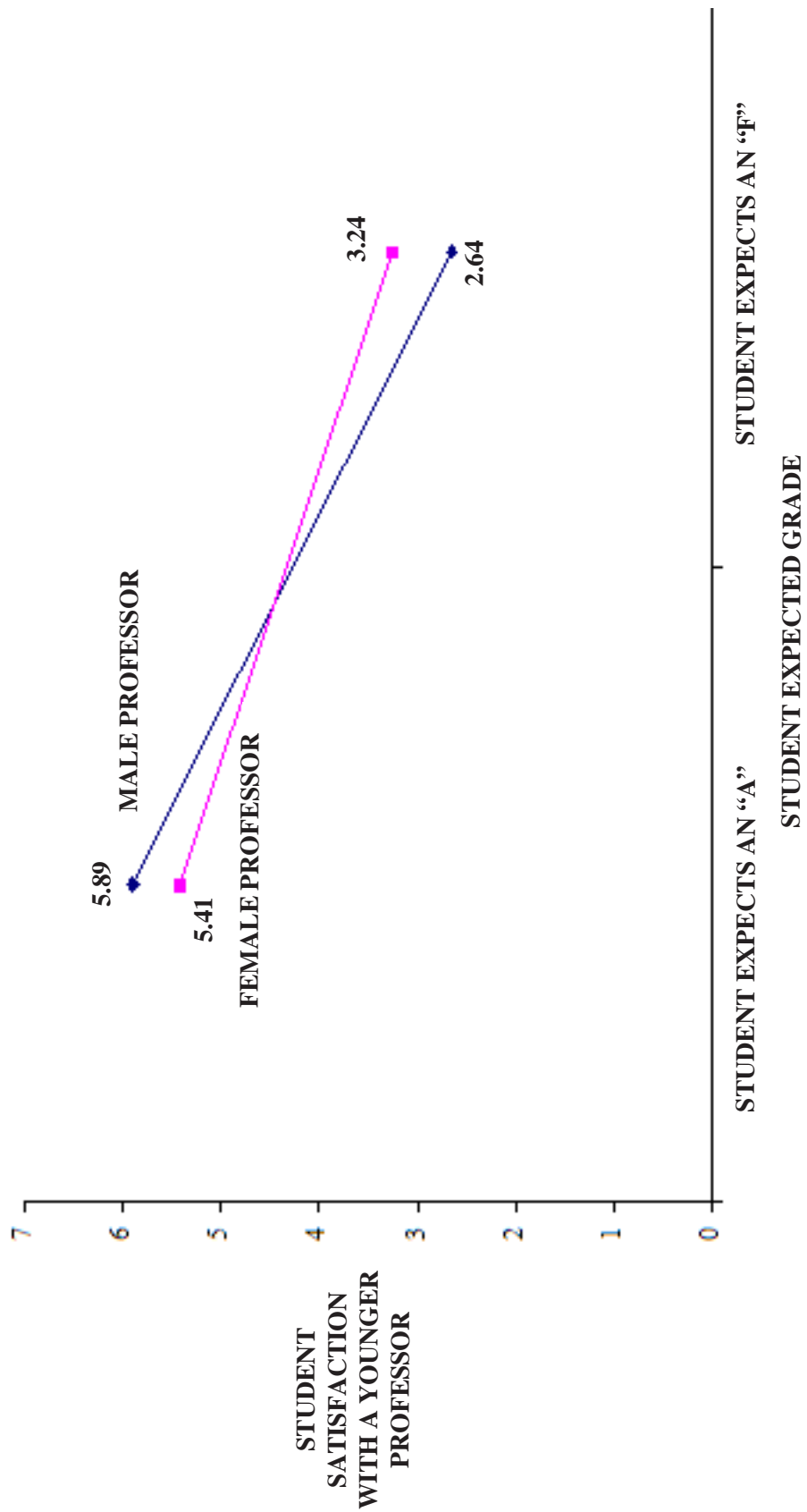
complex than has been suggested in the marketing education literature. However, the results from experiment number two must be interpreted cautiously because this role-playing experiment is subject to the same important limitation as is experiment number one.

OVERALL CONCLUSIONS AND IMPLICATIONS

For more than 30 years researchers have reported numerous well designed and properly conducted research studies with the goal of answering a very simple, but important, question. That is, do student grades affect SNRP? Two schools of thought continue to be presented in the literature each of which proposes a very simple answer to the question. One school of thought answer to this question is that grades and/or other variables almost always affect SNRP. The second school of thought answer to that question is that student grades almost never significantly affect SNRP. The result of many years of research is a conflicting array of empirical evidence. Marketing professors have no definite answer to the question and no theory has been proposed to help explain the conflicting results. Attribution theory and the results of these two experiments suggest that the actual answer to the question may not be as simple as either of the two schools of thought indicate.

Previous research has attempted to examine the relationship between student grades and SNRP. However, virtually no previous research has examined whether there are interaction effects that influence student perceptions concerning whether professor teaching ability caused student grades. The relationship among some personality characteristics of professors, student grades, and SNRP may be more complex than suggested by the marketing education literature. For example, there might be at least one condition when giving high grades is likely to have a positive affect on student numeric ratings of marketing professors (e.g., the marketing professor is perceived as friendly and very caring). This result is likely to occur because students are likely to have the perception that the teaching ability of a caring and friendly marketing professor caused the high grades.

When a marketing professor perceived by students as uncaring gives students high grades, this research suggests that students are unlikely to perceive that professor teaching ability caused their high grades. Therefore, giving high grades is unlikely to have much positive effect on an uncaring marketing professor's numeric ratings. Future research needs to resolve the issue concerning wheth-

er students learn more from caring marketing professors than they learn from uncaring marketing professors. Future research also needs to determine whether other personality characteristics of marketing professors exist that interact with student grades to affect SNRP.

Marketing researchers have been searching for the answer to another simple, but important question; does the gender of the professor affect SNRP? However, virtually no reported research examines whether there may be a three-way interaction effect of professor age, professor gender, and student grades on student satisfaction with their instructors. This research suggests that there could be interaction effects of these demographic characteristics of marketing professors with student grades on student satisfaction with the instructor. Therefore, the analysis of the data from student evaluation questionnaires at some universities and colleges might be improved if that analysis examined for possible interaction effects of demographic characteristics of professors and student grades on SNRP. Marketing professors need to be informed whenever the analysis of the data from their student evaluations questionnaires finds two-way and/or three-way interaction effects, too.

Some student evaluation questionnaires may need to be more comprehensive. For example, some student evaluations could provide additional information about student cognitive processes that resulted in the student numeric ratings of marketing professors. Professor teaching effectiveness is likely the most important cause of student numeric ratings. However, the analysis of the student evaluation questionnaires needs to be able to distinguish between those marketing professors who receive high student numeric ratings because they are outstanding teachers from those marketing professors who receive high student numeric ratings because of other reasons. For example, there might be additional variables (e.g., demographic or personality characteristics of professors) that affect student numeric ratings of some marketing professors, too. The analysis of the data from student numeric ratings questionnaires needs to determine whether these other variables affected the marketing professor's student numeric ratings. In summary, marketing professors and administrators need to look beyond the basic numbers of SNRP to determine the causes of those student numeric ratings. This result will be possible only if an important element of a student numeric rating questionnaire includes a comprehensive series of questions that clearly identifies why the marketing professor has received high, moderate, or low student numeric ratings.

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