# Student Satisfaction Guarantees: An Empirical Examination of Attitudes, Antecedents, and Consequences

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*In guaranteeing the satisfaction of undergraduate students with the instructor's performance, Gremler and McCollough in previous studies reported that undergraduate students generally approve of the concept of offering a student satisfaction guarantee for a course. Although they provided both qualitative and quantitative measures of students' attitudes concerning the guarantee, left unresolved is how students' attitudes toward the guarantee might possibly affect their attitudes toward their overall classroom experience, including their attitude of the instructor's efforts, their own efforts, and their satisfaction with classroom learning outcomes. This research presents and empirically evaluates a student satisfaction guarantee model. Lessons learned have implications not only for student satisfaction guarantees but for service guarantees in general.*

In previous studies we have reported our experiences in guaranteeing the satisfaction of undergraduate students with the instructor's performance and provided both qualitative and quantitative measures of students' attitudes concerning the guarantee (McCollough and Gremler 1999a, 1999b). We found that undergraduate students generally approve of the concept of offering a student satisfaction guarantee for a course. In particular, we have presented student perceptions of the satisfaction guarantee and reported that students think such a guarantee is a good idea, that it increases student confidence in the instructor and sets expectations that both student and instructor would work hard, and that it serves to differentiate the instructor (McCollough and Gremler 1999a). We also found that while the guarantee concept is generally viewed positively by students, some are opposed to the idea of a student guarantee, suggesting it is inappropriate in a university setting, it serves to guarantee only what is normally expected of an instructor, and it is likely to never be invoked because of concerns of possible "retaliation" by the professor in future classes. Left unresolved is how these perceptions or attitudes are interrelated causally and how the satisfaction guarantee may (or may not) influence student attitudes toward the class and the instructor. The primary goal of this research, therefore, is to present and empirically evaluate a model that specifies antecedents to, and consequences of, attitudes toward student satisfaction guarantees.

In addition to pedagogical contributions, the results reported here can potentially inform the service guarantee literature as a whole. The concept of service guarantees has been gaining widespread academic and practitioner interest (Hart 1988, 1993; Hart, Schlesinger, and Maher 1992). However, the literature on service guarantees is largely conceptual, qualitative, normative, and practitioner focused (McCollough 1999). Empirical studies of service guarantees are rare (McDougall, Levesque, and VanderPlaat 1998), and there is very little understanding of how service guarantees actually work to improve service quality and customer satisfaction. Indeed, Ostrom and Hart (2000) pointed out there is much to be learned about service guarantee design and the impact of service guarantees on customers' overall evaluations. The student satisfaction guarantee we have employed (McCollough and Gremler 1999a, 1999b) is one type of service guarantee, a performance (or conditional) guarantee, that includes a formal promise made to customers about the service they will receive. Given the paucity of empirical research on service guarantees, the results reported here have implications that extend beyond the classroom and can inform the general service guarantee literature as a whole.

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*Journal of Marketing Education,* Vol. 24 No. 2, August 2002 150-160
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## ANTECEDENTS AND CONSEQUENCES OF STUDENT SATISFACTION GUARANTEES

Our earlier research on the satisfaction guarantee we offered to a group of students includes content analysis of qualitative data regarding their opinions about the guarantee (McCollough and Gremler's 1999a).[1] Based on what we learned from that initial study, the student satisfaction guarantee was revised (McCollough and Gremler 1999b). The revised guarantee was primarily designed to address student concerns regarding (1) the "fine print" or specifics of the guarantee and (2) perceptions that the guarantee lacked credibility and could never be invoked. To examine the success of the revised guarantee, we prepared, based on the qualitative themes we had previously identified, a structured questionnaire and found that students generally approve of the revised guarantee, do not find the fine print excessive, and generally believe the guarantee is credible (McCollough and Gremler 1999b). However, because of a limited number of observations, we were unable to verify, via confirmatory factor analysis, the constructs identified. Nor were we able to evaluate the interrelationship between the constructs proposed or to establish how, if at all, the guarantee influences student evaluations of the course (including learning outcomes) and the instructor's performance.

### A Student Satisfaction Guarantee Model

The present research is designed to extend our earlier research (McCollough and Gremler 1999a, 1999b) by developing and testing the student satisfaction guarantee model presented in Figure 1. The model can be broadly understood as consisting of (1) a student's overall attitude of a student satisfaction guarantee; (2) antecedents, or drivers, of the student's overall attitude toward the guarantee; and (3) consequences of this attitude on instructor evaluation, learning outcomes, and, ultimately, the student's overall course evaluation.

### Overall Guarantee Attitude

In the present study, the student's overall guarantee attitude is conceptualized as a latent construct that encompasses a general feeling toward the guarantee and whether he or she feels the guarantee is a "good idea." Previously, we have reported that, in general, students appear to have a favorable attitude toward the guarantee (McCollough and Gremler 1999a, 1999b). For instance, most students indicate the guarantee is a "good idea" or make similar comments (McCollough and Gremler 1999a). However, not all students have a favorable attitude toward the guarantee. As an example, some students feel the guarantee is essentially a "waste of time" (McCollough and Gremler 1999a) because, in their opinion, it offers only what is expected from an instructor and is likely to never be invoked. Ultimately, from a marketing if not from a pedagogical perspective, the reason to offer a service guarantee is because it will be favorably received by consumers.[2] Overall guarantee attitude is a measure of just how favorably (or unfavorably) the student satisfaction guarantee is perceived.

### Antecedents of Overall Guarantee Attitude

Based on the themes reported by Hart (1988, 1993) and Hart, Schlesinger, and Maher (1992), as well as McCollough and Gremler (1999a, 1999b), three major constructs are conceptualized as being drivers of students' attitudes toward the satisfaction guarantee: (1) *guarantee scope*, (2) *guarantee components*, and (3) *guarantee credibility.* A discussion of each of these constructs, as well as related hypotheses, is presented in the following paragraphs.

*Guarantee scope* pertains to the overall domain of the satisfaction guarantee, or what is guaranteed. Hart (1993) discussed two broad types of extraordinary guarantees, the unconditional satisfaction guarantee and the specific-results guarantee. An unconditional guarantee states, in essence, that if dissatisfied, for whatever reason, the customer will receive his or her money back (Hart 1993). A specific-results guarantee applies only to explicit steps or outputs of the service process (Hart, Schlesinger, and Maher 1992; Ostrom and Iacobucci 1998) and spells out just what elements of the product are guaranteed (Hart 1993; McDougall, Levesque, and VanderPlaat 1998). For instance, Domino's famous "30 minutes or it's free" guarantee specifically focused on delivery time. Our guarantee can generally be described as specific in that it only warrants student satisfaction with the instructor's performance; it does not guarantee satisfaction with the course unconditionally or with grade satisfaction. However, in earlier studies we found some students feel the guarantee should cover grade satisfaction, unconditional satisfaction, or a minimum grade (such as a B). Thus, guarantee scope is intended to capture student attitudes about the scope of what is being guaranteed. The measure used in this study is designed to capture the extent to which students perceive the teaching performance guarantee to be appropriate or if the guarantee should be broader, covering unconditional satisfaction or grade satisfaction. Guarantee scope, as we have defined it, is expected to be significantly related to overall attitude toward the guarantee (Hart 1988; McDougall, Levesque, and VanderPlaat 1998; Ostrom and Iacobucci 1998); that is, as the domain of what the guarantee covers increases, students' overall attitude toward the guarantee is expected to increase.

Hart (1988) contended a good service guarantee is easy to understand, "written in simple, concise language" (p. 56). We attempt to capture this concept by the label *guarantee compo-*

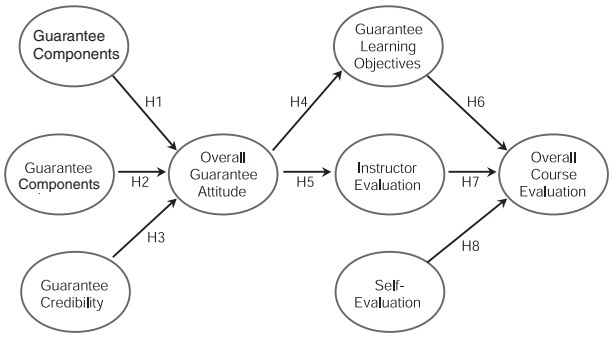


**FIGURE 1: Student Satisfaction Guarantee Model**

*nents*, which refers to the fine print or specific terms and conditions of the guarantee, the fairness of these terms, overall clarity, and the compensation offered. As we noted earlier (McCollough and Gremler 1999a), many students felt the original guarantee had "too much fine print" and "too many terms and conditions." Therefore, when designing our revised student satisfaction guarantee (McCollough and Gremler 1999b), we specifically set out to reduce the number of terms and conditions and to improve the overall clarity of the guarantee. Guarantee components measure students' perceptions regarding the terms and conditions of the guarantee.

Finally, *guarantee credibility* refers to the student's sense that the guarantee could ever be invoked. Hart (1993) suggested that a good service guarantee is perceived to be not too difficult to invoke and collection (or payback) is relatively easy and quick. We reported earlier that some students feel their student satisfaction guarantee is merely a "gimmick" (McCollough and Gremler 1999a). These students felt the guarantee never could be invoked because (1) the instructor is "judge and jury," (2) they fear possible retaliation, or (3) it is not worth the effort to invoke the guarantee. When we revised our guarantee, we specifically set out to increase the perceived credibility of the guarantee (McCollough and Gremler 1999b). For instance, we revised the guarantee so that students could invoke the guarantee anonymously through the department head, if they so chose. Thus, the guarantee credibility construct is designed to measure students' perceptions as to whether the guarantee could be invoked and if it would be worth the "bother and effort" to invoke it.

Therefore, based on the arguments presented here, our proposed guarantee model specifies that a student's overall guarantee attitude is a function of guarantee scope (Hypothesis 1), guarantee components (Hypothesis 2), and guarantee credibility (Hypothesis 3) (see Figure 1).

### Consequences of Overall Guarantee Attitude

We contend that a student's overall guarantee attitude is likely to directly influence two constructs: guarantee learning outcomes and instructor evaluation. To illustrate, we offered our satisfaction guarantee in two classes, Services Marketing and Retailing, in part, because the idea of guaranteeing services was a key learning objective in these two classes that could be conveyed by guaranteeing the students' satisfaction (McCollough and Gremler 1999a). Therefore, a student's overall guarantee attitude could influence student perceptions of a key *learning objective about service guarantees* that services, in general, can and should be guaranteed.

We believe the student's overall guarantee attitude may also influence *instructor evaluation*. Shostack (1977) identified education as the most intangible of services; such high intangibility also is reflected in its high credence nature. As a result, most students are underqualified, given their lack of understanding of the subject matter, to judge for themselves the quality of what (if not how) they have been taught. For instance, while students can make judgments about whether the instructor appeared organized or was generally on time, they cannot adequately judge the quality, accuracy, or currentness of the material taught. It is possible that for high-credence services the consumer's evaluation of service quality might be directly influenced by the presence of a satisfaction guarantee (McCollough 1999; Ostrom and Iacobucci 1998). In other words, lacking the ability to objectively evaluate high-credence services, the guarantee becomes the tangible cue for consumers that guides service quality evaluation. Alternatively, by offering students a guarantee of instructor performance, feelings of respect for the instructor might be engendered that might influence instructor evaluation. Therefore, we believe perceptions of a student satisfaction guarantee should directly influence instructor evaluation.

Given the arguments presented, our model predicts that a student's overall guarantee attitude will influence guarantee learning outcomes (Hypothesis 4) and instructor evaluation (Hypothesis 5).

### Antecedents of Overall Course Evaluation

From a pedagogical perspective, an important measure of classroom success is the student's *overall course evaluation*. We predict that overall course evaluation will be a function of guarantee learning outcomes, instructor evaluation, and student *self-evaluation*. First, an important aspect of a student's overall course evaluation should be what he or she learned or, in this context, the guarantee learning outcomes. Second, overall instructor evaluation also should drive the overall course evaluation. Finally, we contend that students are likely to believe what they get out of a class is in large measure a function of the efforts the students perceive *they* put into the course. That is, students' self-evaluations of their own efforts (as well those of the instructor) are likely to drive overall course evaluation since education is a service characterized by the need for high customer participation for optimal service delivery and satisfaction outcomes (Kelley, Donnelly, and Skinner 1990; Rodie and Kleine 2000). Our model predicts that overall course evaluation will be a function of guar-

antee learning outcomes (Hypothesis 6), instructor evaluation (Hypothesis 7), and self-evaluation (Hypothesis 8).

Note that Figure 1 suggests overall guarantee attitude toward an instructor performance guarantee will not directly influence overall course evaluation but will act only through the constructs of guarantee learning outcomes and instructor evaluation. However, it is possible that the overall guarantee attitude might directly influence overall course evaluation. Therefore, an alternative model also is considered that is identical to Figure 1, with the exception that a direct path is specified from overall guarantee attitude to overall course evaluation. Given that the original theoretical model is nested within this alternative model, to determine the overall efficacy of the alternative model, we will evaluate the two models by comparing the differences in fit.

## METHOD

### Sample

We use a self-report questionnaire format to empirically investigate our proposed student satisfaction guarantee model. In this study, we surveyed undergraduate students from multiple sections of two marketing elective courses (Services Marketing and Retailing) at a public university in the northwestern portion of the United States. During a 3-year period (1997-2000), 262 students from 10 sections of classes in which a student satisfaction guarantee had been offered were asked to complete the survey. The satisfaction guarantee employed is identical to the revised guarantee reported in an earlier study (McCollough and Gremler 1999b). In each course, the survey instrument was distributed near the end of the semester. When scheduling permitted, the surveys were distributed 1 week before official university course evaluation forms were distributed in an attempt to minimize respondent fatigue for both forms. However, this was not possible in every course. Participation in the guarantee survey was voluntary, and 178 students completed the survey for a response rate of 68%. In most cases, students were given the survey, asked to complete it on their own time, and told to bring it to the next class meeting. Given that there was no incentive provided for completing the survey and that it was distributed near the end of the semester, the response rate seems reasonable.

### Measures

Multiple items are used to measure each of the eight constructs in the model. Given the paucity of quantitative measures that relate to service guarantees, particularly in a university setting, we developed new measures for each of the constructs in the model. These items are intended to quantify many of the issues raised in our qualitative assessment of our student satisfaction guarantee (McCollough and Gremler 1999a). (Table 1 includes the final list of items used in the study.) Each construct initially had between 3 and 10 measures, with a total of 50 items originally specified to measure the eight constructs. The items were rated on 7-point Likert-type scales, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

### Overview of Analytic Procedures

The data analysis proceeds according to the two-step approach recommended by Anderson and Gerbing (1988). First, the measurement model is estimated. In this study, the measurement model consists of the eight latent factors described earlier and presented in Figure 1. An evaluation of the reliability of each scale is included in the measurement model assessment. Second, a structural model representing the series of hypotheses presented earlier is specified. In particular, guarantee scope, guarantee components, and guarantee credibility are specified as exogenous variables that are antecedent to the overall attitude toward the guarantee (see Figure 1). Overall guarantee attitude is specified also with paths leading to guarantee learning outcomes and instructor evaluation. Finally, overall course evaluation is specified as an endogenous variable with three paths leading to it (guarantee learning outcomes, instructor evaluation, and student self-evaluation). The final step in the analysis is to estimate the coefficients for each of these paths using the Covariance Analysis of Linear Structural Equations (CALIS) procedure of the Statistical Analysis System (SAS).

## RESULTS

### Measurement Model Results

To measure the constructs of interest, commonly accepted guidelines for measure development and purification (i.e., Babbie 1989; Churchill 1979; DeVellis 1991) were followed. First, an initial assessment of the measures of each of the constructs was assessed by performing an exploratory factor analysis (using the CALIS procedure of SAS) on each set of items expected to be related to each construct. In particular, eight separate sets of items were grouped together and assessed. Those items with low item-to-total correlations (less than .40) were excluded from further analysis. This assessment eliminated 20 items and reduced the original set of 50 items to 30 items.

Next, confirmatory factor analysis was conducted (again using the CALIS procedure of SAS) with all eight constructs simultaneously. Using the criteria suggested by Stevens (1992), 3 items had relatively low factor loadings (i.e., they were all less than the significant critical value of .40) and thus were excluded from further analysis. The remaining 27 items were subjected to further confirmatory factor analysis. The measurement model statistics that resulted are reported in Table 1. The results suggest an adequate fit of the model to the data (Tucker-Lewis Index [TLI] = .901; Comparative Fit

**TABLE 1**
**MEASUREMENT MODEL RESULTS**

| *Construct and Scale Items*[a] | *Standardized Loading*[b] | *Internal Consistency* *Composite Reliability* | *Coefficient Alpha* | *Average Variance Extracted* |
|---|---|---|---|---|
| **Overall course evaluation** | | .856 | .857 | .604 |
| The course material seemed relevant and meaningful. | .750 | | | |
| I am very satisfied with this course. | .927 | | | |
| The amount of work is appropriate for the course credit hours. | .598 | | | |
| I feel the course was very rewarding. | .797 | | | |
| **Instructor evaluation** | | .909 | .904 | .714 |
| Overall, the instruction was effective. | .868 | | | |
| I am satisfied with the efforts of the instructor of this course. | .907 | | | |
| The instructor prepared and organized the class effectively. | .755 | | | |
| Overall, I believe this is an excellent instructor. | .842 | | | |
| **Learning outcomes** | | .814 | .808 | .595 |
| Through the offering of the guarantee, I learned an important lesson about service quality and customer satisfaction. | .683 | | | |
| If I went into business for myself, I would be more likely to guarantee my own performance based on my experience with this guarantee. | .810 | | | |
| I would be more likely to recommend a service guarantee to any future boss based on my experience with this guarantee. | .813 | | | |
| **Self-evaluation** | | .822 | .816 | .609 |
| I was a "good customer." | .803 | | | |
| I am satisfied with my own efforts in this class. | .864 | | | |
| I would rate my class participation as excellent. | .660 | | | |
| **Overall guarantee attitude** | | .798 | .792 | .570 |
| I think the class guarantee is a good idea. | .748 | | | |
| The guarantee is a waste of time. (*reverse coded*) | .664 | | | |
| I believe the class guarantee should be repeated next semester in this class. | .843 | | | |
| **Guarantee scope** | | .731 | .726 | .479 |
| I think the guarantee should cover grade satisfaction. | .647 | | | |
| I think the guarantee should unconditionally guarantee student satisfaction, not just satisfaction with the performance of the instructor. | .793 | | | |
| If you work hard in a class, I believe you should get no worse than a B. | .623 | | | |
| **Guarantee components** | | .787 | .770 | .557 |
| The terms and conditions of the guarantee are fair. | .864 | | | |
| The guarantee is clear and easy to understand. | .623 | | | |
| The amount of compensation offered in the guarantee is fair. | .732 | | | |
| **Guarantee credibility** | | .738 | .742 | .415 |
| The guarantee could never be invoked because the instructor is judge and jury. (*reverse coded*) | .722 | | | |
| If I invoked the guarantee, I would fear retaliation (by either this instructor or others associated with the university). (*reverse coded*) | .551 | | | |
| I think the guarantee is primarily a "gimmick." (*reverse coded*) | .640 | | | |
| It would not be worth the bother and effort required to invoke the guarantee. (*reverse coded*) | .653 | | | |
| Overall model fit of the measurement model[c] | | | | |
| $\chi^2 = 486.7$, $df = 296$ | | | | |
| CFI = .916 | | | | |
| TLI = .901 | | | | |

a. The items are 7-point Likert-type scales, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).
b. All factor loadings are significant. In particular, all *t*-values are at least 6.7 or higher ($p < .001$).
c. The chi-square statistic is significant at the .01 level. CFI refers to the Comparative Fit Index of Bentler (1990). TLI (Tucker-Lewis Index) refers to the Tucker-Lewis ρ (Tucker and Lewis 1973). Composite reliability is based on the reliability index suggested by Fornell and Larcker (1981).

**TABLE 2**
**STRUCTURAL MODEL RESULTS**

| *Path* | *Standardized Path Estimate* | t-*Value* |
|---|---|---|
| Hypothesis 1: Guarantee scope → Overall guarantee attitude | .202 | 1.99 |
| Hypothesis 2: Guarantee components → Overall guarantee attitude | .665 | 6.05 |
| Hypothesis 3: Guarantee credibility → Overall guarantee attitude | .459 | 3.08 |
| Hypothesis 4: Overall guarantee attitude → Learning outcomes | .798 | 8.25 |
| Hypothesis 5: Overall guarantee attitude → Instructor evaluation | .699 | 8.14 |
| Hypothesis 6: Learning outcomes → Overall course evaluation | .148 | 2.37 |
| Hypothesis 7: Instructor evaluation → Overall course evaluation | .818 | 12.01 |
| Hypothesis 8: Self-evaluation → Overall course evaluation | .098 | 2.03 |

*Variance Explained for Endogenous Variables*

| | |
|---|---|
| $R^2$—Overall course evaluation | .864 |
| $R^2$—Learning outcomes | .637 |
| $R^2$—Instructor evaluation | .488 |
| $R^2$—Overall guarantee attitude | .789 |

Overall model fit of the structural model
$\chi^2 = 519.0$
*df* = 310
CFI = .908
TLI = .896

NOTE: The chi-square statistics are significant at the .01 level. CFI refers to the Comparative Fit Index of Bentler (1990). TLI (Tucker-Lewis Index) refers to the Tucker-Lewis ρ (Tucker and Lewis 1973). All *t*-values of 1.96 or higher are significant at the .01 level.

Index [CFI] = .916; $\chi^2$ = 486.7, *df* = 296).[3] As reported in Table 1, the factor loadings for each item in each set are fairly high with all but two loadings (for 1 item measuring overall course evaluation and 1 item measuring guarantee scope) greater than .60. All indicator loadings are positive and significant ($p < .01$). The average variance extracted values are greater than .50 for all but two of the measures (.479 for guarantee scope and .415 for guarantee credibility) and exceed the cutoff recommended by Bagozzi and Yi (1988).

Table 1 also presents reliability estimates for each of the eight constructs using coefficient alphas and a measure of composite reliability based on the loadings of the measurement model (Bagozzi and Yi 1988). The coefficient alphas of each set of items are all at least .726 and are thus above Nunnally's (1978) criterion of .70 for exploratory research. Composite reliabilities are all above .731 for each set of items. Overall, the measurement model statistics suggest sufficient reliability for each set of items to estimate the structural model.

### Structural Model Results

In the structural model, as Figure 1 indicates, guarantee scope, guarantee components, guarantee credibility, and student self-evaluation are specified as exogenous variables, and overall guarantee attitude, guarantee learning outcomes, instructor evaluation, and overall course evaluation are specified as endogenous variables. Table 2 contains the overall goodness-of-fit indexes and the standardized parameter estimates for the hypothesized model. As shown in Table 2, support is found for all of the hypothesized relationships. The goodness-of-fit indexes suggest a suitable fit of the model to the data (TLI = .896; CFI = .908; $\chi^2$ = 519.0, *df* = 310). All of the standardized path coefficients are positive and significant (see Figure 2). All of the paths but one (from guarantee scope to overall guarantee attitude) have a *t*-value greater than 2. These results will be explored in further detail in the Discussion section.

An examination of the amount of variance explained in each of the four endogenous variables also appears in Table 2. The variance explained (measured in terms of $R^2$) in each of the constructs ranges from approximately 49% to 86%. For overall course evaluation, the variance explained is .864; for guarantee learning outcomes, the variance explained is .637; for instructor evaluation, the variance explained is .488; and for the overall guarantee attitude, the variance explained is .789.

Given the exploratory nature of the study, we also tested an alternative model that includes a direct path between overall guarantee attitude and overall course evaluation. However, the overall model fit statistics do not suggest a significantly better fit of this model to the data (TLI = .895; CFI = .908; $\chi^2$ = 518.6, *df* = 309). In comparing the $\chi^2$ statistics, the difference in the $\chi^2$ values (with a one-degree difference in degrees of freedom) between the two models is approximately 0.4, which is not significant, suggesting the alternative model does not provide a significantly better fit to the data. In addition, the path coefficient between the overall guarantee attitude and overall course evaluation proposed in the alternative model is not significant. Therefore, the alternative model is not accepted.

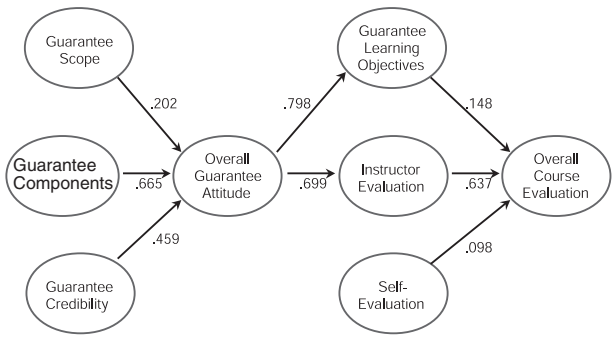


**FIGURE 2: Summary of Structural Model Results**

## DISCUSSION

### Findings

*Support for the proposed model*. In our qualitative data analysis on classroom guarantees, we noted the importance of a guarantee's components and the credibility of the guarantee (McCollough and Gremler 1999a). We then revised our guarantee with the primary objective being to eliminate the number of terms and conditions, to improve the clarity of the remaining terms, and to increase the perceived credibility (or "invokeableness") of the guarantee (McCollough and Gremler 1999b). The present study's findings provide empirical support for the themes we reported previously as well as for the proposed student satisfaction model. In particular, echoing the service guarantee literature, our research indicates that the most important predictors of overall guarantee attitude are the guarantee components (terms and conditions) and the credibility of the guarantee (Hart 1988, 1993; Hart, Schlesinger, and Maher 1992). The overall goodness-of-fit statistics are adequate for both the measurement and structural model. Our model explains a substantial amount of the variance for overall guarantee attitude ($R^2 = .789$). Given the limited amount of research on service guarantees in general, the results reported here provide some initial steps in contributing to our understanding of service guarantees.

Our results, namely, that guarantee scope, guarantee components, and guarantee credibility are all significantly related to students' overall attitude toward the guarantee, provide empirical support for the largely qualitative discussion that these elements *should* influence customer perceptions of a guarantee. Interestingly, however, based on the magnitude of the standardized path coefficient, guarantee scope is considerably less powerful in explaining students' overall attitude toward the guarantee than either the guarantee's components or credibility of the guarantee. A common misperception by fellow faculty is that the student satisfaction guarantee assures the student a certain grade, satisfaction with that grade, or the student's unconditional satisfaction with the course (McCollough and Gremler 1999a). Based on the data analysis reported here, student attitudes concerning the satisfaction guarantee are *not* largely dependent on the scope of the guarantee. Students appear to essentially understand and accept that the guarantee is limited only to instructor performance. Hart (1993) and McDougall, Levesque, and VanderPlaat (1998) argued that for some services, a specific-results guarantee is the most appropriate (and maybe the only practical) guarantee option. Ostrom and Hart (2000) contended that although a guarantee may be limited in scope, it need not be perceived as inadequate by customers. The results reported here appear to support this claim; that is, a specific-results guarantee, although less "powerful" than an unconditional guarantee, can still be viewed very positively by consumers.

*Guarantee impact on instructor evaluation*. The results also suggest that overall guarantee attitude has a significant and substantial impact on instructor evaluation. These results are especially intriguing given the high-credence nature of education. A common explanation given for offering guarantees, in general, is the *signaling* property of warranties (Boulding and Kirmani 1993; Grossman 1981; Kelley 1988; Priest 1981; Shimp and Bearden 1982; Wiener 1985). Signaling theory holds that, under situations in which buyers and sellers possess asymmetrical information on product quality (the seller is assumed to have perfect knowledge of quality, while the buyer's knowledge is imperfect), the producer will have an incentive to send a prepurchase signal of product quality. For tangible goods, where the product quality is experiential, the market signal serves primarily to facilitate the exchange by assuring the customer of the high quality of the product. However, the results reported here hint at a tantalizing possibility for services high in credence properties. Not only might the guarantee signal the quality of the service, it might act to influence directly the consumer's evaluation of the service provider. In other words, a service firm may increase consumer service quality evaluations by simply offering a service guarantee, and this result may be independent of any actual improvement in service. This important finding should be explored in future research by examining the effect of service guarantees on service quality attitudes for other services high in credence properties.

We should point out that service guarantees are one way, but certainly not the only way, to enhance service quality perceptions. An interesting question is, How dependent is instructor evaluation on the presence of the satisfaction guarantee? In other words, could the same results for service provider evaluation be achieved by other means? Perhaps the service guarantee, consistent with signaling theory, operates to tangibilize intangible teaching quality. Drawing on the services literature, other methods might be proposed to yield the same results. For instance, quality of the instructor's overheads, classroom confidence, attire, or grading fairness might also be key drivers of instructor evaluation. Future research should consider alternative explanations of instructor evaluation that incorporate the offering of a service guarantee with

such other factors to simultaneously investigate their influence on instructor evaluation.

*Learning outcomes*. One reason we have offered our student satisfaction guarantee is to teach an important service quality lesson—that services, like goods, can be guaranteed (McCollough and Gremler 1999a). Given the significance of the path from overall guarantee attitude to guarantee learning outcomes, offering a student satisfaction guarantee appears to be an effective way to drive home this lesson. Instructors might wish to explore other ways they can teach important service marketing lessons by "practicing what they preach." As education is the most intangible of all services (Shostack 1977), it is likely that by treating the classroom as a learning laboratory, service instructors can find other exercises to convert students into "participant observers."

*Drivers of overall course evaluation*. The present research investigates some of the predictors of overall course evaluation. Not surprisingly, instructor evaluation is the primary driver of overall course evaluation. Indeed, a common theme found in the services literature is that the service provider *is* the service (e.g., Zeithaml and Bitner 2000). Our findings indicate that although evaluation of the service provider is distinct from the overall service evaluation, the former is an important predictor of the latter.

Learning outcomes and self-evaluation, while significant, were found to be much weaker predictors of overall course evaluation. The relative weakness of guarantee learning outcomes on overall course evaluation might be explained, in part, by the limited and specific domain of the construct in this research. As treated here, guarantee learning outcomes refer only to the specific lesson that services can be guaranteed. As this is only a subset of the many learning outcomes of each of the two courses mentioned earlier, the rather low standardized path estimate may be reasonable given this context. By analogy, the specific learning objective of teaching an important service quality lesson about guarantees can be viewed as one of the many important attributes that determine overall satisfaction. Regardless, the offering of a student satisfaction guarantee appears to be a powerful method of conveying the important lesson of service guarantees.

The relatively small path estimate for the effect of self-evaluation on overall course evaluation is intriguing. While instructors typically recognize the importance of student effort, often viewing it as more important than instructor effort, the perspective of students seems to differ as they appear to place a much greater weight on instructor evaluation (over self-evaluation) in determining overall course evaluation. The finding that students' perceptions of their own efforts are not strongly related to overall course evaluations appears somewhat inconsistent with the findings of other services researchers on customer participation in service delivery (e.g., Kelley, Donnelly, and Skinner 1990; Rodie and Kleine 2000). Although we certainly do not profess to have an explanation for this relatively weak relationship, one possibility occurs to us. Perhaps students who do not do as well as they would like in a course are inclined to attribute these outcomes to the instructor rather than themselves. In our courses, the majority of the students (more than 80 percent) do not receive an A; in our experience, students tend to view anything less than an A as disappointing in an upper division course. Thus, many of our students may frame the course outcome as a failure; this might account for the low path coefficient from self-evaluation to course evaluation. Indeed, research in attributions has demonstrated a bias whereby individuals are more likely to take credit for successful outcomes and more likely to blame others for failures (Curren, Folkes, and Steckel 1992; Folkes 1984; Folkes and Kotsos 1986).

At any rate, the finding of a weak relationship between students' self-evaluations and overall course evaluation certainly suggests we need to investigate this finding further. For instance, how important are student self-evaluations relative to instructor evaluations in determining overall course evaluations? What factors mediate or moderate the relationship between self-evaluation and overall course evaluation? From a pedagogical perspective, if instructors truly believe student effort is indeed at least equal in importance to instructor effort, how can instructors convey this message to students and enhance student efforts? From a broader service marketing perspective, this finding points to the complexity of the relationship between consumer coproduction and satisfaction and suggests further research is needed to understand this phenomenon.

*Attitude toward the guarantee and overall course evaluation*. The alternative guarantee model we considered, which specifies a direct path from attitude toward the guarantee to overall course evaluation, displays no greater explanatory power than our original proposed theoretical model. Given the desire for parsimony, the alternative model should be rejected as inferior to the student satisfaction guarantee model presented here. Student attitude toward the guarantee appears to influence overall course (or service) evaluation primarily through instructor evaluation and, to a weaker degree, through guarantee learning outcomes. That is, the influence that attitude toward a service guarantee has on overall course evaluation appears to be mediated by instructor evaluation. However, this finding could be explained by the specific-results nature of the guarantee offered, which was *limited* to satisfaction with instructor performance. An *unconditional* guarantee, one that applies to the overall service offering and not just the performance of the instructor, might have a greater influence on overall course/service evaluation.[4]

## Reflections and Lessons Learned

*Offering student satisfaction guarantees*. We have consistently been asked, "Why offer a satisfaction guarantee?" Our

various responses, such as "to practice what we preach" or to "teach an important lesson about service quality" (see Gremler and McCollough 1997; McCollough and Gremler 1999a), often seem less than convincing to our peers when offered. Presumably, our fellow instructors believe the downside risk of a guarantee (i.e., possible payout) is not justified by the rather abstract outcomes offered. In other words, our peers often want to know, "What is in it for me?" Perhaps the findings of the present study offer an answer to this question and provide further support for our argument that all instructors should consider a student satisfaction guarantee (McCollough and Gremler 1999a). In particular, we found that a student's overall attitude toward a guarantee has a strong effect on instructor evaluation. Given the importance of student evaluation of instructors, often a primary factor in promotion and tenure evaluations at many institutions, this finding may offer a compelling argument in favor of a guarantee for some. So, perhaps the best argument we now have for implementation of a service guarantee in the classroom—besides the pedagogical benefits—is the positive effect it can have on student evaluations of an instructor and a course.

*Potential faculty abuse of the guarantee*. The arguments in favor of a student satisfaction guarantee we just presented could be perceived as self-serving and, we can imagine, might lead skeptics to be concerned with the possibility of abuse of a student satisfaction guarantee by *instructors*. For example, might an instructor offer a student satisfaction guarantee as part of a strategy to encourage positive instructor evaluations by students? That is, might instructors view guarantees as a self-serving way to raise student evaluations of their performance? Some have argued that student evaluations have led instructors to pander to students; our experience in offering service guarantees in the classroom leads us to believe that a student satisfaction guarantee is likely to *discourage* such behavior. We have steadfastly maintained the guarantee does *not* pander to students and does not result in a loss of rigor in the classroom.

Our data analysis suggests students understand that our guarantee is not about grades and is not an unconditional satisfaction guarantee. We have not reduced rigor in these classes because of the guarantee. Certainly the guarantee does not create an additional incentive beyond what some instructors may do to manipulate their evaluations of students in an attempt to improve student evaluations of them. Indeed, because students can distinguish between grades and instructor performance, the guarantee serves as a check against instructors "buying" evaluations with higher grades. Anyone offering a guarantee must face the very real possibility of payout for *inferior performance* (including "giving away" high grades). The presence of a classroom guarantee may actually ensure instructors to not conspire to "go easy on" the students so that the students will "go easy on" the instructor evaluations, as poor classroom performance can be identified through frequent invoking of such a guarantee.

*Potential student abuse of the guarantee*. Perhaps the most frequent areas of interest expressed about the implementation of a student satisfaction guarantee include curiosity about the number of students who have invoked the guarantee and concern about the risk of fraud by students. Our experience in offering a student satisfaction guarantee suggests that abuse of the guarantee does not appear to be a serious issue. Of the 262 students who have had their satisfaction guaranteed, only 1 student has invoked the guarantee. Therefore, the percentage of students invoking the guarantee is a very low 0.38. In most service industries, this rate would probably be judged favorably against the cost of other service quality initiatives (as well as traditional measure of customer abuse of service products such as shoplifting and general shortage when reported as a percentage of sales). In short, customer (student) abuse appears to be very low, even when students are allowed to invoke the guarantee anonymously.

*Using the guarantee to generate feedback*. One reason for implementing a service guarantee is to provide an opportunity for the provider to receive feedback to help improve service delivery (Hart 1993, 1988). However, to date, we have not benefited from such feedback. The one student (mentioned earlier) who invoked the guarantee did so anonymously. That is, the student went to the department chair to invoke the guarantee and, on the promise of anonymity, was not revealed to us. (This is one of the "conditions" specified in the revised guarantee.) The student provided very vague reasons for wanting to invoke the guarantee, and the department chair did not press the issue.[5] Limited information is available because the guarantee was presented in class as a "no questions asked" guarantee to improve its credibility. However, a no-questions-asked guarantee sacrifices information on the cause for failure in favor of a more credible, stronger guarantee. Therefore, our experience points out the conflict between the use of guarantees to capture information on failure versus the competitive advantage of a no-questions-asked guarantee. The student did receive his or her money back, adding to the credibility of the guarantee, but we (as service providers) were not able to benefit from any useful feedback. Other instructors contemplating the use of a student satisfaction guarantee will have to consider the extent to which they desire (or expect) to receive feedback from students who invoke it.

*Offering guarantees as experiential learning*. Experiential learning activities can add tremendously to the overall educational experience (Gremler et al. 2000). The strongest path coefficient found in the present study is for the path from overall guarantee attitude to guarantee learning objectives (.798), suggesting the offering of a guarantee is clearly related to student understanding of service guarantees and how they work. We have previously suggested that if service guarantees are an important element of the curriculum, the question is not "Should you guarantee?" but "Why wouldn't you?" (McCollough and Gremler 1999a). This finding sug-

gests that the "Why wouldn't you?" question about offering a guarantee in the classroom is a particularly valid one for those who teach classes (such as services marketing, retailing, or service management) where service guarantees are a key topic for discussion. The exposure to, and subsequent understanding of, service guarantees in courses where they are offered can be an extremely valuable learning experience for students.

*Summary.* In summary, we believe the best reasons to offer a guarantee are the pedagogical reasons we have previously outlined (see Gremler and McCollough 1997; McCollough and Gremler 1999a, 1999b). Our experience suggests that the presence of a guarantee, by its very nature, prevents faculty abuse (i.e., pandering to students). Similarly, we have not found student abuse of the guarantee to be a major issue. Since a student satisfaction guarantee may enhance student evaluations, the offering of one can be a way for service providers (i.e., instructors) to tangibilize intangible service quality for a product high in credence properties. However, the guarantee is no substitute for good service quality as it risks high payout in the absence of such quality. Therefore, in the end, the guarantee may provide an important bonus for teaching quality. Any direct impact of the evaluation on course and instructor evaluations beyond that accounted for by the actual teaching quality should be viewed as the "icing on the cake" from offering a guarantee.

### Limitations and Generalizability

The results reported here, while potentially important, are limited by the relatively small size of the sample, the two courses studied, and the single institution in which the guarantee was offered. Offering the guarantee in different courses (including nonbusiness courses) might yield different results. As an example, from a pedagogical perspective, the teaching guarantee is ideally suited to services marketing or retail courses. However, given the weaker strength of the guarantee learning outcomes construct on overall course evaluation (as opposed to instructor evaluation), perhaps instructors in other business (or even nonbusiness) courses would not find a student satisfaction guarantee as useful. Certainly there is a need for additional research in offering guarantees in other disciplines, both business and nonbusiness.

As noted earlier, the data collected in the present study are all from one institution. While we believe it is unlikely, it is possible that aspects of the culture (in terms of issues related to the offering of such a guarantee) at the focal university might be different from other institutions and therefore might influence the results found here. For example, might the guarantee work better with students at smaller, private schools than with students at larger, public institutions?

The two courses in which the guarantee was offered are composed primarily of juniors and seniors; offering the guarantee in lower-level courses might produce different results. For instance, the guarantee, by warranting only the instructor's performance, places a high premium on the coproduction efforts of the students. Underclassmen, especially freshmen, may not have learned (or accepted) their role in the joint production of knowledge. Therefore, payout to dissatisfied students might be higher in lower-level courses. Alternatively, the guarantee, by highlighting the coproduction role of the students, might be an effective (and positive) way to demonstrate to new students the respective roles of instructors and students in the classroom. It would be interesting (and perhaps risky) to see what would happen if a similar guarantee were offered to classes dominated by freshmen and sophomores.

Finally, the size of the classes in the present study (courses in which the guarantee was offered) is relatively low; the average class size was 20 students, and the largest class in which the guarantee was offered had 39 students. Offering the guarantee in courses with larger enrollments might produce different results. However, larger classes do not necessarily mean poorer instruction or lower student satisfaction (and therefore higher payout on the guarantee). Certainly more research is needed in the offering of student satisfaction guarantees to larger classes.

## CONCLUSION

The existing literature on service guarantees is primarily qualitative and based on case studies (McDougall, Levesque, and VanderPlaat 1998). As discussed earlier, the results reported here can inform the general services literature given the lack of empirical research. Thus, the results reported here support the expanding belief that service guarantees can be an important vehicle to improve perceptions of overall service quality. These findings are also, to our knowledge, the first quantitative findings reported in the literature of exactly what constitutes a good service guarantee (guarantee scope, components, and credibility) and the impact a service guarantee can have on important service evaluations. However, as always, care should be exercised when extending our findings to different services industries. Future research should extend the findings reported here to different research settings.

The primary goal of the present study has been to present and empirically evaluate a model that specifies antecedents to, and consequences of, attitudes toward student satisfaction guarantees. The results described earlier provide strong empirical support for our model. In particular, to be viewed favorably, student satisfaction guarantees should include appropriate components (be clear and easy to understand and have clear terms and conditions) and be perceived as credible. However, the scope of the guarantee may not need to be extremely broad—a guarantee that is limited in its domain (what it covers) can still be viewed as appropriate and meaningful. Our findings also suggest that overall attitude toward the guarantee can influence both instructor evaluation and guarantee learning outcomes. Ultimately, the overall guarantee attitude can, at least indirectly, influence the overall evaluation of the course.

Therefore, our findings lend support to the concept and practice of student satisfaction guarantees. We often hear, "Why bother guaranteeing student satisfaction? You don't have to." On the basis of this research, we can now confidently say, "Because it pays off!" We have empirical evidence suggesting students learn the lesson of service guarantees in a powerful manner and instructor evaluations are enhanced. Indeed, the reasons instructors should offer a student satisfaction guarantee may not be that different from the reason why all service providers should seriously consider a service guarantee: They work! We guarantee it!

## NOTES

1. Due to space constraints it is impossible to report details here of our student satisfaction guarantees. Interested readers are directed to McCollough and Gremler (1999a, 1999b).

2. While we believe students are customers, we do not preclude the validity of alternative perspectives. Indeed, it may be valid to view students in other ways (e.g., as products or as both customers and products). However, defending our perspective of students as customers is beyond the scope of this article. We simply note that students *can* be thought of as customers, and the discussion of a classroom guarantee is consistent with such a perspective.

3. TLI (Tucker-Lewis Index) refers to the Tucker-Lewis ρ (Tucker and Lewis 1973). CFI refers to the Comparative Fit Index of Bentler (1990). The chi-square statistic is significant at the .01 level.

4. Given the nature of the context being considered here (a university setting), we believe it is unlikely that unconditional guarantees will find their way onto college campuses in the near future.

5. In examining the guarantee survey results and the student course evaluations, we believe the student is likely to be one who received an A in the course; if so, the student did not invoke the guarantee over dissatisfaction related to receiving a poor grade.

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