CONFOUNDS IN THE MEASUREMENT OF PREDICTIVE EXPECTATIONS

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ABSTRACT

Given the importance of predictive expectations in consumer satisfaction models, confounds in the measurement of expectations could result in misspecified models. Results of two empirical studies indicate that consumers interpret the word "expect" in numerous ways. A large minority of consumers interpret "expect" to mean "desire." The magnitude of the resulting confounding effect is illustrated by comparing results using a measure of expectations alone with results obtained when using a measure of expectations together with a measure of desires in a side-by-side format.

INTRODUCTION

Consumer satisfaction continues to be a critical area of academic research and managerial interest. While the disconfirmation of expectations model has dominated research, new models and approaches have been suggested (e.g., Woodruff, Cadotte, and Jenkins 1983; Spreng, MacKenzie, and Olshavsky 1996; Oliver and Swan 1989). Despite the great amount of research that has tested the disconfirmation of expectations model, disagreement remains concerning definitions and measurement of some key concepts in consumer satisfaction research (Yi 1990).

In particular, the "expectations" concept has been defined and operationalized in a variety of ways, and we believe that there are two problems with the use of "expectations" in past research. First, there is a disagreement regarding the conceptual definition of expectations. In some cases expectations are viewed as predictions of future product performance, often conceptualized as a likelihood of occurrence (e.g., Bearden and Teel 1983; Olson and Dover 1979; Westbrook 1987; Westbrook and Reilly 1983). Others have argued that expectations involve both an estimate of the likelihood of an event, and an evaluation of how good/bad the event is (e.g., Churchill and Surprenant 1982; Oliver 1980; Tse and Wilton 1988).

An example of this latter perspective is provided by Oliver (1981, p. 33):

> "Expectations have two components: a probability of occurrence (e.g., the likelihood that a clerk will be available to wait on customers) and an evaluation of the occurrence (e.g., the degree to which the clerk's attention is desirable or undesirable, good or bad, etc.). Both are necessary because it is not clear at all that some attributes (clerks, in our example) are *desired* by all shoppers." [emphasis added]

As Oliver's discussion makes clear, this conceptualization confounds a person's judgment of the desirability of something with his/her expectation of the likelihood of its occurrence. Additional research highlights potential confounds other than "desires." For example, Zeithaml, Berry and Parasuraman (1993) hypothesize that a third type of expectation is relevant in service settings: the minimally adequate level of service. Might not some respondents in some contexts reasonably interpret "expectations" in this manner, too? In fact, this ambiguity can be found in dictionary definitions of "expect," in that both an "anticipate" and a "desire" definition are given, as well as normative definitions.

Different conceptualizations of "expectations" is a serious problem given its role in models of satisfaction and service quality. For example, it has been demonstrated that desires are distinct from predictive expectations and influence perceptions of quality and customer satisfaction differently. Spreng and Olshavsky (1993) provide both conceptual and empirical evidence that predictive expectations and desires have distinctly different roles in satisfaction formation, while Zeithaml, Berry and Parasuraman (1993) argue that multiple "types" of expectations, including predictive and desired, are relevant in service contexts. Boulding et al (1993) differentiate between "will" expectations and "should" expectations, where the former is predictive

expectations and the latter is a type of normative expectations, described as constrained ideal or desired expectations. They find that each affects perceptions of quality differently: "will" expectations are positively related to perceptions of quality while "should" expectations are inversely related to perceptions of quality. Not only do expectations and desires have differing effects within satisfaction and service quality modeling, there is some evidence that their use as comparison standards also produces differential effects. Spreng and Mackoy (1996) found that while expectations disconfirmation had a significant effect on overall satisfaction, desires congruency influenced both satisfaction and perceived service quality.

The second problem is related to this ambiguity in that it is probable that consumers will also be confused in answering questions about their "expectations." Some consumers may adopt a "predictive expectations" interpretation of the question, some may use a "desires" interpretation, while still others may use a "normative" interpretation. Thus, when researchers ask consumers about their "expectations" regarding a product or service, we believe consumers will use multiple interpretations. If this is true, a great deal of research investigating the role of expectations and disconfirmation of expectations as an antecedent of satisfaction would be called into question. This type of confound may help explain why attempts to measure the effects of predictive expectations on satisfaction formation have yielded inconsistent results. Some researchers have found that expectations and/or disconfirmed expectations are significant antecedents of satisfaction (Bearden and Teel 1983; Churchill and Surprenant 1982 [plant model]; Tse and Wilton 1988) while others have not (Spreng and Olshavsky 1993; Churchill and Surprenant 1982 [video recorder model]; Barbeau 1985). Thus, it is possible that at least some of the inconsistency may be due to respondent interpretation of the term "expectation" or "expect": if some respondents interpret "expect" to mean "predict" or "anticipate," while others interpret it to mean "desire," it seems reasonable that results could be confounded.

Therefore, the purpose of this research effort is to 1) determine the degree to which consumers use alternative definitions of expectations, 2) determine the extent to which any confusion may affect the measurement of expectations, and 3) investigate one alternative method of minimizing such confusion if it exists.

If predictive expectations are confounded with desires, actual relationships between expectations and post-consumption variables will be confounded. Such a finding would call into question much of customer satisfaction modeling research, which has relied extensively on the disconfirmation of expectations paradigm and which has not typically included measures of desires, as well as much service quality literature, which has not consistently included measures of predictive expectations. If expectations and desires each affect satisfaction independently, and expectations are confounded with desires, then the problem will be especially serious for studies in which only one or the other is measured. Only a handful of studies have included measures of both predictive expectations and desires (Westbrook and Reilly 1983; Barbeau 1985; Tse and Wilton 1988; Spreng and Olshavsky 1993; Spreng, MacKenzie, and Olshavsky 1996; Spreng and Mackoy 1996); these studies found that expectations and desires had different effects on satisfaction.

The exploratory research effort reported here consisted of two studies. In study 1, we attempted to determine explicitly which definition of expectations was used by people who were asked to indicate their expectations in common consumption contexts. In study 2, we focused on the degree to which measurement of predictive expectations and desires may be confounded.

STUDY 1

Method

Four hundred thirty three students in an introduction to marketing class were asked to complete a brief (less than 5 minute) survey. Students were asked to imagine a common consumption situation such as going to McDonald's for lunch, purchasing an airline ticket, buying a Coca-Cola, purchasing a Ford Escort, etc.; each student was presented with only one situation. Students were asked to indicate on a Likert scale the degree to which they expected

the target product/service to possess specific features. For example, those presented with the McDonald's scenario were asked to indicate how strongly they agreed or disagreed that McDonald's would ".... be clean," ".... have fast service," ".... have a friendly staff," ".... be inexpensive," etc. Responses were recorded on seven point scales.

Once this simple task was completed, students were asked to complete three questions on the back of the questionnaire. Instructions prior to the three questions explained that multiple definitions for the word "expect" exist, and that "people often interpret the word in different ways." Students were then asked which of four possible definitions of expect was most similar to the definition they personally used to respond to the earlier scenario.

The first question read:

Check the one interpretation of expectations which is closest to the interpretation you actually used to answer the questions above.

__ The characteristics I feel that I must receive.
__ The characteristics I want to receive.
__ The characteristics I feel would be minimally adequate.
__ The characteristics I believe I will actually receive.
__ Other: The characteristics I _____. (Use your own words to explain your interpretation.)

We recognize that subjects may use different definitions of expectation in different situations. Therefore the other two questions asked students which definition of expectations was most applicable to them personally when confronted with a familiar product and which definition was most applicable when confronted with an unfamiliar product.

Results

All 433 students returned completed questionnaires. Simple frequencies were tabulated for each of the possible definitions of expectations. Responses were nearly equally divided across all four possible responses:

....feel that I must receive 24%
....want to receive 24%
....feel would be minimally adequate 23%
....believe I will actually receive 24%
....other 4%

Similar patterns appear for the two remaining questions, with no category being selected by more than 28% or fewer than 21% of the respondents. Further, the majority of respondents indicated that they use different interpretations of the term "expect" in different situations: only 15% reported using the same interpretation of "expectations" for all three questions. This is a significantly higher proportion ($p < .01$) than the 2% expected by chance, but still extremely low. A three-way cross-tabulation analysis failed to reveal any meaningful pattern in the data. Thus, not only does interpretation of "expectations" differ between subjects but also within the same subject.

STUDY 2

Methods

Consequences of confounding predictive expectations and desires may not always be apparent in the results of empirical investigations, especially those of field studies. Product and service providers expend considerable effort trying to produce products/services which match consumer desires, and then try to raise customer expectations to these levels. In many product/service contexts, therefore, predictive expectations and desires are very similar, and it is unlikely that measurement-related confounds in these contexts would be evident. Thus, a test of the existence (and strength) of the confound should be conducted under conditions in which desires and predictions are likely to be similar as well as dissimilar.

Data were collected from undergraduate business students enrolled at a large midwestern university. Participation was voluntary and no student declined to participate. The study focused on the undergraduate student advising center, a service with which most students were familiar. A

brief questionnaire was administered in a classroom setting and consisted of three parts. Part 1 contained basic classification questions, such as year in school, age, and gender. Part 2 was an expectations manipulation, designed to engender low versus high service expectations regarding the advising center. Part 3 contained questions that either measured expectations alone, or measured expectations and desires in a side-by-side format. A total of 174 students completed a questionnaire in the 2 (expectations) X 2 (measurement format) design.

Expectations were manipulated in Part 2 of the questionnaire by exposing subjects to one of two ads purportedly from the advising center. The ads represented realistic information about the advising center, with one ad intended to lower expectations, while the other was intended to raise expectations.

The two different expectations measures are referred to as 1) "traditional" expectations measure, and 2) "juxtaposed" expectations measure. The "traditional" measure included the word "expect" and "expectations" several times in the instructions. The "juxtaposed" measure required subjects to indicate their desired level of service followed by their expected level of service for each attribute. All scales were 7-point "strongly disagree" (1) to "strongly agree" (7). Specific attributes are listed in Table 1.

Table 1
Description of the Attributes

Attribute Number	Description
1	convenience in making an appointment
2	friendliness of staff
3	advisor listened to questions
4	advisor provided accurate information
5	knowledge of advisor
6	advice was consistent
7	advisor helped in long range planning
8	advisor helped in choosing right courses for career
9	advisor was interested in my personal life
10	advising offices looked professional

The following hypotheses were tested in study 2.

H1: Average expectations ratings under the positive manipulation will be higher than the average expectations ratings under the negative manipulation.

H2: Average desires ratings under the positive expectations manipulation will be equal to the average desires ratings under the negative expectations manipulation.

H3: Expectations, when measured alone (traditional), will yield average ratings which are higher than those yielded when expectations are measured with desires (juxtaposed).

Hypothesis 1 and Hypothesis 2 are straightforward. Hypothesis 3 is the focus of this analysis. The rationale for Hypothesis 3 is that the traditional measure of expectations will be confounded as some subjects will interpret expectations in terms of their desired level of service, while others will interpret expectations in terms of the level of service they actually expect to receive. In other words, traditional measures of expectations ought to fall between measures of desires and the juxtaposed measures of expectations. Support for the hypothesis would be consistent with our contention that traditional measures of expectations are actually "weighted averages" of various interpretations of expectations, and not merely averages of predictive expectations across respondents (which is what researchers often think they are measuring).

Results

Hypotheses 1, 2, and 3 were supported based on t-test difference of means analysis.

To test hypothesis 1, twenty difference of means t-tests were conducted, ten comparing the traditional expectations measures in the positive versus negative manipulation condition (for each attribute), and ten comparing the juxtaposed expectations measures in the positive versus negative manipulation conditions (for each attribute). For the tests using traditional expectations measures, expectations in the positive condition were significantly higher than expectations in the negative condition for all ten attributes ($p < .01$, one-tailed tests). For the tests

Figure 1
Traditional Expectations, Juxtaposed Expectations, and Desires
Positive Manipulation

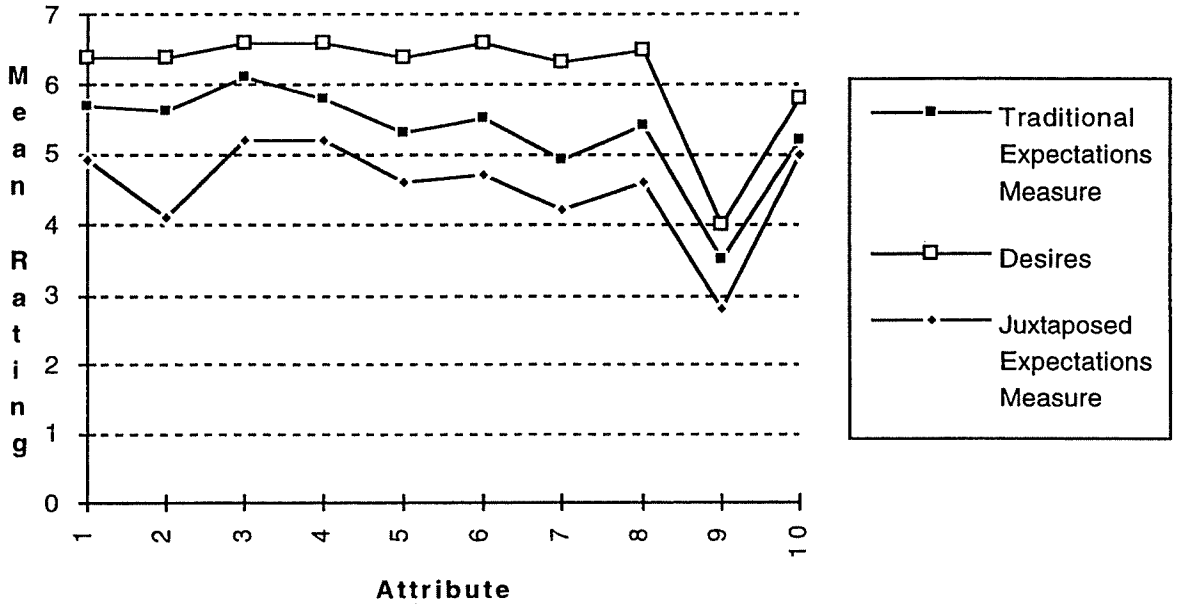
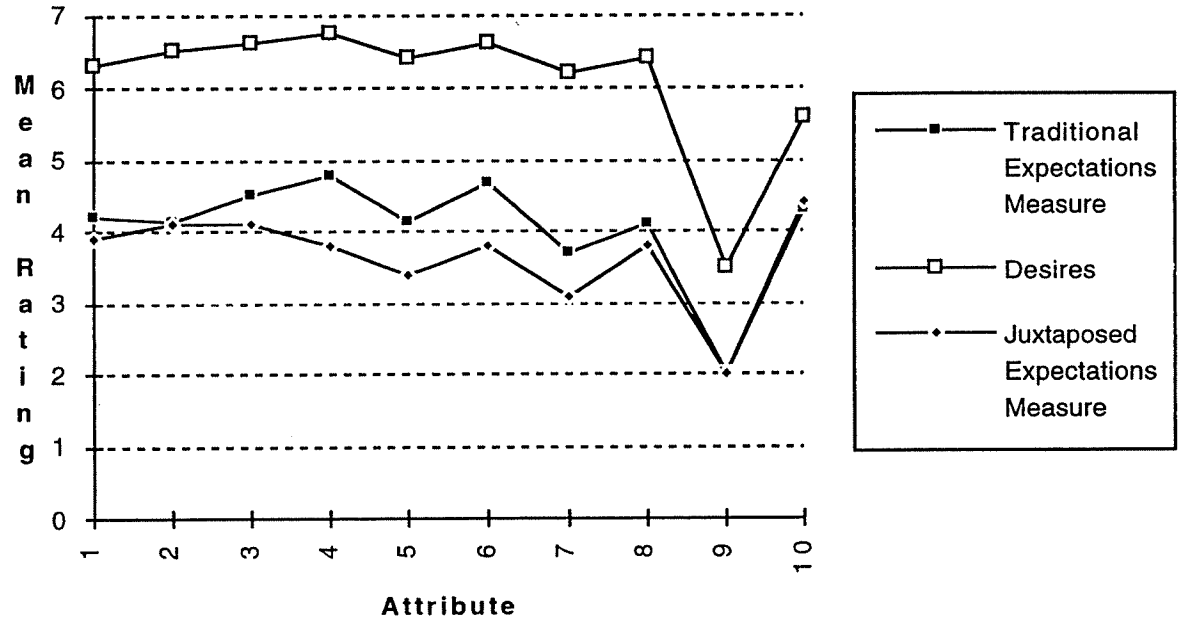


Figure 2
Traditional Expectations, Juxtaposed Expectations, and Desires
Negative Manipulation



using juxtaposed expectations measures, expectations in the positive condition were significantly higher than expectations in the negative condition for nine of the ten attributes ($p < .025$, one-tailed tests); for attribute #2, the juxtaposed measures of the positive versus negative manipulation condition were equal Thus, we found strong support for hypothesis 1.

To test hypothesis 2, ten difference of means t-tests were conducted comparing desires measures for each attribute under the positive versus negative expectations manipulation. No difference was statistically significant (lowest p-value = .191, two-tailed test). Therefore, hypothesis 2 was also strongly supported.

To test hypothesis 3, the mean expectation levels yielded by the two different measures of expectations (traditional versus juxtaposed) were compared on an attribute-by-attribute basis using the t-test difference of means. Figure 1 illustrates the traditional expectations, juxtaposed expectations and desires mean ratings for the positive manipulation, while Figure 2 illustrates means of the same ratings for the negative manipulation. In the positive manipulation condition, the pattern of expectations measures is as hypothesized, that is, traditional measures of expectations lie between juxtaposed expectations and desires for every attribute. The mean traditional measure of expectations is significantly higher ($p < .05$) than the mean juxtaposed measure of expectations for every attribute except #4 and #10. Likewise, in the negative manipulation condition, the pattern of expectations measures is as hypothesized for all attributes except #2, #9, and #10. However, the mean traditional measure is significantly higher ($p < .05$) than the mean juxtaposed measure for only attributes #4, #5, #6, and #7. Note that the mean juxtaposed measure was not significantly higher than the mean traditional measure for any attribute in either condition.

The results offer strong evidence that people do use different interpretations of expectations. The traditional measure of expectations does appear to be confounded: its value across multiple attributes under both conditions is consistent with the proposition that some people used a "desires" interpretation while others used a "predictive" interpretation of expectations.

DISCUSSION

The extent to which respondent confusion between predictive expectations and desires has affected previous research is difficult to assess. Exact question wording is generally not reported so it is impossible to determine the extent to which the term "expect" or "expectation" is actually used in questions designed to measure predictive expectations. In addition, it may be true that different contexts may have different effects on the amount of any confusion. For example, the context of durable goods may elicit a higher (or lower) proportion of respondents to interpret expectations as desires relative to consumer goods. Likewise, services which are familiar may elicit a higher (or lower) proportion of respondents to interpret expectations as desires relative to services which are unfamiliar.

One implication, not tested in this study, is that differing interpretations of "expect" may have an impact on measures of subjective disconfirmation. Disconfirmation is usually measured on a scale ranging from "much better than expected" to "much worse than expected." Thus, even when predictive expectations are accurately measured, measures of disconfirmation may be subject to the same types of confounds as discussed in this paper. Given the wide use of subjective disconfirmation in satisfaction modeling, a systematic confound associated with this construct could be an additional serious problem.

CONCLUSIONS

The terms "expect" or "expectations" appear to be ambiguous. At the very least, the terms do not discriminate between the concepts of "predictive expectation" and "desires." As one might expect, the problem appears to have more severe consequences when predictive expectations and desires are likely to be far apart.

One clear implication for both researchers and managers is that the term "expectation" (or "expect") should be avoided if possible in questionnaires. If the researcher or manager wants to measure predictive expectations, "anticipate actually receiving" could be used. Given that both desires and predictive expectations may be relevant in service quality or satisfaction formation, measuring both constructs in a juxtaposed format appears to be acceptable as this method appears to discriminate between the two constructs.

REFERENCES

Barbeau, J. Bradley (1985), "Predictive and Normative

Expectations in Consumer Satisfaction: A Utilization of Adaption and Comparison Levels in a Unified Framework," *Consumer Satisfaction, Dissatisfaction, and Complaining Behavior Conference Proceedings*, H. Keith Hunt, (ed.), Provo, UT: 27-32.

Bearden, William O. and Jesse E. Teel (1983), "An Investigation of Personal Influences on Consumer Complaining," *Journal of Marketing Research*, 20, (February): 21-28.

Boulding, William, Ajay Kalra, Richard Staelin, and Valarie A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, 30, (February), 7-27.

Churchill, Gilbert A., Jr. and Carol Surprenant (1982) "An Investigation into the Determinants of Consumer Satisfaction," *Journal of Marketing Research*, 19, (November), 491-504.

Oliver, Richard L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, 17, (November), 460-469.

Oliver, Richard L. (1981), "Measurement and Evaluation of Satisfaction Processes in Retail Settings," *Journal of Retailing*, 57, (Fall), 25-48.

Oliver, Richard L. and John E. Swan (1989), "Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach," *Journal of Marketing*, 53, (April), 21-35.

Olson, Jerry C. and Philip A. Dover (1979), "Disconfirmation of Consumer Expectations Through Product Trial," *Journal of Applied Psychology*, 64:2, 179-189.

Spreng, Richard A., Scott B. MacKenzie and Richard W. Olshavsky (1996), "A Reexamination of the Determinants of Consumer Satisfaction," *Journal of Marketing*, 60, (July), 15-32.

Spreng, Richard A. and Richard W. Olshavsky (1993), "A Desires-Congruency Model of Consumer Satisfaction," *Journal of the Academy of Marketing Science*, 21, (Summer), 169-177.

Spreng, Richard A. and Robert D. Mackoy (1996), "An Empirical Examination of a Model of Perceived Service Quality and Satisfaction," *Journal of Retailing*, 72, (Summer), 201-214.

Tse, David K. and Peter C. Wilton (1988), "Models of Consumer Satisfaction Formation: An Extension," *Journal of Marketing Research*, 25, (May), 204-212.

Westbrook, Robert A. (1987), "Product/Consumption-Based Affective Responses and Postpurchase Responses," *Journal of Marketing Research*, 24, (August), 258-270.

Westbrook, Robert A. and Michael D. Reilly (1983), "Value-Percept Disparity: An Alternative to the Disconfirmation of Expectations Theory of Consumer Satisfaction," *Advances of Consumer Research*, 10, Richard P. Bagozzi and Alice M. Tybout, (eds.), Ann Arbor, MI: Association for Consumer Research, 256-261.

Woodruff, Robert B., Ernest R. Cadotte and Roger L. Jenkins (1983), "Modeling Consumer Satisfaction Processes Using Experience-Based Norms," *Journal of Marketing Research*, 20, (August), 296-304.

Yi, Youjae (1990), "A Critical Review of Consumer Satisfaction," *Review of Marketing 1990*, Valarie A. Zeithaml, (ed.) Chicago, IL: American Marketing Association.

Zeithaml, Valarie A., Leonard L. Berry and A. Parasuraman (1993), "The Nature and Determinants of Customer Expectations of Service," *Journal of the Academy of Marketing Science*, 21, (Winter), 1-12.

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