

**WORD-OF-MOUTH COMMUNICATION: WHEN HEARING THE OPINIONS OF  
OTHER CONSUMERS DURING CONSUMPTION MATTERS<sup>1</sup>**

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## **WORD-OF-MOUTH COMMUNICATION: WHEN HEARING THE OPINIONS OF OTHER CONSUMERS DURING CONSUMPTION MATTERS**

It is well established that consumers often incorporate the opinions of other consumers, known as word-of-mouth (WOM), when forming an evaluation of a product or service. However, little is known about how evaluations are changed by WOM, which consumers are most likely to be influenced, and whether the change in evaluation will affect future decisions. We hypothesize that any of three components of an overall evaluation can be changed by WOM, namely belief about attribute delivery, the desired or ideal level of the attribute, and the importance of the attribute. Using WOM messages, we demonstrate that the three components shift in the direction of the messages. Further, we show that WOM has the greatest effect when consumers that are more uncertain about their initial attribute judgements, as identified by the range they indicate around the point-estimate judgement, are exposed to WOM that disconfirms their estimate. We also find, in accordance with dissonance theory, that larger changes in attitude after accepting a WOM message are accompanied by higher attitude-purchase intention correlations.

## **WORD-OF-MOUTH COMMUNICATION: WHEN HEARING THE OPINIONS OF OTHER CONSUMERS DURING CONSUMPTION MATTERS**

When some aspect of reality requires assessment, two sources of information are used: the individual's perception of the physical reality, and external sources of information (Van Avermaet 1996) such as other consumers' perceptions of reality. Although, external information has been found to be more important than the physical reality (Asch 1953), others have found that in a marketing context, external information presented after forming an evaluation based on direct experience does not affect the evaluation (Reed, Wooten, and Bolton 2002). The objective of this research is to identify when external information, in particular other consumers' impressions, heard after an evaluation is formed, influences a consumer's evaluation. Understanding the impact of other consumers' impressions heard during evaluation is critical to managing consumers' satisfaction.

## **WORD OF MOUTH AS EXTERNAL INFORMATION**

Word-of-mouth communication (WOM) is estimated to play a role in about four out of five consumer decisions (Stern and Gould 1988). WOM effects have been demonstrated at various stages of consumer decision-making: at the early stage, information search (Duhan, Johnson, Wilcox and Harwell 1997; Eliashberg and Shugan 1997; Fieck and Price 1987; Herr, Kardes, and Kim 1991; Woodside and Delozier 1976), during trial or sampling of products (Bone 1995; Burnkrant and Cousineau 1975; Cohen and Golden 1972; Venkatesan 1966), and then later as an outcome of product consumption (Richins 1983) and as an alternative to complaining when dissatisfied (Watkins and Lui 1996).

Previous studies investigating the effect of other's opinions during evaluation have not been able to identify which consumers are most influenced by WOM. Cohen and Golden (1972) used Cohen's Compliant, Aggressive, Detached (CAD) scales<sup>1</sup> to measure the extent to which the consumer's interpersonal orientation can predict the influence of others' opinions on the evaluation of the taste of coffee. The CAD interpersonal orientation traits did not prove to be a significant source of variation in evaluation change after exposure to WOM. Bone (1995) used the Susceptibility to Interpersonal Influence (SII) scale, a 12-item scale developed by Bearden, Netemeyer, and Teel (1989), in an attempt to identify consumers who would be influenced by WOM in their evaluation of the sound quality of a cassette tape. The scale was separated into subscales measuring Normative and Informational influence. The median-split division of the sample did not reveal significant effects for either of these SII subscales. We suspect that although individuals most susceptible to the opinions of others may not be identifiable in terms of a personality trait, they might be identified by a state variable revealed in the structure of their initial (pre-WOM) evaluation of the product, namely judgement uncertainty. We also expect that WOM's effect on a listener's evaluation depends on whether it supports or contradicts the listener's pre-comment belief.

### **Attitude Structure**

If product evaluation is considered in a multiattribute ideal-point framework, then the evaluation is determined by the sum of the differences between the judged level (belief) and the desired level for each attribute, weighted by its importance (Green and Srinivasan 1978). Although the impact of WOM on evaluations has been investigated in terms of its effect on product attribute beliefs (Bone 1995; Cohen and Golden 1972; Pincus and Waters 1977; Venkatesan 1966),

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<sup>1</sup> Cohen (1967) developed the scale based on Horney's (1945) tripartite classification of moving toward, against, or away from others.

whether WOM affects the desired level of an attribute, or the perceived importance of an attribute has yet to be tested.

### **Desired Attribute Level**

Economic theory is based on the assumption that consumers have an underlying preference structure that guides them in their decisions. The assumption suggests that consumers know exactly what they want and can make rational judgments using these relatively stable preferences. Recently, a constructivist view of attitudes posits that preferences are most often constructed when needed by retrieving relevant information and integrating it to form a coherent evaluative judgement (Strack, Martin, and Schwarz 1988; Wilson and Hodges 1992). Behavioral decision theorists have supported this view by demonstrating that both the task and the context influence preferences (Lichtenstein and Slovic 1971; Tversky, Sattath, and Slovic 1998). We expect that when WOM becomes part of the consumption context, estimates of the desired level will shift in the direction of the stated preference of the other consumer.

H<sub>1a</sub>: Consumers will shift their desired level of an attribute toward the desired level communicated in the WOM comment.

### **Attribute Importance**

The consumer's decision about the importance of an attribute is partially dependent on the information provided during the task (Payne, Bettman, and Johnson 1993). Individual assessments of the importance of a particular attribute have been manipulated by varying the context (Huber, Payne, and Puto 1982; Simonson and Tversky 1992), the framing of the attribute message (Fischhoff 1983; Thaler 1985), and the accessibility of the attribute itself (Fazio,

Sanbonmatsu, Powell, and Kardes 1986). Since importance can be framed, a WOM comment regarding the importance of an attribute should cause consumers to reconsider its importance, and possibly shift their assessment in the direction of the comment.

H<sub>1b</sub>: Consumers will shift their importance rating for an attribute toward the importance level communicated in the WOM comment.

### **Confidence in Component Estimations**

#### **Belief Confidence**

Consumers' judgments of reality have been represented in multiattribute attitude models as point estimates because consumers are assumed to be able to precisely judge the amount of each attribute that a brand delivers (Meyer 1981). However, this assumption contradicts a vast body of work investigating the process of evaluating available perceptual information (Ashby and Lee; Ashby and Perrin 1988; Nosofsky 1986; Shepard and Chang 1963) where the noise in the perceptual-memory system causes the representation of a stimulus to be a probabilistic distribution of points (Nosofsky 1992)<sup>2</sup>. The judgment distribution depends on the individual's experience with the stimulus (Ashby and Maddox 1992) and the situation (Ashby and Townsend 1986). The range of the distribution, from minimum to maximum judgment, can be regarded as an indication of uncertainty or, inversely, confidence. If the range is narrow then the consumer is confident of his or her evaluation of the stimulus. If the range is wide then the consumer is less confident of an accurate evaluation of the stimulus. As the distributions vary over individuals and situations, the certainty with which an attribute level is judged should vary over consumers,

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<sup>2</sup> For rare applications, in marketing, of this probability-distribution approach to measuring beliefs, see Woodruff (1972) and Moran (1985).

and over attributes within consumers. Consumers with little confidence in their beliefs may be willing to use “others' experience” information to form a final belief.

### **Desired Level Confidence**

It can be difficult for people to decompose an attitude and estimate how much they would like of a particular attribute (Green and Rao 1971), particularly since the desired attribute level may change depending on the levels of other attributes or even with mood (Zajonc and Markus 1983). The considerable noise accompanying partworths from preference elicitation (Huber, Wittink, Fielder and Miller 1993) may be perceived by the consumer, causing a lack of confidence in the estimation of the ideal level of an attribute. A lower perceived confidence in the ability to estimate the desired level of an attribute should lead to a greater dependency on external information such as WOM.

### **Importance Certainty**

The importance a consumer assigns to an attribute is better described as a distribution of possible weights instead of a point estimate (Eliashberg and Hauser 1985; Weber 1985). The range around the importance estimate has been conceptualized elsewhere as preference stability, where the range around the point estimate of attribute importance is initially wide, but narrows as consumers gain experience with an attribute (Hoeffler and Ariely 1999). Hoeffler and Ariely suggest that when preferences are constructed, which occurs when a consumer is inexperienced with the product, consumers indicating wide ranges around the importance of an attribute will be most susceptible to outside influences. Our conceptualization of the range is similar. We believe that consumers lacking certainty of the importance of an attribute will be most likely to alter their

perception of the importance of an attribute on the basis of a comment from another consumer. Therefore, when consumers indicate a wide range of attribute importance, they should be more receptive to WOM comments about attribute importance.

### **The Consistency between Own Evaluation and Others' Perceptions**

Previous research suggests that information consistent with an initial judgment is processed differently than judgment-inconsistent information (see Eagly and Chaiken 1993). Information that is inconsistent with a preferred conclusion is believed to elicit negative affect (Ditto and Lopez 1992), which in turn has been shown to result in more effortful and elaborate processing (Isen 1984). In an attempt to defend prior evaluations, individuals may bias information processing by counterarguing inconsistent information (Eagly, Kulsea, Chen, and Chaiken 2001; Johnson and Eagly 1990), but not counterarguing judgment-consistent information (Petty and Cacioppo 1986). Although counter-attitudinal messages are generally believed to be less persuasive than pro-attitudinal messages (Eagly, Kulsea, Chen, and Chaiken 2001), Jain and Maheswaran (2000) recently found that an inconsistent message with a strong argument did have a persuasive impact even though the initial attitude was strongly held. They used manipulation designed to ensure a strongly held prior evaluation, but stated that “if initial preferences are either weak or not strongly held, then we speculate that preference-inconsistent information may be processed more objectively and perceived as more persuasive” (page 368). We propose that when an initial evaluation or judgment is not held confidently, a consumer will be more reliant on WOM, and that the effect will be greater when the WOM disconfirms the initial evaluation.

H<sub>2a</sub>: Consumers less confident in their reported attribute belief (those reporting wide ranges around the initial point estimate) will be more likely to shift their estimate toward the disconfirming WOM comment.



H<sub>2b</sub>: Consumers less confident in their judgment of the desired level of an attribute will be more likely to shift their estimate toward the disconfirming WOM comment.

H<sub>2c</sub>: Consumers less confident in their judgment of attribute importance will be more likely to shift their estimate toward the disconfirming WOM comment.

## STUDY 1

The task in the study was a taste test of Campbell's V-8<sup>3</sup> vegetable juice. The product category was selected because university students, the sample in this study, purchase in this category. Pre-consumption ratings were made by participants on the basis of the brand's label information. They then tasted a sample of the juice. Direct experience, as in a taste test, enables consumers to form what should be for them a highly valid evaluation of the product with a high degree of certainty (Fazio and Zanna 1981; Smith and Swinyard 1981). Participants were exposed to a WOM comment immediately after tasting the product. The comment was about an attribute, the salt level in vegetable juice. Depending on the treatment condition, the comment made was either a "high" or "low" judgment about the level of salt in V-8, a "more" or "less" comment about the desirable level of salt in vegetable juice, or a "very" or "little" comment about the importance of salt in vegetable juice. For ease of reporting, these will be referred to as "WOM-more" and "WOM-less" in all cases.

Post-tasting ratings were used to test whether post-tasting point estimates for the attribute level, attribute level desirability, and attribute importance, shifted toward the level expressed in the WOM. Shifts toward the WOM comment, particularly when the comment disconfirms the

consumer's initial rating, were expected to be more pronounced among consumers with wider ranges around their pre-tasting ratings of the attribute included in the WOM.

## **Design**

The study was a 3 x 2 x 2 between-subjects design with 3 topics of the WOM comment (attribute belief, attribute importance, desired level of attribute), 2 levels of WOM message confirmation (confirmation, disconfirmation) and 2 levels of estimate confidence (high, low). Message confirmation was determined by comparing pre-tasting estimate with the content of the WOM comment. For example, if the pre-tasting estimate of the amount of salt in a brand vegetable juice was low and a confederate stated that they thought it was high, then the message was deemed disconfirming. Estimate confidence was determined by the width of the range around the target judgment estimate compared to other ranges reported by the same subject.

## **Procedure**

Consumers in the experiment were 181 first-year undergraduate marketing and accounting students. Subjects were paid \$15.00 each for their participation. Sets of 5 to 7 students and a confederate were randomly assigned to WOM conditions.

Consumers were asked to rate four attributes with regard to the importance, desired level, and expected level for V-8 (pre-tasting ratings are described in dependent measures below). Label information was provided to assess the juice. Consumers in all conditions then tasted a 75ml sample of the juice. Immediately after the tasting, participants heard a student confederate

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<sup>3</sup> Pre-testing revealed that although many of the participants had heard of V-8 juice, 79% reported they had not tried it before, and 18% reported they rarely drank the brand. Campbell's does not support the brand with advertising or point-of-sale material in the country where the data was collected.

comment on the juice. In the attribute belief conditions the comment was about the salt level of V-8 ("V-8 is way too salty" or "V-8 hardly has any salt and it tastes good")<sup>4</sup>. In desired level conditions, the comments were "Vegetable juice is a source of natural salt that your body needs every day" and "Salt-free vegetable juice is better for you" respectively. In the attribute importance conditions, the comments were "I read in Choice magazine that the salt content in one glass of vegetable juice can exceed the recommended daily allowance of salt" and "I read in Choice magazine that if you drink 1 or 2 glasses of vegetable juice a day your salt intake will be unaffected" respectively. As soon as the comment was made, the study administrator politely asked that any comments be written down instead of being made aloud.

All consumers then rated the importance, the desired level, and the attribute level in V-8 juice for four attributes (post-tasting ratings are described in the dependent measures below). Those consumers who had provided pre-tasting ratings of the product were told that the reason they were to use the scales again was that the pre-tasting ratings would be sent to the advertising agency that had designed the label, and the post-tasting ratings would be sent to the manufacturer. All consumers then completed scales unrelated to this study. Finally, participants were asked to recall any comments made during the tasting, and to provide their impression(s) of the person, or people, making the comments. These measures were used to check whether participants were suspicious of the confederate. None of the participants described the confederate, or the comment made by the confederate, with skepticism in the post-experimental recall protocol. None of the students guessed the true objective of the study.

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<sup>4</sup> The comments were pre-tested to ensure that they were interpreted in the intended direction, and to establish that the effects were approximately equivalent. After 40 undergraduate students indicated their interpretations, alterations were made to the WOM-more comment for the desired level because the effect was not as strong as the

## Dependent Measures

In most consumer research studies on WOM, consumers are exposed to an overall evaluative comment and tested for changes in their overall evaluation of the product, or they are provided with specific attribute information and asked to provide an overall evaluation (e.g., Herr, Kardes and Kim 1991). We provided specific attribute information of three types and asked participants to rate the product on all attributes in terms of the three components of the model: attribute importance, attribute-level desirability, and attribute level.

The importance ratings were made for "sweetness," "salt content," "thickness" and "tomato content"<sup>5</sup> on 100mm continuous scales with the following instructions (the scale is illustrated in Figure 1): Subjects were asked to "use the scale below to indicate how important the attributes of vegetable juice are to you. It is often difficult for people to indicate exactly how important any particular attribute is to them. Please identify a point on the line that represents the approximate importance of the attribute (mark it with an X). Draw a vertical line to indicate the maximum importance you would give to the attribute. Draw another vertical line to indicate the minimum importance you would give to the attribute. Then please shade the area in between, creating a range of importance around the X. The X does not need to be in the center of the range." The instructions for desired level and attribute belief perceptions were similar.

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Insert Figure 1 about here

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WOM-less comment. A second test with 20 different undergraduate students revealed that the comments were equally strong.

## RESULTS

### Hypothesis Testing

Main effects for examining attribute belief shifts, desired attribute level shifts ( $H_{1a}$ ) and attribute importance shifts ( $H_{1b}$ ) were tested by comparing the WOM-more and WOM-less conditions to control conditions. For each component, two groups were exposed to the treatment and four groups were exposed to another treatment. The *other* treatment groups were used as a control group to provide a baseline for assessing the shifts in the high and low treatment groups. For example, two groups heard an attribute belief comment, four groups heard a comment concerning desired attribute level or attribute importance, however they also reported perceived attribute beliefs. These belief perceptions were used as the baseline.

Interaction effects between confidence and message consistency ( $H_{2a}$ ,  $H_{2b}$  and  $H_{2c}$ ) were tested by pooling the WOM-more and WOM-less conditions for each of the components, and dividing the groups into high or low confidence, and confirming or disconfirming message. Confidence was determined by comparing the width of the range around the pre-tasting judgment of the target attribute to the average range for all attributes, for that particular participant. If the range around the target judgment was wider than the average range, the participant was categorized as less confident, if the range around the target judgment was narrower than the average range, the participant was categorized as more confident. Message confirmation was determined by comparing the initial point estimate on the target attribute to the direction of the WOM comment. If the participant reported a pre-tasting judgment below the mean for all participants and heard a WOM-less comment, that participant was categorized as hearing a confirming WOM comment, if the same participant had been in a WOM-more condition, the message would have been

categorized as disconfirming. The resulting design for analytical purposes was 2 (levels of confirmation) x 2 (levels of range width) for each of the three attitude components.

### **Beliefs and Confidence**

Consumers' point estimates of their beliefs shifted in the direction of the WOM comment, as shown in Table 1. A GLM run on the change in the belief rating for the level of salt revealed that condition was a significant factor ( $F(2, 176) = 22.53, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less condition believed there was less salt in the juice than the control group, and that participants in the WOM-more group reported they believed there was more salt in the juice than the control group. The results replicate past research.

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Insert Table 1 about here

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In a two-factor GLM conducted on the shift in point estimate, the interaction between confirmation and confidence was significant ( $F(1, 58) = 4.24, p < .05$ ). Consumers in the low confidence/disconfirmation condition were most likely to shift their point estimate in the direction of the WOM comment (shift = 31.10,  $t = 4.64, p < .001$ ), compared with those in the low confidence/confirmation condition (shift = 2.50,  $t = 0.49, p = .64$ ), high confidence/disconfirmation condition (shift = 22.13,  $t = 4.30, p < .001$ ) and high confidence/confirmation condition (shift = 15.57,  $t = 5.21, p < .001$ ). Bonferroni post-hoc comparisons reveal that shift for the low confidence/disconfirmation group is significantly

different than the other conditions (1-tailed  $p < .05$ ). The results support  $H_{2a}$ . There were no WOM effects in the low confidence/confirmation condition.

### **Desired Level**

Consumers' point estimates of their desired levels of an attribute shifted in the direction of the WOM comment, as shown in Table 1. A GLM run on the change in the desired amount of salt revealed that condition was a significant factor ( $F(2, 176) = 13.80, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less condition reported that they wanted less salt in vegetable juice than the control group, and that participants in the WOM-more group reported they wanted more salt than the control group. The results support the WOM effects predicted in  $H_{1a}$ .

In a two-factor GLM conducted on the shift in point estimate for desired level, the interaction between confirmation and confidence was significant ( $F(1, 54) = 5.23, p < .05$ ). Consumers in the low confidence/disconfirmation condition were most likely to shift their point estimate in the direction of the WOM comment (shift = 29.00,  $t = 4.53, p < .001$ ), compared with those in the low confidence/confirmation condition (shift = 4.44,  $t = 0.35, p = .99$ ), high confidence/disconfirmation condition (shift = 10.16,  $t = 2.45, p < .05$ ) and high confidence/confirmation condition (shift = 8.38,  $t = 2.30, p < .05$ ). Bonferroni post-hoc comparisons reveal that shift for the low confidence/disconfirmation group is significantly different than the other conditions ( $p < .05$ ). The results support  $H_{2b}$ . There were no WOM effects in the low confidence/confirmation condition.

### **Attribute Importance**

Consumers' point estimates of their judgment of the importance of an attribute shifted in the direction of the WOM comment, as shown in Table 1. A GLM run on the change in the importance of salt in juice revealed that condition was a significant factor ( $F(2, 176) = 12.57, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less condition reported that they thought the amount of salt was less important than the control group, and that participants in the WOM-more group reported they thought the amount of salt was more important than the control group. The results support  $H_{1b}$ .

In a two-factor GLM conducted on the shift in point estimate for attribute importance, the interaction between confirmation and confidence was marginally significant ( $F(1, 55) = 3.53, p = .06$ ). Consumers in the low confidence/disconfirmation condition were most likely to shift their point estimates in the direction of the WOM comment (shift = 24.30,  $t = 5.36, p < .0001$ ), compared with those in the low confidence/confirmation condition (shift = 10.20,  $t = 2.62, p < .05$ ), high confidence/disconfirmation condition (shift = 7.20,  $t = 1.39, p = .19$ ) and high confidence/confirmation condition (shift = 10.92,  $t = 3.04, p < .01$ ). There is marginal support for  $H_{2c}$ . There were no WOM effects in the high confidence/confirmation condition.

## **DISCUSSION OF STUDY 1**

The results demonstrate that the opinion of another consumer, present during consumption, not only influences judgments of attribute levels, as has been demonstrated in the past, but also the desired level of an attribute and its importance. These are more dramatic results. After all, it is not really so surprising that consumers tasting a relatively unfamiliar drink would be influenced



by the comment of another consumer. On the other hand, attribute importance and desired levels are based on general values and preferences rather than specific brand beliefs. WOM is not only important when consumers are making judgments about unfamiliar brands (the salt level in V-8), but also to update attribute judgments that could affect other juice brands (the desired level of salt), and possibly other “like” products (the importance of salt).

WOM does not always affect judgments to the same degree. Consumers most influenced by the WOM comment were low in confidence about their judgments and were exposed to WOM information that disconfirmed their pre-experience estimates. This is an intuitively appealing finding suggesting that it is when consumers aren't sure about a judgment, and there is external information conflicting with their weakly held belief, that they are most likely to incorporate the opinions of others into their evaluations.

### **Limitations and Extensions**

There are two important limitations to Study 1. First, the target attribute was a psychophysical attribute, as has often been the case in studies investigating WOM effects. Although the judgment should be fairly objective, there was considerable variation across consumers.

Consumers also make judgments of much more subjective attributes such as the prestige value of a brand. The results from Study 1 may not be indicative of how consumers would react to WOM when the attribute in question is not psychophysical. Second, the comments in study 1 contained belief and valence information in the WOM-less belief comment, and they contained other expert source information in WOM-less and WOM-more importance comments. To ensure that it is

only the opinion of the other consumer that affects evaluations, the comments should not include this extra information.

An important question not addressed in Study 1 is how WOM heard during consumption might affect behavioral intention. In other words, will revised attitudes based on the opinions of other consumers sharing the consumption setting predict a consumer's intention to re-purchase? We look at attitude commitment and attitude certainty to investigate how exposure to WOM affects the ability of attitude to predict behavioral intention.

### **Attitude Commitment**

Attitude commitment pertains to the degree to which an individual is willing to defend his or her attitude (Pomerantz, Chaiken and Tordesillas 1995). In Study 1, we found that judgments of belief, importance and desired attribute levels changed most when participants were exposed to disconfirming information. Exposure to disconfirming information can result in more elaborative processing (Edwards and Smith 1996), which should be followed by a greater commitment to the resulting attitude (Petty and Wegner 1998). We expect that the greater the commitment to an attitude, the greater the motivation to defend the attitude with consistent behavior. Behavior that is consistent with a stated attitude is reflected in a higher attitude-behavioral intention correlation. We expect that when exposed to a disconfirming WOM comment, a larger shift toward the WOM comment will result in a higher attitude-behavioral intention correlation.

H<sub>3a</sub>: In the disconfirming WOM condition, consumers who were most persuaded by the WOM comment will have the highest attitude-behavioral intention correlation.

## **Attitude Certainty**

Attitude certainty is defined as the degree to which an individual feels confident that his or her attitude toward an object is correct (Krosnick, Boninger, Chuang, Berent, and Carnot, 1993). In Study 1, confirming, judgment confirming WOM comments resulted in a narrower range around the point estimate afterwards, suggesting greater belief certainty ( $t = -10.4, p < .0001$ ) which is consistent with past research (Jain and Maheswaran 2000). In Study 2, we conceptualize the range around the overall evaluation of the product as an indication of attitude certainty. In the confirming message condition, consumers should feel more certain of the accuracy of their overall evaluation because the WOM confirms their initial rating. As the relationship between attitude and behavior has been demonstrated to vary with attitude certainty (Shanker and Smith 1998), we expect the attitude-behavioral intention correlation to be highest when exposure to a confirming WOM comment results in more certainty in the overall evaluation (narrow range).

H<sub>3b</sub>: In the confirming message condition, consumers who are more certain of the accuracy of their attitude will have the highest attitude-behavioral intention correlation.

## **STUDY TWO**

### **Design**

The product was a comedy film and the attribute targeted by WOM was the amount of physical comedy that it was perceived to include. Physical comedy is described as the actor(s) using their actions to create comedy as opposed to using words. The same 3 x 2 x 2 between-subjects design was used in this study. There were 3 topics of the WOM comment (attribute belief, attribute importance, desired level of attribute), 2 levels of WOM message confirmation (confirmation, disconfirmation) and 2 levels of estimate confidence (high, low).

## WOM Stimuli

The WOM comments were carefully constructed such that the direction of the comment, was the only variation in the comments for each component. In each experimental treatment, the confederate began by asking the administrator about physical comedy, and then made one of the following comments: 1] "I thought there would be less physical comedy" (increase belief), 2] "I thought there would be more physical comedy" (decrease belief), 3] "I think physical comedy is really important" (increase importance), 4] "I don't think physical comedy is really important" (decrease importance), 5] "I like a lot of physical comedy" (increase desired level), or 6] "I don't like a lot of physical comedy" (decrease desired level).

Consumers in the experiment were 178 students enrolled in a first-year undergraduate marketing course. They earned course credit for their participation. Sets of 5 to 7 students and a confederate were randomly assigned to WOM conditions.

Participants were told the study was investigating movie preferences and their relation to attendance at sequels. After a brief introduction, participants rated the importance and desired levels of attributes of comedy films, using the scales similar to those described in study 1. They were then provided two paragraphs of promotional copy, taken from the videocassette label and film reviews, for the movie *Rosencrantz and Guildenstern are Dead*, and asked to predict how the movie would perform on the attributes. Next, they viewed 10 minutes of the movie, on video. Immediately after the participants in each small group had watched the movie excerpt, the confederate made the WOM comment. Participants were then told that they would be filling in the scales again because the first set of scales would be sent to the copywriters of the

promotional copy while the second set of scales would be sent to the producers of the film. Last, they completed four behavioral intention scales asking about their intention to see a sequel of the film. Subjects were debriefed and thanked for their participation.

### **Dependent Measures**

**Attitude Scales.** We asked participants to rate the product on four attributes for each of the three components: attribute importance, attribute-level desirability, and attribute level. The ratings were made for character development, physical comedy, verbal comedy, and a familiar plot on 100mm continuous scales. An overall evaluation was also included in the post-viewing measures on a 100mm continuous scale anchored with “very unfavorable” and “very favorable”.

**Behavioural Intention Measures.** Subjects were asked how likely they would be to: 1] suggest that a group of friends see a sequel of the movie at the cinema if the ticket price was \$14.00 (per person), 2] go along with a group of friends to see the sequel at the cinema if the ticket price was \$14.00, 3] suggest to a friend that the friend rent the sequel as a new release video for \$7.00 (if the friend had not seen it at the cinema), and 4] have a friend agree to jointly rent the sequel as a new release video for \$7.00 (if the friend had not seen it at the cinema). Responses to these questions were collected on 10-point scales anchored with "not at all likely" (1) to "very likely" (10)<sup>5</sup>.

## **RESULTS**

### **Attribute Beliefs**

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<sup>5</sup> The intention to behavior measure used here was similar to a measure recently demonstrated to predict behavior (Chandrashekar, McNeilly, Russ, and Marinova 2000).

Consumers' point estimates of the amount of physical comedy in the film shifted in the direction of the WOM comment, as shown in Table 2. A GLM run on the change in the belief rating for physical comedy revealed that condition was a significant factor ( $F(2, 174) = 10.10, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less condition rated their perception of the level of physical comedy in *Rosencrantz and Guildenstern are Dead* as lower than the control group. The WOM-more rating was directionally, but not significantly different than the control group rating.

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Insert Table 2 about here

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In a two-factor GLM conducted on the shift in point estimate for the amount of physical comedy in the film, the interaction between belief confidence and message confirmation was significant ( $F(1, 55) = 6.14, p < .01$ ). Consumers in the low confidence/disconfirmation condition were most likely to shift their point estimates in the direction of the WOM comment (shift = 37.88,  $t = 7.96, p < .0001$ ), compared with those in the low confidence/confirmation condition (shift = -1.25,  $t = 0.77, p = .30$ ), high confidence/disconfirmation condition (shift = 8.80,  $t = 2.10, p = .10$ ) and high confidence/confirmation condition (shift = -3.30,  $t = 0.46, p = .66$ ). Planned comparisons<sup>6</sup> revealed that the shift for consumers in the low confidence/disconfirmation group was significantly greater than those in the other groups ( $p < .05$ ). The results support H<sub>2a</sub>. The WOM effect was only found in the low confidence/disconfirmation condition.

## Desired Level

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<sup>6</sup> The planned comparisons were pairwise t-tests equivalent to Fisher's least-significant-difference test.

Consumers' point estimates of their desired level of an attribute shifted in the direction of the WOM comment, as shown in Table 2. A GLM run on the change in the desired amount of physical comedy revealed that condition was a significant factor ( $F(2, 174) = 17.82, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less condition reported that they wanted less physical comedy than the control group, and that participants in the WOM-more group reported they wanted more physical comedy than the control group. The results support  $H_{1a}$ .

In a two-factor GLM conducted on the shift in point estimate for desired level of the attribute, the interaction between latitude of acceptance and message confirmation was not significant ( $F(1, 54) = 1.64, p = 0.21$ ). However, as predicted, consumers in the low confidence/disconfirmation condition were most likely to shift their point estimates in the direction of the WOM comment (shift = 30.83,  $t = 6.30, p < .0001$ ), compared with those in the low confidence/confirmation condition (shift = 8.92,  $t = 3.12, p < .01$ ), high confidence/disconfirmation condition (shift = 16.71,  $t = 4.20, p < .001$ ) and high confidence/confirmation condition (shift = 5.64,  $t = 2.17, p < .05$ ). The results do not support  $H_{2b}$ , although the pattern is consistent with the hypothesis.

### **Attribute Importance**

Consumers' point estimates of their judgment of the importance of an attribute shifted in the direction of the WOM comment, as shown in Table 2. A GLM run on the change in the importance of physical comedy revealed that condition was a significant factor ( $F(2, 174) = 16.42, p < .0001$ ). Bonferroni planned comparisons indicate that participants in the WOM-less

condition reported that they thought physical comedy was less important than the control group, and that participants in the WOM-more group reported they thought physical comedy was more important than the control group. It should be noted that the control group also increased the importance rating of the attribute after hearing a comment about the desired or actual amount of physical comedy. This is consistent with past research suggesting that an importance rating is partially determined by the accessibility of the attribute (Boninger, Krosnick, Berent, and Fabrigar 1995). The results support H<sub>1b</sub>.

In a two-factor GLM conducted on the shift in point estimate for attribute importance, the interaction between confidence and message confirmation was significant ( $F(1, 57) = 3.66, p < 0.05$ ). Consumers in the low confidence/disconfirmation condition were most likely to shift their point estimates in the direction of the WOM comment (shift = 26.95,  $t = 7.49, p < .0001$ ), compared with those in the low confidence/confirmation condition (shift = 3.10,  $t = 1.01, p = .34$ ), high confidence/disconfirmation condition (shift = 12.80,  $t = 6.06, p < .0001$ ) and high confidence/confirmation condition (shift = 1.31,  $t = 0.38, p = .71$ ). Planned comparisons showed the shift in the low confidence/disconfirmation group to be greater than those in the other three groups ( $p < .05$ ). The results support H<sub>2c</sub>. WOM effects are found in the disconfirmation conditions only.

### **Attitude-Purchase Intention Correlation**

Hypothesis 3a states that consumers in the disconfirmation condition that were most persuaded by the WOM comment (shifted the point estimate the most), would have the highest attitude-behavioral intention correlation. We divided the participants in the confirming message and



disconfirming message into thirds, those most persuaded, somewhat persuaded and least persuaded by the WOM message. We also used a median split on the width of the range around the overall evaluation, to form two groups, high certainty and low certainty.

The results support H<sub>3a</sub> (see Table 3), of the consumers in the disconfirming WOM condition, those most persuaded by the message had the strongest commitment to their attitude. A regression analysis of purchase intention reveals that in the disconfirming condition there is a significant interaction between shift (attitude commitment) and overall evaluation ( $t(385) = 2.39, p < .01$ ). The attitude-behavioral intention correlation increased with the amount of persuasion. There was no main effect for the shift ( $t(385) = 1.31, p = .19$ ), the width of the range (attitude certainty) ( $t(385) = 0.41, p = .68$ ), and no interaction between the range and overall evaluation ( $t(385) = 1.25, p = .21$ ). H<sub>3a</sub> is supported: in the disconfirmation condition, it is attitude commitment that determines the relationship between overall evaluation and behavior intention. This is consistent with the motivation to avoid feelings of dissonance resulting from inconsistencies between elements in one's cognitive system (Festinger 1957).

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Insert Table 3 about here

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Hypothesis 3b states that consumers in the confirmation condition who are most certain of their attitude (narrowest range around the overall evaluation) will have the highest attitude-behavioral intention correlation. The results are consistent with this hypothesis (see Table 3). A regression analysis of purchase intention reveals that in the confirming condition there is a significant interaction between range (attitude certainty) and overall evaluation ( $t(301) = 1.96, p < .05$ ). H<sub>3b</sub>

is supported. The attitude-behavioral intention correlation was higher (0.59) when the consumers were certain of their assessment than when they were uncertain (0.27). There was also a significant interaction between attitude commitment and overall evaluation ( $t(301) = 2.55, p < .01$ ) underscoring the importance of avoiding dissonance. Both attitude commitment and attitude certainty influence purchase intention in the confirming condition.

### **GENERAL DISCUSSION**

The results demonstrate that the opinion of another consumer, present during consumption, not only influences beliefs about the product's attribute delivery, as has been demonstrated in the past, but also the desired or ideal level of an attribute, and its importance. We purposely used a confederate that was a peer of the consumers, but not known to them personally. The effects should be even greater if the confederate was a friend or perceived as having expert knowledge. The results also reveal when consumers are most susceptible to WOM. Instead of a personality trait, which has been unsuccessfully used in the past, we found that consumers that were less confident in their initial estimate, were most susceptible to disconfirming information. The interaction was significant for attribute belief in both studies. The interaction was significant for attribute importance for the film, but only weakly significant for the psychophysical attribute. Conversely, the interaction was significant for the desired level of the psychophysical attribute, but not for the level of physical comedy. It should be noted that the WOM effect was significant regardless of the confirmation condition or confidence of the consumer when the attribute was the amount of physical comedy.

In study 2 the results also reveal that the relationship between attitude and purchase intent differed depending on whether the WOM confirmed or disconfirmed the consumer's initial estimate. Further research is necessary to test this hypothesis. In the disconfirming message conditions, the most persuaded consumers had the highest attitude-behavioral intention correlation, regardless of attitude certainty. It could be that elaboration following a disconfirming message serves to increase the consumer's commitment to the attitude without affecting the certainty with which the attitude is held. This is consistent with dissonance theory: in order to avoid the discomfort of conflicting attitudes and behavior, consumers will behave consistently with their stated attitude – particularly if they have changed the stated attitude.

On the other hand, consumers who heard a confirming message and became more certain of their attitude had the highest attitude-behavioral intention correlation. Although the degree of persuasion mattered, the stated attitude for those who were most persuaded and also uncertain had the lowest predictive ability for behavioral intent.

### **Limitations**

We used unfamiliar brands to minimize the effects of pre-existing brand beliefs. Most previous studies have also used unfamiliar or hypothetical brands. It would be interesting to test whether WOM about familiar brands would result in similar changes in product judgment. Although one might expect not, it is worth noting that the WOM effects were observed for the desired attribute levels and attribute importance for very familiar attributes, salt (study 1) and physical comedy (study 2).

## **Summary**

The results of the present research contribute in three important ways to a growing literature investigating WOM effects on consumers' perceptions, evaluations and behaviors. First, we considered three attitude components of a consumer's product evaluation, the judged level of an attribute for a brand, the desired level of an attribute, and attribute importance, and demonstrated that all three components can be influenced by WOM. Second, we used a range measure not previously used in studies of this kind. The width of the range and message confirmation predicted susceptibility to WOM influence. Third, we demonstrated that attitude commitment influences purchase intention in the disconfirming WOM condition, and that both attitude certainty and attitude commitment influence purchase intention in the confirming WOM condition.

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TABLE 1

Point Estimates - Study 1  
 Mean (standard deviation)

	Attribute Belief		Desired Level of Attribute		Attribute Importance	
	pre	post	pre	post	pre	post
WOM-more	43.7 (19.0)	74.3 (12.8)	29.6 (19.0)	46.5 (22.9)	45.0 (20.0)	64.8 (18.0)
WOM-less	49.9 (19.6)	42.4 (25.7)	36.4 (18.7)	27.5 (18.6)	50.0 (17.9)	42.0 (21.8)
All other groups	44.9 (18.8)	61.9 (19.4)	30.7 (19.3)	33.8 (20.7)	48.1 (24.8)	56.1 (24.5)

TABLE 2

Point Estimates - Study 2  
Mean (standard deviation)

	Attribute Belief		Desired Level of Attribute		Attribute Importance	
	pre	post	pre	post	pre	post
WOM-more	55.8 (20.2)	58.6 (17.9)	44.7 (23.3)	63.3 (16.7)	50.3 (21.8)	61.8 (17.7)
WOM-less	59.7 (20.5)	30.9 (17.8)	60.4 (19.7)	44.7 (22.8)	58.7 (19.6)	44.1 (18.8)
All other groups	57.1 (21.7)	49.1 (20.7)	53.3 (22.5)	53.9 (21.6)	51.5 (20.2)	53.8 (18.8)

TABLE 3  
Attitude-Behavioral Intention Correlation - Study 2

	Confirming Message		Disconfirming Message			
	High Certainty	Low Certainty	High Certainty	Low Certainty		
Change due to WOM						
Smallest Shift	.66	.33	.46	.39	.41	.36
Medium Shift	.58	.13	.52	.61	.41	.47
Largest Shift	.74	.21	.47	.62	.70	.65**
	.59	.27*		.58	.56	

Note. - Correlations with an asterisk in the superscript are significantly different between certainty levels within message confirmation. Correlations with two asterisks in the superscript are significantly different between shift (commitment) levels within message confirmation. Significance tests are performed by transforming the correlation coefficients with the Fisher Z-transform.

FIGURE 1  
Importance Rating

