

**Is the Follower the Leader?  
How the First Follower Establishes the Group Norm in Sequential Behavior**

**Abstract**

Our research examines how group norms are determined in a sequential choice setting. When people in groups make decisions sequentially, they are conforming to group norms as they develop. We show that the group norm is determined by the behavior of the second person (i.e. the first follower) relative to the first person (i.e. the leader). In Study 1, we use a secondary data set of online reviews to demonstrate that group variation in review valence depends on the comparison of the first follower's review relative to the leader's review. In Study 2, we replicate the findings in an experimental setting and show that perceptions of a group norm mediate the effect of the first follower on within-group variation. In a restaurant field study, we show that people either order to fulfill uniformity or variety depending on the behavior of the first follower relative to the group leader. When the first follower chooses similarly (differently) to the leader, the rest of the group seeks uniformity (variety). Implications for research and practice are discussed.

Keywords: sequential choice, group norms, self-presentation, variety, sentiment analysis

Sequential behavior is a phenomenon that can be seen everywhere - from ordering at restaurants or bars with friends, to posting comments on internet threads with strangers.

Sequential behavior can be seen in the formation of trends and movements and coming to a unanimous decision in a jury. The variety of contexts in which sequential behavior exists offers a unique research area. Consider a scenario where you and your friends are at happy hour and ordering drinks. In one situation, the first person orders a beer, and then the second person also orders a beer. In another situation, the first person still orders a beer, but the second member orders a mixed drink. How does the rest of the group react in each situation? When there is agreement between the first and second person, is the rest of the group more likely to continue the pattern of ordering beer? How about in the second situation when the second person orders differently from the first by ordering a mixed drink? Does that action make it socially normative for the remainder of the group to order drinks other than beer?

Sequential behavior plays an important role in determining group norms and individual behavior. Self-presentation and satisfying one's own goals are competing when individuals make choices (Ariely and Levav 2000). Asch's classic line experiment demonstrates the strength of complying to sequential group norms; many participants complied with group norms by giving an obviously incorrect answer in order to agree with the other group members (Asch 1955; Deutsch and Gerard 1955). Further, Asch's line experiment demonstrated that when there was only one confederate stating an incorrect answer, the participants gave a correct answer in almost every trial. When a second confederate was added, the pressure to conform increased, such that participants gave incorrect answers to conform almost 14% of the time (Asch 1955). While Ariely and Levav (2000) describe several group-level goals such as information-gathering, self-presentation, and minimizing regret, they do not address the formation of group norms to satisfy

the self-presentation goals. Specifically, they speculate that an individual's goal of self-presentation in the presence of the group can either lead to uniformity or variety-seeking (Ariely and Levav 2000), but do not indicate under which conditions the group goal will be uniformity versus variety. That is the focus of our research – the formation of group level norms. Recall the earlier example of choosing a drink at happy hour; this is an example of sequential behavior; the first person voices his or her decision, and then the second person (the first follower) agrees with that decision by following suit. Our prediction is due to the first follower's agreement with the initial suggestion, making it normative for others to also conform by ordering beer. Sequential behavior prompts individuals to determine group norms and then balance self and group level goals when determining their own behavior.

Surprisingly, to our knowledge, no research heretofore has examined the process underlying the formation of group norms in a sequential behavior setting. Some research (Markus and Kitayama 1991; Yoon et al. 2011) has demonstrated that the goal of seeking variety versus uniformity depends on the culture (i.e., collectivist or individualistic). We examine the role of the second decision maker, hereafter referred to as the first follower, on the determination of group norms. We propose that the group norm will be influenced more strongly by the behavior of the first follower, rather than the leader of the group. Our central thesis is that the leader has the power to make the first decision, but it is not until that behavior is emulated by the first follower that a norm is enacted.

Our research shows that the behavior of the first follower, versus the leader, most strongly influences this group norm in sequential behavior. We argue that the main effect of the first follower is significant, but importantly it is the comparison of the first follower's behavior to that of the leader that shapes group norms. We argue that the more similarly the first follower

behaves to the leader, the more uniformity the group will seek. In contrast, the more the first follower deviates from the leader's behavior, it will become more acceptable for the group members to express different opinions and take contrasting actions.

Our theoretical contributions are four-fold. First, this research advances the literature on social influence in which there is a sequential process of expressing behaviors. To our knowledge, this is the first paper to examine the process underlying the formation of group norms in a sequential behavior setting. Second, we not only qualify the findings of Ariely and Levav (2000), we further demonstrate its application in online behavior. This research also provides new substantive insights in the context of online behavior. Through the use of online review data, we demonstrate an explanation for subsequent reviewers' behavior based on the first follower. By replicating our findings in both an online and a face-to-face context, we are able to illustrate the robustness of the first follower effect on group norms. Third, we demonstrate the pivotal role of the follower in establish group norms in a sequential process. We bridge the gap between the followership literature and the marketing literature by assessing the impact of followers outside of managerial processes. Fourth, our proposed first follower effect opens up a new path of research for examining moderators and boundary conditions of the first follower's influence in group norm formation.

We show this effect across three studies. The first study uses a large secondary data set of Yelp reviews and demonstrates the impact of the first follower on group norms of review valence. An experiment (Study 2) demonstrates the same effect in an experimental setting and explicates the process underlying the phenomenon. Specifically, we show that perceptions of a group norm mediate the effect of the first follower on within-group variation. We then present a field study (Study 3) where we demonstrate support for the first follower effect, but importantly

we generalize it into a different context, seeking variety or uniformity when ordering at a restaurant. This field study supports our thesis in an organic setting at a local restaurant by showing that the group norm and subsequent behavior will either be to seek uniformity or seek variety contingent upon the behavior of the first follower. Finally, we end with a discussion and directions for future research.

### *THEORY AND HYPOTHESIS DEVELOPMENT*

#### *Self-Presentation and Group Norms*

People often make decisions to improve self-presentation even when this requires ignoring their own preferences. Ratner and Kahn (2002) show that self-presentation drives individuals to seek more variety in a public setting than they would if they were in a private setting, while Ratner et al. (1999) report that individuals take into account how others around them may perceive their actions, such that people will forego an option that is the preferred choice for the purposes of seeking variety in a public setting. Bearden and Etzel (1982) examine how purchase decisions for individuals were influenced by the presence of a reference group. They find different product features to be more important depending on the consumption situation (i.e., public vs. private), such that features related to image become more important in public consumption. Prior research shows that individuals will give up satisfying their own tastes for the sake of being perceived more favorably by the group (Deutsch and Gerard 1955; Asch 1956; Schlenker, Britt and Pennington 1996).

The literature on normative influence indicates that individuals want to conform to beliefs and preferences of others; when exposed to the preferences of others, individuals seek to conform to the perceived group norm (Kaplan and Miller 1987). Specifically, Kaplan and Miller

(1987) argue that normative influence will impact judgmental matters such as writing a review or ordering at a restaurant, while informational influence will dominate for intellectual issues such as finding the correct answer. In public settings where the individual is identifiable, people are more driven to conform to group norms (Singer, Brush and Lublin 1965; Zimbardo and Ebbesen 1970; Diener 1979). Individuals seek to conform to local norms of the group versus with an individual (Abrams and Hogg 1990; Hogg et al. 2004), and leaders that are considered to be more prototypical of the group norm are viewed as more effective (Hogg et al. 2006). Taken together, these findings seem to suggest that the group norm acts independently of the leader. Allen and Levine (1969) sought to qualify the Asch's (1955) classic line experiment by including a confederate to either offer social support by agreeing with the subject or extreme dissenting by giving an even more incorrect answer. They found that both types of confederates enabled the subject to give the correct answer (Allen and Levine 1969). They proposed that disagreement with the group by each type of confederate was able to discredit the group's accuracy. Their research lends evidence into the idea of the first follower effect, because it could be the act of each type of confederate offering an opinion different from the group that then changes the group norm. Through the act of a differentiated opinion, the subject will then choose to give a response different from the first person.

Research on between-group influence largely focuses on groups instructed to arrive at a consensus. To this end, opinions typically converge in group settings (Festinger 1950; Levine, Moreland and Ryan 1998). For example, Kaplan (1987) looks at how juries reconcile many different opinions to come to a consensus. Festinger (1950) examines social pressures arising from shared housing, and reports that a goal of uniformity compels individuals to communicate with one another about specific issues. Hinsz et al. (1988) finds that when interacting in small

groups, people are more inclined to come to a consensus. In terms of uniformity versus variety-seeking behavior, Hsee et al. (1999) report that when differences between products are hard to distinguish, participants seek less variety. Yoon et al. (2011) argue that there is a cultural component to seeking uniformity versus variety, such that “collectivist cultures” versus “individualistic cultures” have a higher tendency to seek uniformity in sequential choice settings. In this case, the type of culture is a factor in seeking uniformity in a group. Next, we discuss research proposing the opposite effect, that individuals will strive for variety in groups.

While there is research showing that in groups, people will converge to the same opinion, there is contradictory evidence that people will seek more variety and differentiation of opinions. For example, contrary to the converging opinion argument, Ariely and Levav (2000) find that individuals differentiated their opinions by seeking more variety in within-group settings. Personality traits also lead to increased variety in group settings. Ratner and Kahn (2002) report that high versus low self-monitors choose more variety to make themselves appear more interesting. Individuals with a higher need for uniqueness are more likely to select products that other group members have not chosen (Snyder 1992). Uniqueness theory suggests that individuals have a desire to maintain “specialness” and differentiate themselves from others around them (Fromkin and Snyder 1980). Outside factors can also increase this need for uniqueness, such as product scarcity (Snyder and Fromkin 2012).

Under what conditions will the group norm be to seek a unified opinion versus a diversified opinion? Based on the work by Ariely and Levav (2000), one might conclude that the group norm will always be to seek variety. However, there is contradicting research arguing that groups come to a consensus and express a unified opinion (Hinsz et al. 1988). We propose that there is a moderating effect that determines the group norm. Research has not heretofore

addressed the question of how a group norm forms in a sequential behavior setting. After the leader, or first decision-maker, has stated their preferences and made a choice, the norm could go any direction. However, our thesis is that once a second opinion is added to the first, the norm becomes concrete and identifiable.

### *Leadership and Followership*

Prior research in social influence has demonstrated that the leader exerts a normative influence on establishing group norms (Hogg and Reid 2006). Kelley (1988) argues that groups are more effective when there is a single leader versus many leaders. Turning to the leadership literature, followers have been viewed as active participants in the leadership process (Meindl 1995; Chemers 2001; Van Knippenberg and Hogg 2003). With that group dynamic in mind, the role of the follower becomes pivotal in enabling effective leadership and cohesive groups.

The leadership and followership literature has addressed the role of the relationship between the leader and the follower in influencing the overall effectiveness of the leader. For example, Leader-Member Exchange (LMX) Theory posits that the relationship between the leader and follower as a supporting member of the dyad can increase leadership effectiveness (Graen and Uhl-Bien 1995; Uhl-Bien et al. 2014). The idea is that leaders and followers are “co-creators” of leadership outcomes (Fairhurst, Rogers and Sarr 1987; Fairhurst and Grant 2010).

Followers are key players in both supporting and empowering leader emergence. The follower-centric viewpoint states that without followers, there can be no leaders (Fairhurst and Uhl-Bien 2012; Uhl-Bien et al. 2014). The followership literature has addressed the role of the follower in enabling a leader to have power and influence by acting as an effective subordinate in the group (Carsten and Uhl-Bien 2013; Uhl-Bien et al. 2014) by taking on the follower identity and allowing another member to take the leader identity (DeRue and Ashford 2010) and



conceding to a leader (Uhl-Bien and Pillai 2007). Kelley (1988) contends that an effective follower is able to both think critically and be an active participant in the organization. Followers have been studied as an active participant in increasing leader efficacy, goal accomplishment, trust, and spread of social influence (Gooty et al. 2010; Uhl-Bien et al. 2014).

While the leadership literature has addressed the role of the follower, the group norm literature has yet to consider the potentially pivotal role a follower can play in group norms. Shamir (2007) studied the role of leaders as moderators of followership outcomes, opposite to the traditional viewpoint. By flipping the causality of leaders and followers, researchers have been able to explore the role of followers more explicitly. For example, leadership identity creation is contingent upon how followers in the group interpret those identities (Lord, Brown and Freiberg 1999), and characteristics of both leaders and followers have been shown to determine leadership outcomes (Lord et al. 2001).

#### *Sequential Choice and the First Follower*

Ariely and Levav (2000) investigate sequential choice in group settings and explore the phenomenon of having higher levels of variety in group versus individual ordering. They examine four types of goals when ordering in a group setting: satisfying one's own tastes, minimizing regret and avoiding losses, information gathering, and self-presentation. When participating in groups, individuals seek to balance two sets of goals: individual level goals and group level goals (Mackie and Goethals 1987; Ariely and Levav 2000). Satisfying one's own taste is an individual level goal, while self-presentation, information gathering, and minimizing regret are individual-group goals. They find that for self-presentation, individuals tend to order with more variety than they would if they did not take the decisions of other members of the group into account. While Ariely and Levav (2000) recognize that self-presentation is dependent

on the group norm, they do not address how that norm is determined to order with more variety or more uniformity.

Our focal research question is explicating the process behind how group norms are formed. Ariely and Levav (2000) seem to suggest that all members of the group contribute equally to the overall group decision strategy, however, we demonstrate that it is the first follower, or the second decision maker, who is the key influencer. Importantly, we not only qualify their findings, we further demonstrate its application in online behavior. With opposing streams of research suggesting that groups seek convergence in opinion or variety of opinion based on personal traits such as a need for uniqueness (Snyder 1992), product scarcity (Snyder and Fromkin 2012), cultural differences (Yoon et al. 2011), and self-presentation (Ariely and Levav 2000), our research seeks to answer the question of how and why these group norms are determined. That is, whether the norm should be uniformity or variety, agreement or disagreement. We propose that the behavior of the first follower, relative to the leader, will govern the group norm.

In sum, we propose that the group norm is driven by the behavior of the second decision maker relative to the first. Specifically, we hypothesize that if the first follower makes the same choice or expresses a similar opinion to the leader, the rest of the group will tend to conform to this behavior. However, if the first follower behaves differently from the leader, then this will set the tone for other group members to diversify their behaviors. When the first follower makes a different choice or expresses a different opinion from the leader, this signals to the rest of the group that it is normatively acceptable to not conform.

### *STUDY 1: SECONDARY DATA SET OF YELP DATA*

The purpose of the first study is to (a) formally demonstrate the existence of the first follower phenomenon we have proposed, and (b) show initial evidence in an online context that first follower behavior moderates subsequent group behavior. To test our thesis, we used Yelp.com, a website that publishes reviews on local businesses written by customers. This study used a large secondary data set of Yelp reviews, which is available to download as part of the Yelp Dataset Challenge (Yelp 2017). Yelp reviews are an excellent context to test the first follower normative influence in online reviews, for several reasons. First, because each review is time-stamped, we can cleanly determine the leader and first follower in each business's reviews. Second, reviewers are able to see prior reviews before they contribute their own review, such that they have the ability to be influenced by prior reviewer behavior. Finally, reviews on Yelp are public, and therefore are a consequential measure of group norm conformity.

#### *Dataset*

As of June 2017, the Yelp review dataset had 144,000 businesses and over 4 million reviews (Yelp 2017). Because of the enormity of the data, we focused our analysis to businesses located within the state of Pennsylvania. This left us with a large sample of 8,091 businesses and 179,774 reviews. Businesses ranged from restaurants to salons and car dealerships to clothing retailers. The wide variety of businesses adds robustness to this study, as we are not simply restricting the analysis to a certain type of business. Importantly, the dataset contains every review posted for each business. Each review entry contained the business name, date and time of posting, the review text, the city, zip code, state, and the star rating of the business.

## *Measures*

*Sentiment score.* We measured the sentiment of each Yelp review in the dataset. To do this, we employed the Python Natural Language Processing Toolkit VADER sentiment analyzer to measure the review valence. VADER (Valence Aware Dictionary for sEntiment Reasoning) has been validated extensively and performs better than human coders, with a .96 classification accuracy (Gilbert and Hutto 2014). Furthermore, when comparing VADER with LIWC (Linguistic Inquiry Word Count), a more commonly used approach in marketing research, Gilbert and Hutto (2014) report that Vader outperforms LIWC's sentiment analysis in both social media and other domains. In addition, LIWC is unable to interpret intensity, acronyms, emoticons, or slang, all of which appear frequently in social media posts (Davidov, Tsur and Rappoport 2010).

To illustrate the performance of LIWC versus VADER with sentiment analysis, consider the following two sentences: (1) "This restaurant is okay," and (2) "This restaurant is amazing." The second sentence clearly shows more positive emotion, but LIWC rates the positive emotions for the first and second statements identically (Pennebaker et al. 2015). By contrast, VADER sentiment analysis rates the first statement as .296, and the second statement a .586, capturing the greater positivity of the second statement. In the context of Yelp reviews, it is pivotal that sentiment analysis is able to accurately capture the difference in valence between those two statements. Compared to LIWC, VADER is more accurate, better equipped to analyze social media text, and is freely available.

VADER uses a dictionary of positive and negative words to classify text. The base dictionary used in VADER was founded in previously established sentiment dictionaries, such as LIWC, Affective Norms for English Words (ANEW), and General Inquirer (GI). These

dictionaries were supplemented using human coders to include measures of sentiment intensity, including punctuation (i.e. ‘!’ versus ‘!!!’), capitalization, emoticons, modifiers (i.e. ‘very’), negations (i.e., ‘but’), and tri-grams, which involves using the three words prior to a sentiment word (Gilbert and Hutto 2014). VADER calculates a multi-dimensional measure that is the proportion of language that falls into each of the three categories: positive, negative, and neutral, respectively, as well as a unidimensional measure, discussed below.

We used VADER’s standardized measure of sentiment called the compound score, which is a continuous value between -1 and +1 (Gilbert and Hutto 2014). A score close to -1 indicates that the review is very negative, while a score close to +1 indicates a review that is very positive. We use this unidimensional sentiment measure, hence forth referred to as “standardized sentiment”, because it is the most informative single-dimension metric (Gilbert and Hutto 2014). Further, we rely on the sentiment score of the review text versus the star ratings because of the ambiguity associated with star ratings. For instance, Mudambi and Schuff (2010) demonstrate that while a rating of three out of five stars could indicate indifference, it could also be a combination of positive and negative sentiment counteracting each other. The sentiment score provides a clearer analysis of the sentiment expressed in each review. Next, we discuss the dependent variables used for this study.

### *Dependent Variables*

*Within-group variance.* Within-group variance is the statistical variance of standardized sentiment of all reviews for a business, excluding the first follower’s standardized sentiment score from the calculation. We exclude the first follower in this calculation, because the first follower is included as an independent measure to predict the variance of the remaining group members. The equation for within-group variance is presented below.

$$WGV = \sum_{i=1, i \neq 2}^n \frac{(x_i - \bar{x})^2}{n - 1}, \quad (1)$$

where WGV is within group variance,  $x_i$  is the sentiment for review  $i$ ,  $\bar{x}$  is the average sentiment for all reviews in the business, and  $n$  is the total number of reviews for the business.

*Third person difference.* This measure is the absolute difference between the sentiment scores of the leader (i.e., the first review) and the third person to review. This is designed to measure the spread of opinion between the leader and third person, excluding the first follower's behavior. This measure excludes the first follower behavior, as to not artificially inflate the results. A larger difference score indicates that the third person deviated from the leader more in terms of review sentiment.

### *Independent Variables*

Next, we describe the key variables of interest and how each was calculated. For the summary statistics of each variable, see Table 1.

*Insert Table 1 About Here*

*Leader's sentiment score.* This is the sentiment score of the first review posted for a business.

*First follower's sentiment score.* This is the sentiment score of the second review posted for a business.

*Sentiment difference.* This is the absolute difference in sentiment scores between the leader (i.e., the first reviewer) and the first follower (i.e., the second reviewer). A larger difference indicates that the first follower deviated more from the leader.

*Time Lag.* This is the time difference in days between with the first and second reviews were posted online. This is used to control for possible time effects.

*Stars.* This is the overall rating on a scale from 1 (bad) to 5 (great) for each business. Using the stars as a control variable is a more conservative way to analyze proposed relationships. We are interested in the impact of the sentiment of reviews of the leader and first follower and the difference impacting subsequent reviews. By including the stars as a control variable, we are accounting for any other reasons we may see variability within businesses. For robustness, we also ran the model without stars and still find that the difference between the leader and first follower's sentiment is a significant predictor of both the third person variance and within group variance.

### *Method*

We estimated a linear model predicting the third person's absolute difference from the leader using the leader's compound sentiment score, the first follower's compound sentiment score, and the compound difference score, while controlling for the time lag and average business star rating. As a robustness check, we also estimated a second model predicting the within-group variance, excluding the first follower, with the same set of covariates. The linear regression models are presented below:

$$\text{TPD} = \beta_0 + \beta_1(\text{sentiment}_L) + \beta_2(\text{sentiment}_{FF}) + \beta_3(\text{sentiment}_{\text{diff}}) + \beta_4(\text{time lag}) + \beta_5(\text{stars}) + \epsilon_i \quad (2)$$

$$\text{WGV} = \beta_0 + \beta_1(\text{sentiment}_L) + \beta_2(\text{sentiment}_{FF}) + \beta_3(\text{sentiment}_{\text{diff}}) + \beta_4(\text{time lag}) + \beta_5(\text{stars}) + \epsilon_i \quad (3)$$

where TPD is the third person difference from the leader, WGV is within-group variance,  $\text{sentiment}_L$  represents the sentiment of the first review (i.e. the leader),  $\text{sentiment}_{FF}$  is the sentiment of the second review (i.e. the first follower), the time lag is the time difference

in days between the first and second reviews, and stars represents the average review for the business.

### *Results*

Modeling the third person difference and the within-group variance yields R-squared values of .260 and .281, respectively. Table 2 reports the results of the two analyses. In the third person absolute difference model, we find a negative main effect of the leader's sentiment score ( $b = -.358, p < .001$ ) and a positive main effect of the first follower's sentiment score ( $b = .072, p < .001$ ). Importantly, the sentiment valence difference between the leader and first follower is positive and significant ( $b = .144, p < .001$ ), indicating that the more the first follower disagreed with the leader, the higher the difference between the third reviewer and the leader. In addition, the time lag between the first two reviews was significant ( $b = .000, p = .004$ ), indicating that the time difference between the behavior of the first and second reviewer postings was relevant to the subsequent reviews. The average star rating for the respective business was negative and significant ( $b = -.118, p < .001$ ), indicating that the higher the average rating of the business, the lower the variation in sentiment across the reviews.

The model using overall group variance (excluding the first follower) reveals similar results. We again find a negative main effect of the leader's sentiment score ( $b = -.102, p < .001$ ) and a positive main effect of the first follower's sentiment score ( $b = .068, p < .001$ ). Supporting our core thesis, the sentiment valence difference between the leader and first follower is positive and significant ( $b = .083, p < .001$ ). That is, the more different the first follower's sentiment scores vis-à-vis the leader, the greater the difference between the third reviewer's sentiment compared to the leader. The time lag between the first two reviews was not significant in predicting the overall group review variance ( $b = .000, p = .395$ ). The average star rating for the



respective business was negative and significant ( $b = -.139, p < .001$ ), indicating that the higher the average rating of the business, the lower the variation in sentiment of reviews.

*Insert Table 2 about here*

### *Discussion*

Since the results were consistent across both models, we discuss both models together. A more positive leader review is associated with a decrease in sentiment variance for the remainder of the group. Importantly, as the absolute difference between the sentiment of the leader and first follower increases, the higher the sentiment variance for the remainder of the reviews. This indicates that while the leader acts as a reference point for subsequent reviews, it is not until the first follower reviews either similarly or differently to the leader that the norm is established. When the follower writes a review that is similar in sentiment to the leader, the remainder of the reviewers tend to subscribe to that norm when writing their own reviews. However, when the first follower writes a review that is dissimilar in sentiment to the leader, the remainder of the reviewers are normatively free to express varying opinions.

Through the use of a large secondary dataset, we find that the behavior of the third person in the sequential group can be predicted by using the behavior of the first follower relative to the leader. Our results also provide evidence that the behavior of the first follower relative to the leader influences the general variation in reviews for the business. This study is especially powerful because it demonstrates our core prediction in a relatively anonymous online setting, where no personal relationships between reviewers exist. In addition, by using group variance, we find that this effect persists in large group settings. Now that we have examined the general phenomenon, we turn to an experiment to demonstrate both causation and the underlying process.

### *STUDY 2: MTURK YELP EXPERIMENT*

The secondary dataset in Study 1 provides initial evidence of the first follower effect. In Study 2, we sought to demonstrate the process in terms of the moderating role of the first follower behavior and the mediating role of the perception of a group norm. We kept the same context, online reviews, and manipulated which reviews participants would see before writing their own review. We began by performing a pretest on the restaurant review stimuli.

#### *Pretest of Restaurant Reviews*

We ran a pretest of two positive and two negative restaurant reviews on Amazon's Mechanical Turk (MTurk). The goals of this pretest were four-fold. First, we wanted to demonstrate that people can discern that there is a difference in sentiment of online restaurant reviews. Second, we needed to ensure that there was no significant difference within the two positive reviews and the two negative reviews. Third, we also needed to ensure that there was a significant difference in sentiment between the pairs of positive and negative reviews. Finally, we wanted to determine whether the Vader compound score was representative of the perceived difference in sentiment of the positive and negative stimuli.

For details of the exact stimuli used, see Appendix. The stimuli were matched for valence using the Vader compound sentiment scores, such that the positive review compound scores were each  $-.899$ , and the negative review compound scores were  $.975$ . Each participant was presented with the four reviews, two of which were positive and two of which were negative ( $n=47$ , 47% Male). Participants rated the sentiment of each review on a Likert scale from 1 (extremely negative) to 7 (extremely positive). The results indicate that there was no significant difference between the two positive reviews ( $M_{p1} = 6.32$ ,  $M_{p2} = 6.53$ ,  $t = -1.49$ ,  $p = .142$ ), nor the

two negative reviews ( $M_{n1} = 1.83$ ,  $M_{n2} = 1.72$ ,  $t = .93$ ,  $p = .359$ ). There are significant differences between each of the four pairs of positive and negative reviews ( $p < .0001$ , respectively).

### *Method*

Once we had pretested the stimuli, we used the same review text in our experiment. This study was conducted on MTurk and employed a 2 (Leader Sentiment: Positive, Negative) x 3 (First Follower Sentiment: Positive, Negative, Control) between subject design ( $N = 478$ , 48.2% Male,  $M_{age} = 37.3$ ). Participants were asked to select one of the following restaurants that they had been to within the past 90 days: Olive Garden, Chili's, Applebee's, or TGI Fridays. If they had not been to one of those, they were dismissed from the study, removing 135 potential participants. Participants were told that they would see reviews from the restaurant that they had selected.

In each condition, the participant read one or two of the pre-tested restaurant reviews and were told that they were both from the restaurant they had selected in the previous question. The first review has a "first to review" indication as is done on the Yelp website itself (see Appendix). The first review shown was either positive or negative, depending on the condition. The second review either positive, negative, or not shown (i.e., the control condition). After reading the review(s), the participant was then asked to write his or her own review for the restaurant. Additionally, each participant was asked to indicate their level of agreement with the statement, "I feel that the reviews indicate that people share a common opinion about the restaurant" on a Likert scale from 1 (strongly disagree) to 7 (strongly agree).

The dependent variable was variation between the compound sentiment of the review each participant wrote and the compound sentiment score of the leader review. Gender neutral names of the reviewers and similar numbers of reviews, photos, and friends were used as to not

add any noise to the experiment. The mediator was measured as the perceived group opinion, such that participants rated if they felt there was a common opinion about the restaurant on a Likert scale from 1 (strongly disagree) to 7 (strongly agree). We hypothesized that when the first follower and leader reviews had matching sentiment, the perception of a common group opinion would be higher, and when the first follower and leader reviews had mismatching sentiment, the perception of the common group opinion would be lower.

To test for process, a moderated mediation analysis was performed using contrast coding (Hayes 2017). Figure 1 shows the proposed moderated mediation model. In order to formally test our proposed framework, we performed a moderated mediation analysis using Hayes' PROCESS Model 7 with 10,000 bootstrap samples, with leader behavior as the predictor (positive = 1, negative = -1), first follower condition as the moderator (positive = 1, control = 0, negative = -1), belief of a common group opinion as the mediator, and review difference as the dependent variable (Hayes 2017). Table 3A reports all results for the moderated mediation models, without control variables (Model A) and with control variables for age, gender, and restaurant choice (Model B). Table 3B reports the indirect effects of the moderator. Since the results for the two models are consistent (see Table 3A and 3B), we focus our discussion on Model A.

*Insert Figure 1 and Tables 3A and 3B about here.*

### *Results*

We predicted that when the first follower is in agreement with the leader, the perception of a common group opinion will increase, and subsequently decrease the review difference from the leader, and when the first follower deviates from the leader, the perception of a common group opinion will decrease, and subsequently increase the review difference from the leader. The moderated mediation analysis indicated that leader behavior is moderated by first follower

behavior, and that the perceived group norm, as operationalized by the belief of a common opinion, mediates the effect of leader behavior on review difference.

As predicted, the index of moderated mediation was significant ( $b = -.023$ ,  $SE = .009$ ,  $CI_{95} [-.042, -.006]$ ). These findings are consistent with our prediction that when the first follower diverges from the leader's behavior, the group norm will be that there is no common opinion, and the subsequent group members will behave variably by writing a review that is less similar to the leader. Conversely, when the first follower conforms to the behavior of the leader, the group norm will be that there is a common opinion, and the subsequent members will continue to conform to that common opinion by writing a review that is more similar to the leader.

Next, we discuss the results of the conditional indirect analysis of first follower behavior relative to the leader on the perception of a common group opinion. A conditional indirect analysis showed that when the leader and first follower disagreed (i.e. one positive and one negative review), the effect was significant ( $b = -.448$ ,  $SE = .109$ ,  $CI_{95} [-.662, -.234]$ ), thereby indicating when there is disagreement, the participant views the group as having less of a common opinion. When the leader and first follower agreed (i.e. two positive or two negative reviews), the conditional effect was significant ( $b = 1.078$ ,  $SE = .108$ ,  $CI_{95} [.866, 1.290]$ ). Examining the control group, the effect is once again significant ( $b = .315$ ,  $SE = .069$ ,  $CI_{95} [.180, .451]$ ). These results indicated that when there was agreement between the leader and first follower, the opinion of the leader is moderated by the first follower, leading individuals to conform with the leader. However, when the first follower disagreed with the leader, the perception of a common group opinion is moderated by the behavior of the first follower, which subsequently leads individuals to diverge more from the leader. Finally, in the case where participants only see the leader's review, we find that participants view the norm as sharing a

common opinion, though that effect is less pronounced versus in the agreement condition ( $b_{\text{agree}} = 1.078$ ,  $b_{\text{control}} = .315$ ).

Overall, results indicated that there was a significant interaction between leader review valence and first follower review valence on perceived group norms ( $F(3, 474) = 36.46$ ,  $p < .001$ ). The main effect of the leader was significant in predicting the perception of a common opinion ( $b = .315$ ,  $p < .001$ ). Examining the first follower, we find a significant main effect ( $b = .180$ ,  $p = .032$ ). Importantly, the interaction between the leader and first follower is significant in predicting the perception of a common opinion ( $b = .763$ ,  $p < .001$ ), indicating that agreement between the leader and first follower leads to a perception of a common opinion. We also performed a simple slopes analysis to probe the effect of the leader and first follower interaction on common opinion using the variables in Model A. We found that there is a significant difference on common opinion when the first follower is in agreement versus disagreement with the leader ( $M_{\text{agree}} = 5.159$ ,  $M_{\text{disagree}} = 3.604$ ,  $p < .001$ ); and the control condition versus disagreement ( $M_{\text{control}} = 4.989$ ,  $M_{\text{disagree}} = 3.604$ ,  $p < .001$ ); but not for agreement versus the control condition ( $M_{\text{agree}} = 5.159$ ,  $M_{\text{control}} = 4.989$ ,  $p = .302$ ). Table 4 shows the summary statistics by condition, and Figure 2 shows the interaction effects of first follower and leader behavior on the perception of a common group opinion.

*Insert Table 4 and Figure 2 about Here*

Turning to the relationships of the variables of interest on review difference. The perception of a common group opinion was negatively related to review difference, as expected ( $b = -.030$ ,  $p < .01$ ). This indicates that an increase in perception that the group shares a common opinion will lead to a decrease in the reviewer's difference from the leader. In other words, the stronger the perception of a group norm, the more conformity we see to the leader. The results

indicate that it is the behavior of the first follower *relative* to the leader behavior that predicts review difference from the leader. The leader had a direct effect on review difference ( $b = -.616$ ,  $SE = .018$ ,  $CI_{95} [-.652, -.580]$ ). Taken together with the moderated mediation, these results imply that while the leader has an impact on the review difference from the leader, the first follower's level of agreement versus disagreement from the leader plays a strong role in determining whether the participant contributes a review that is more (less) similar to the leader.

In terms of the indirect effects of the first follower condition on review difference, we find evidence of our central hypothesis. A conditional indirect analysis shows that when the leader and first follower disagreed (i.e., one positive and one negative review), the effect on review difference is significant ( $b = .014$ ,  $SE = .006$ ,  $CI_{95} [.003, .027]$ ). This indicates that when there is disagreement, the participant contributed a review with sentiment that differs more from the leader. When the leader and first follower agree (i.e., two positive or two negative reviews), the conditional effect is significant but negative ( $b = -.033$ ,  $SE = .013$ ,  $CI_{95} [-.060, -.009]$ ) – this indicates that agreement between the leader and first follower increases the similarity in review sentiment from the participant to the leader. For the control group where participants only viewed one review, the effect was once again significant ( $b = -.010$ ,  $SE = .004$ ,  $CI_{95} [-.019, -.002]$ ). Without a first follower review, participants differ less from the leader than they do in the disagreement condition ( $b_{\text{disagree}} = .014$ ,  $b_{\text{control}} = -.010$ ) and differ more from the leader than they do in the agreement condition ( $b_{\text{agree}} = -.033$ ,  $b_{\text{control}} = -.010$ ). These results lend further support for our central hypothesis.

### *Discussion*

We find that first follower behavior moderates the effect between leader behavior on the perception of a common group opinion, which subsequently impacts the review difference from

the leader of the third reviewer. When the first follower agrees with the leader, the perception of a common group opinion increases, and the review difference from the leader decreases. When the first follower disagrees with the leader, the perception of a common group opinion decreases, and the review difference from the leader increases. Our results seem to indicate that in the absence of a first follower, the group norm would be to agree with the leader's review. The interaction of the leader and the first follower, however, impacted the perception of a common opinion. These findings indicate that people are able to identify the group norm based on the behavior of the first follower relative to the leader, and they tend to follow the group norm of agreement (disagreement) by writing their own review which is similar to (different from) the leader.

This experiment shows the proposed effects in a controlled environment and illuminates the process. Through this experiment, we have demonstrated that the behavior of the first follower relative to the leader influences the perception of group norm, which then impacts subsequent behavior. Importantly, this experiment shows that when the first follower expresses a differing opinion from the leader, they signal to the remainder of the group that it is normative and okay to be different. The first two studies demonstrated the first follower effect in terms of online review valence, showing a real effect and the process behind the effect, respectively. Up until now, we have considered the context of online reviews and difference in terms of valence. The final study seeks to replicate the central proposition and show the same phenomenon in a different context – in person with variety-seeking behavior.



### *STUDY 3: BRUNCH FIELD STUDY*

The purpose of this field study was to assess whether the same group norm determination patterns observed in Studies 1 and 2 would obtain in a variety-seeking context among groups of people that know each other and are in person. To explore this research question, we conducted a field study using brunch orders at a local restaurant. We predicted that (a) when the first follower orders differently from the leader, the rest of the group will seek variety by ordering more different menu items from the leader, (b) when the first follower orders similarly to the leader, the remainder of the group will seek greater uniformity by ordering similar menu items to the leader, and (c) this effect will hold when controlling for table size.

#### *Methodology*

A local restaurant offers brunch on weekends, where diners sit down and order from a waitperson. Receipts were collected from brunch on Saturdays and Sundays from June 2016 to August 2016. The order in which each person at a table ordered was recorded by seat number, as well as the food items each person ordered. Because we are interested in sequential group choice in this study, in particular the role of the first follower's behavior relative to the leader, we needed to have at least 3 people at each table. Furthermore, to guarantee that all people at the table were able to hear each person's order, we restricted the maximum number of individuals at table to be six. In addition to this restriction, any table that included an order from the children's menu was excluded because it would be unclear whether the parent ordered for the child and the additional children's menu items would systematically alter the table variety in orders. This left us with 170 tables and 616 patrons. Table 5 shows summary statistics for the database of receipts.

*Insert Table 5 about here*

Once the receipt data had been collected, we measured the distance between each pair of menu items. To do this, we collected data from MTurk, where participants were asked to rate pairs of menu items on a Likert scale from 1 (very similar) to 7 (very different). The ratings of the participants were averaged for each pair of items, with six individuals rating each item pair. There were 28 different menu items, so the data was then put into a 28x28 matrix. The distance between identical items was coded as a 0, indicating no difference.

The first goal of the analysis was to visually and empirically verify that the MTurk participants' ratings exhibited face validity. We employed the use of multidimensional scaling to assess the pairwise distance between all of the menu items. Two dimensions were sufficient in this case, so we restricted dimensionality to two dimensions. The variance explained by the first and second dimensions was 28.6% and 19.3%, respectively. Figure 3 shows the results of the two-dimension multidimensional scaling. As can be seen in Figure 3, pizzas are generally clustered together in the top left corner, burgers and sandwiches are in the middle, while breakfast foods are along the right side. In addition, a cluster of healthier options emerged along the bottom left of the figure, including the salads and salmon. This lends support to the accuracy of the food pair ratings done by the participants.

*Insert Figure 3 about here*

The next step in analyzing this data was to compute distance scores for each table in the receipt data. We calculated the pairwise difference rating for each pair of menu items, and then used the average linkage method to measure overall group distance. The average linkage measure was used because it is less susceptible to noise and outliers as compared to other linkage methods. To calculate the group distance using the average linkage, each person's order was compared to every other person's orders at the table excluding the first follower, and the average

value was taken. As in Study 1, we excluded the first follower distance from each pair in the group distance calculation because the pairwise difference between the first follower and the leader is used as our independent variable to predict overall group distance and removing the first follower from the group distance calculation prevents artificial inflation of the proposed effect.

To illustrate how the group distance was calculated, consider a four-person table where the leader (A), third (B), and fourth person (C) ordered 3 different items, the similarity score differences between A's item (Spring Chicken Pizza) and B's item (Grilled Chicken Sandwich) is 2, between B's item (Grilled Chicken Sandwich) and C's item (Liege Waffles) is 5, and between A's item (Spring Chicken Pizza) and C's item (Liege Waffles) is 7, would be summed and divided by three, yielding an average group distance of 4.67. The difference between the leader and first follower's orders is simply the pairwise distance score between the two items, such that the more different the two items, the higher the distance score.

*Insert Figure 5 About Here*

We estimated a model predicting the average group distance for each table (excluding the first follower) using the distance between the first follower and leaders' orders and the number of people at the table as predictors. We predict that when the first follower orders differently from the leader, the group will seek more variety than when the first follower orders similarly to the leader. Unfortunately, because we did not receive any demographic data from the restaurant, we were unable to include gender and age in the model. However, Study 2 controlled for age and gender, showing that neither was a significant predictor of review variance. This lends empirical support that controlling for age and gender in this field study would not alter the results.

### *Results*

The model R-squared value was .345, and the overall model was significant ( $F(2,167) = 44.02, p < .001$ ). The results of the regression analysis are presented in Table 6. As we predicted, the distance between the first follower and leader was significant ( $b = .238, p < .001$ ), revealing that as the first follower diverges more from the leader, the average table variety increases. The table size was also significantly related to the average group distance ( $b = .182, p < .01$ ), indicating that the more people at a table, the higher the variety in orders.

*Insert Table 6 about here*

### *Discussion*

Study 3 reveals that the group norm is influenced by the behavior of the first follower relative to the leader. These results indicate that when the first follower orders similarly to the leader, the group norm becomes uniformity. When the group norm is to seek uniformity, the rest of the group is more likely to order similarly. However, when the first follower orders differently from the leader, this causes the group norm to be variety-seeking. When the group norm is to seek variety, there will be more diversity in the table's ordering patterns. Taken together, these results indicate that the first follower's actions relative to the leader determine whether the group norm will be to seek variety or uniformity.

The first goal was to verify the use of pairwise difference ratings, which validated our measure of group distance. The multidimensional scaling of pairwise differences both heuristically and empirically validates this. In addition, the results of the multidimensional scaling demonstrates that people are able to judge the similarity of menu items in a restaurant setting. Finally, we demonstrate the first follower effect in a completely different context from

the first two studies. The results of this field study further lend additional support to our core hypothesis.

Methodologically, we contribute a more finely grained method for measuring group diversity when the choice variables are categorical. While Ariely and Levav (2000) use a variety index measure which was simply the number of different dishes ordered divided by the total number of people at the table, we used a much more nuanced approach. The variety index does not take into account the varying levels of similarity between dishes or potential dietary restrictions from precluding an identical order. Take for example a scenario of a two-person table in which (a) person 1 orders a chicken salad and person 2 orders a steak salad, and (b) person 1 orders a chicken salad and person two orders a burger. Both scenarios would yield a variety index of .5, however a chicken salad and a steak salad are much more similar to one another than either is to a burger. Using our pairwise similarity approach to operationalize average group distance provides a more sensitive and accurate method for measuring group diversity.

Importantly, this field study once again demonstrates the first follower phenomenon with a consequential measure, actual ordering behavior. This further shows that this effect holds offline among groups that are already acquainted in a face-to-face situation, lending further support to our core hypothesis. Our field study implies that groups with well-established relationships are once again susceptible to the first follower effect. In addition, Study 3 demonstrates that when the first follower orders similarly to the leader, they signal to the remainder of the group that it is normative to be order uniformly.

## *DISCUSSION*

This research makes a valuable contribution to the research on sequential behavior and social norms. Our findings provide evidence that the first follower plays a pivotal role in setting group norms. Specifically, it is the behavior of the first follower relative to the leader that determines the norms for the remainder of the group. Not only do group members choose a less preferred option to conform to these perceived group norms (Study 3), they also contribute their own written reviews with a more similar (varying) valence to the leader if the first follower conforms (diverges) from the leader (Studies 1 and 2). Our findings support the idea that the group leader can exert influence on the other group members, but we qualify this finding by providing evidence that the behavior of the first follower relative to the leader is plays a pivotal role in determining group norms in sequential choice settings.

Our findings imply that the first follower has the ability to determine whether the group norm should be agreement or disagreement. Described another way, the first follower can signal to the rest of the group that being different is acceptable and normative. As we demonstrated in Study 1 and Study 2, when the first follower disagrees with the leader, the remainder of the group is more inclined to express an opinion that differs from the leader. As we know from (Ariely and Levav 2000), when ordering at restaurants in groups, people seek more variety than they would if they were not in the presence of others. We qualify this finding and show that the first follower has the power to signal that it is okay to order similarly to the leader. Taken together, the first follower determines the group norms by either acting in agreement or disagreement with the leader.

The first follower phenomenon is a robust effect that holds in multiple contexts. The first follower effect is observed in a large secondary dataset of Yelp reviews (Study 1), an experiment

using restaurant reviews (Study 2), and in a field study (Study 3). Moreover, we show that the behavior of the first follower relative to the leader impacts variety-seeking behavior in ordering at restaurants (Study 3) and online review valence (Studies 1-2). Importantly, we note that this phenomenon persists both in-person and online, implying that is a robust phenomenon.

### *Implications for Research*

The implications for theory are threefold. First, Ariely and Levav (2012) seem to imply that all members of the group contribute equally to the overall group decision strategy. However, we have demonstrated that it is the first follower, or the second decision maker, who is the key influencer. Our results clearly establish the first follower's role in setting sequential group norms. Second, our research extends their findings to sequential online behavior. When people post anonymously, they are less concerned about self-presentation and social desirability (Joinson 1999), but we demonstrate that the first follower effect persists both in face-to-face and more anonymous online interactions. Third, while Ariely and Levav (2000) conclude that one should always order first to “maximize their consumption utility (pg. 289)” we show that the first follower has the power to sway the norm of the group in any direction, thus both maximizing their utility and being the taste-maker of the group

### *Implications for Practice*

This research has many implications for practice. Restaurants and waiters frequently face to task of upselling at restaurants (i.e., persuading patrons to spend more money during their dining experience). Common techniques of doing this include persuading customers to order drinks, appetizers, and desserts to increase the overall bill. Our research indicates that if a waitperson wants to increase the spending occurring at tables, they should encourage the wait

staff to get two group members to demonstrate an interest in ordering an appetizer, drinks, or desserts. With the leader and first follower indicating the same preference, the group norm will be established and the remainder of the table will be more inclined to order something as well.

Managerially, this research informs how review websites, such as Yelp.com and TripAdvisor.com, can increase authenticity in their crowd-sourced reviews. By implementing a review display sort that places two opposing viewpoints at the top of the reviews, the review website can encourage subsequent reviewers to express varying opinions. Two opposing reviews from a leader and first follower will create a group norm that encourages variety and differing opinions among reviewers. This will help to create a source of informative, honest, and reliable reviews.

This first follower phenomenon can be leveraged in many situations. Take for example a social network site, which will only foster diffusion if it is able to persuade a network of people to join. A targeted recruitment approach could seek out two people within the same social network to register. With a leader and first follower both indicating a norm of joining the social network site, the remainder of the social network will be more inclined to join as well.

#### *Limitations and Future Research Directions*

This work is subject to certain limitations. First, in the restaurant field study, we were not able to collect the gender, age, or nature of relationships of the tables. While the results replicate our prior findings, we were not able to control for those covariates in the restaurant field study. Secondly, because of computing power, we were not able to examine the entire Yelp data set, but instead focused on a subset of the review data. Future iterations of this research would include analysis of all businesses.



Future research could examine boundary conditions for the first follower effect. For example, future research could examine how sequential choice and first follower behavior is affected by the expertise of the first follower. By manipulating whether a commenter is “endorsed” as is done on websites like Amazon, individuals will be able to view the commenter as having more or less expertise. Future research directions could also measure expertise by examining text topic, tone, and language complexity. Language complexity of the first follower relative to the leader could potentially indicate expertise and authority, which would in turn exert more normative influence on the remaining group members. Villarroel Ordenes et al. (2017) utilized a more nuanced consumer sentiment, including sentence discourse and sentiment trends. Research questions could answer the conditions under which the sentiment trend in a review will be most influenced by the first follower.

In closing, our research has made a first step in further exploring sequential behavior by examining the influence of group members on group norms. We propose a moderating effect which explains the process behind a group norm that seeks agreement versus disagreement. This research makes a novel contribution by showing that it is the behavior of the first follower, or second decision maker, relative to the first that determines the group norm in sequential choice settings. Overall, this first follower effect has the potential to open many new streams of research questions, and we encourage researchers to explore this phenomenon.

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Table 1. Summary Statistics for Yelp Data in Study 1

<b>Variable</b>	<b>Variable Description</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Min</b>	<b>Max</b>
diff_3L	Absolute Difference of Third Person's Standardized Sentiment Score from Leader	.45	.57	0	1.99
grpvar	Group Sentiment Variance (excl. First Follower)	.30	.32	0	1.93
comp <sub>L</sub>	Leader's Sentiment Score	.66	.53	-1	1
comp <sub>FF</sub>	First Follower's Sentiment Score	.63	.56	-1	1
comp_diff	Absolute Difference between Leader and First Follower's Sentiment Scores	.43	.56	0	1.97
Time_lag	Time Difference in days between Leader and First Follower's Review	332.08	400.78	0	3,081
Stars	Business's Average Star Rating	3.63	.93	1	5

Table 2. Yelp Reviews Results Table for Study 1

Variable	Variable Description	Third Person Difference from Leader	Group Variance
Intercept	Intercept	.993** (.027)	.788** (.015)
comp <sub>L</sub>	Leader's Sentiment Score	-.358** (.012)	-.102** (.007)
comp <sub>FF</sub>	First Follower's Sentiment Score	.072** (.013)	.068** (.007)
diff_comp	Sentiment Difference between Leader and First Follower	.144** (.014)	.083** (.008)
time_lag	Time Difference in days between Leader and First Follower's Review	.000* (.000)	.000 (.000)
Stars	Business's Average Star Rating	-.118** (.007)	-.139** (.004)
Model Summary		R <sup>2</sup> = .260 F(5, 8085) = 560.5 p < .0001	R <sup>2</sup> = .281 F(5, 8085) = 631.1 p < .0001

*Estimate (Standard Error)*

*\*indicates significance at p < .01*

*\*\*indicates significance at p < .001*

Table 3A. Study 2 Moderated Mediation Results

Model	Model A: Without Covariates				Model B: With Covariates			
	M (Common Opinion)		Y (Difference from Leader)		M (Common Opinion)		Y (Difference from Leader)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<b>Constant</b>	4.584***	.069	1.047***	.054	4.715***	.329	1.073***	.101
<b>X (Leader)</b>	.315***	.069	-.616***	.018	.319***	.069	-.615***	.018
<b>M (Common Opinion)</b>	---	---	-.030**	.011	---	---	-.031**	.011
<b>W (First Follower)</b>	.180*	.084	---	---	.171*	.084	---	---
<b>(X*W) Leader*First Follower</b>	.763***	.084	-.023**	.009	.771***	.084	-.024**	.009
<b>Age</b>					-.008	.006	-.001	.002
<b>Gender</b>					-.111	.140	-.013	.037
<b>Restaurant 1</b>					.165	.263	.016	.069
<b>Restaurant 2</b>					.284	.256	.001	.067
<b>Restaurant 3</b>					.194	.278	.047	.073
<b>Model Summary</b>	R <sup>2</sup> = .188 F(3, 474) = 36.46 <i>p</i> < .0001		R <sup>2</sup> = .720 F(2, 475) = 609.63 <i>p</i> < .0001		R <sup>2</sup> = .193 F(8, 469) = 14.01 <i>p</i> < .0001		R <sup>2</sup> = .721 F(7, 470) = 173.05 <i>p</i> < .0001	

\*indicates significance at *p* < .05 level

\*\*indicates significance at *p* < .01 level

\*\*\*indicates significant at *p* < .001 level



Table 3B. Study 2 Indirect Effects

Model	Model A: Without Covariates				Model B: With Covariates			
	M (Common Opinion)		Y (Difference from Leader)		M (Common Opinion)		Y (Difference from Leader)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<b>Agreement</b>	1.078***	.108	-.033**	.013	1.090***	.109	-.033**	.013
<b>Disagreement</b>	-.448***	.109	.014**	.006	-.453***	.109	.014**	.006
<b>Control</b>	.315***	.069	-.010**	.004	.319***	.069	-.010**	.004

\*indicates significance at  $p < .05$  level

\*\*indicates significance at  $p < .01$  level

\*\*\*indicates significant at  $p < .001$  level

Table 4. Study 2 Summary Statistics by Condition

Leader and First Follower	Leader	First Follower	Common Opinion		Difference from Leader	
			mean	variance	mean	variance
Agreement	Negative	Negative	4.72	2.30	1.47	.21
Disagreement	Negative	Positive	3.53	3.31	.28	.12
Control	Negative	---	4.58	2.10	1.56	.15
Agreement	Positive	Negative	3.70	3.51	1.57	.15
Disagreement	Positive	Positive	5.60	.87	.28	.15
Control	Positive	---	5.43	1.09	.29	.15

Table 5. Descriptive Statistics for Receipt Data in Study 3

Variable Name	Variable Description	Mean	Standard Deviation
table_size	Number of People at Table	3.61	.85
ff_dist	Absolute Difference of First Follower and Leader Sentiment	1.14	.34
Avg_grp_dist	Measure of Average Group Difference at Table	2.54	.85

Table 6. Regression Results with First Follower Distance and Table Size in Study 3

Variable	Coefficient	Standard Error
Intercept	.9453*	.2377
First Follower Distance	.2382*	.0280
Table Size	.1823*	.0612
Model Fit Statistics	F (2, 167) = 44.02 p-value < .001 R <sup>2</sup> = .3452	

\*indicates significance at .01 level

Figure 1. Moderated Mediation Model

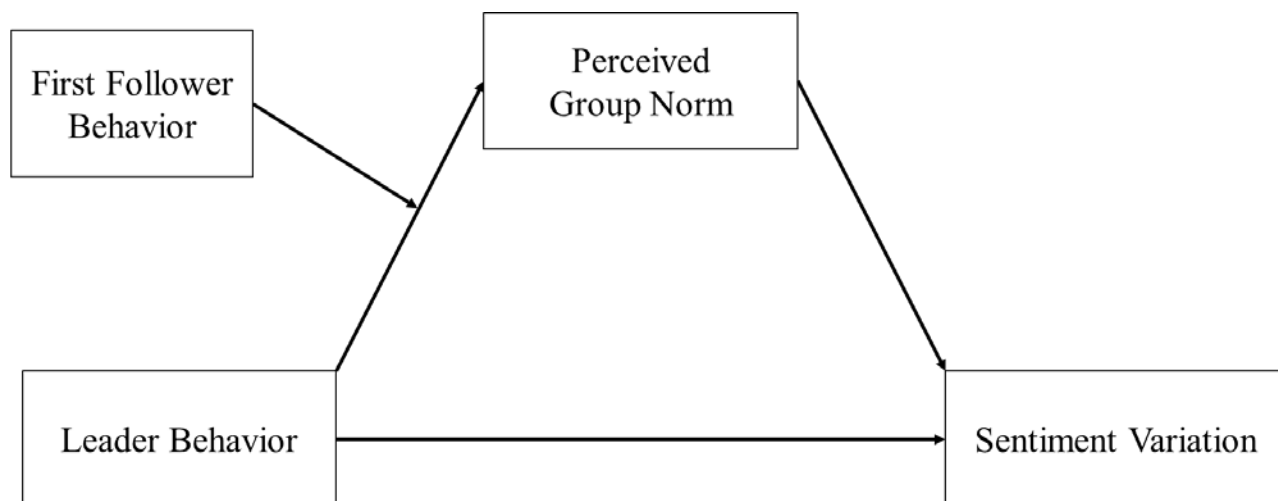


Figure 2. Interaction of First Follower and Leader Behavior on Common Opinion in Study 2

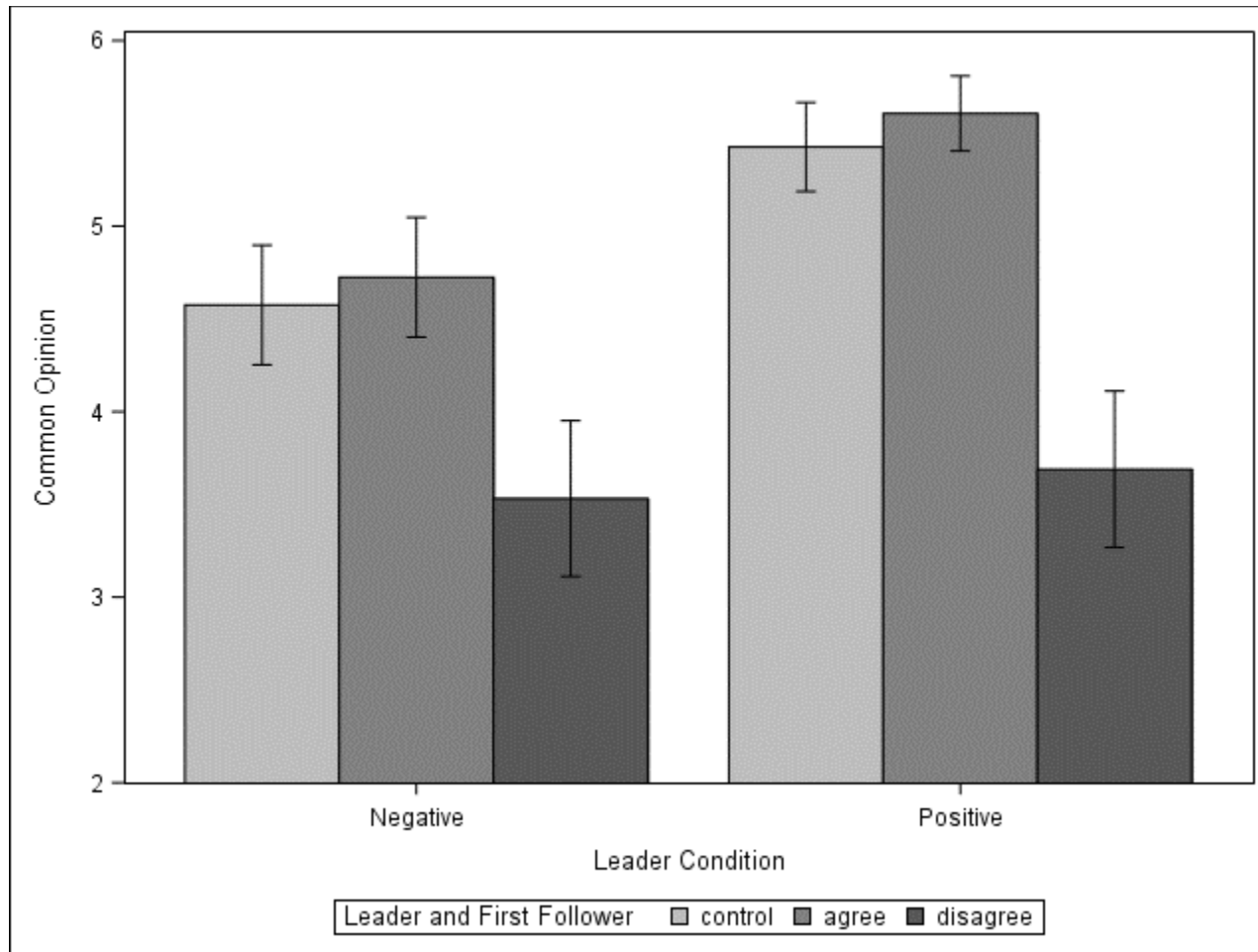
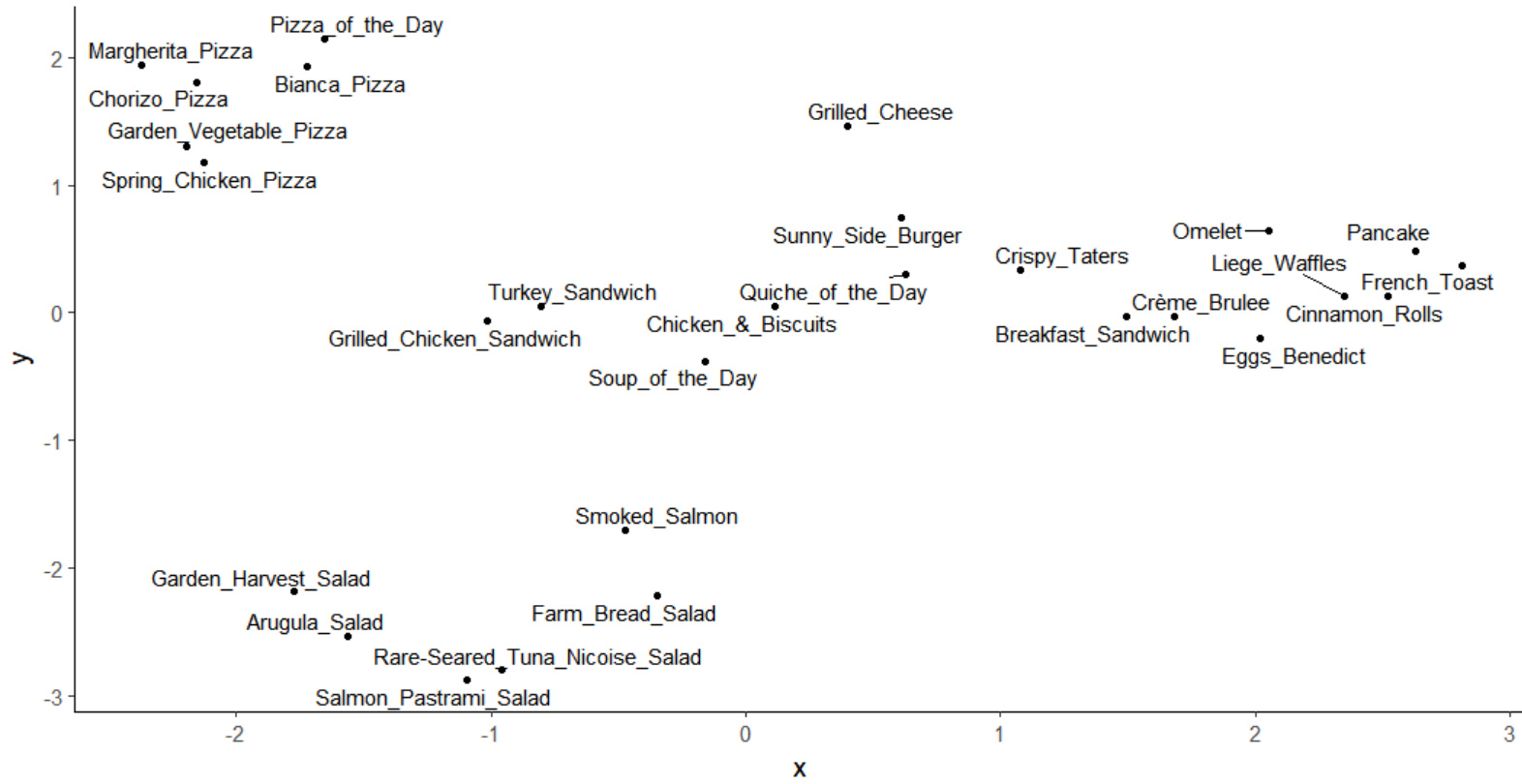


Figure 3. Multidimensional Scaling of Distance Ratings in Study 3



## APPENDIX

*Stimuli Used in Pretest and Study 2*

## Negative Leader:




**Alex**  
40 friends  
222 reviews  
40 photos

★ ★ ★ ★ ★  
First to Review

Awful, awful experience here. Employees were too busy laughing and goofing around in the back to even come and take care of the customers. The food took forever to arrive at our table. Ordered a dinner salad which was missing an ingredient and the portion was quite small (which is why I was able to spot a missing ingredient). Spoke to the waitress, who informed me that they were out the ingredient. They should have told me before I ordered! Very disappointed and frustrated!!

## Negative Follower:



**Elliot**  
42 friends  
224 reviews  
42 photos

★ ★ ★ ★ ★  
Second to Review

I made the mistake of coming here after work. It was early, not packed at all. Actually pretty empty. Waited about 10 minutes for a waiter just to come to my table. Finally, ordered everything at one time, because I did not want to wait forever for him to come back. Waited about 30 minutes for my soup and appetizer, our waiter walked by us several times, not telling us a thing. Finally, after almost an hour, our food arrived and it was not worth the long wait and frustration. The experience here was absolutely terrible and the food wasn't great either!



## Positive Leader:



**Jamie**  
44 friends  
220 reviews  
40 photos

★★★★★  
First to Review

I came here for dinner last night. The service was amazing. My poor server was swamped with tables (having been a server myself I know how tough that can be), but he remained calm, professional, and very attentive. Good food, nice environment, friendly staff, I will definitely come back and enjoy some more of this place.

## Positive Follower:



**Sam M**  
42 friends  
224 reviews  
40 photos

★★★★★  
Second to Review

This is my new favorite restaurant. OMG the food was amazingly delicious. I ordered the iced tea to drink and soup as an appetizer - yum!! The grilled chicken and the salad were both great! So so yummy! The menu is very diverse with tasty options. This place is clean and affordable. I love this place!!! I'll be back soon!!