

VIRAL ADVERTISING IN SOCIAL MEDIA: PARTICIPATION IN FACEBOOK GROUPS AND RESPONSES AMONG COLLEGE-AGED USERS

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ABSTRACT: This study examines the potential link of Facebook group participation with viral advertising responses. The results suggest that college-aged Facebook group members engage in higher levels of self-disclosure and maintain more favorable attitudes toward social media and advertising in general than do nongroup members. However, Facebook group participation does not exert an influence on users' viral advertising pass-on behaviors. The results also identify variations in predictors of pass-on behaviors between group members and nonmembers. These findings have theoretical and managerial implications for viral advertising on Facebook.

Keywords: social media, viral advertising, Facebook groups, self-disclosure, attitude toward advertising, pass-on behavior

In the past few years, social media have become perhaps the most popular communication channels for college-aged Internet users (Pelling and White 2009). As Kaplan and Haenlein (2010, p. 61) define them, social media are the "group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content." As they have grown in both popularity and use, social media applications allow for classifications into more specific categories, determined by characteristics, such as content communities (e.g., YouTube), social networking sites (SNS; e.g., Facebook, MySpace), microblogging (e.g., Twitter), and virtual social worlds (e.g., Second Life) (Kaplan and Haenlein 2010; Mangold and Faulds 2009). Among the various applications and platforms, SNS and Facebook in particular have emerged as primary "hang outs" for young users.

Launched in 2004, *Facebook* reached more than 750 million active users in 2011, and half of them logged on daily. Users spend more than 700 billion minutes per month on the site (Facebook.com 2011a). Similar to other SNS, Facebook is a Web-based service that allows people to build public profiles and establish explicit connections with others in their social network (boyd and Ellison 2007). According to eMarketer's (2009) study of American college students, this age cohort represents the most prevalent users, and approximately 60% of female and 44% of male college students gain product information on SNS. Considering that Facebook enables college-aged populations to learn about products, it represents a revolutionary trend for advertisers that hope to persuade or influence a consumer to pass along information to others—that is, the core foundation of viral advertising (Ferguson 2008; Marken 2007). Despite the apparent promise of Facebook as a

tool to facilitate viral advertising campaigns, no studies investigate how college-aged Facebook users respond to viral advertising on the site or the specific features of Facebook that might influence their responses.

In addition, Facebook hosts more than 900 million objectives (e.g., pages, groups, communities), such that an average user participates in 80 groups, communities, or events (Facebook.com 2011a). Among its many features, Facebook groups are a particularly widespread and popular application that support unique forms of social interaction and generate discussions based on common interests (Casteleyn, Mottart, and Rutten 2009; Park, Kee, and Valenzuela 2009). By joining a group, Facebook users interact with other group members and share information with ease and speed; this offers a promising platform for advertisers to build viral-driven, multidirectional communication with consumers (Holzner 2008). For example, "Tide Loads of Hope," "Sony Digital Photography," and "Dodge, It's a way of Life!" are popular Facebook groups that enable users to share photos, videos, and other forms of content. Once consumers join a brand-related group on Facebook, their brand perceptions and purchasing decisions could be influenced by mobilizing information they receive from other members. Meanwhile, they also may encounter more opportunities to pass along viral messages created by advertisers to their contacts through SNS.

As consumers increasingly turn to Facebook groups as trusted sources of information and opinions, new opportunities arise to build consumer-brand relationships and viral advertising platforms. This article focuses primarily on the advertising/promotional aspect of Facebook groups by examining the potential link between brand-related group

participation and viral advertising responses, with a twofold objective. First, the present study investigates whether differences exist in the identified psychological variables (i.e., self-disclosure and attitudes) and the resulting viral advertising pass-on behavior of Facebook group members and nonmembers. Second, this study explores the potential predictors of viral advertising pass-on behavior and compares Facebook group members with nonmembers. Conceptually, this research expands existing research by examining similarities and differences between group members and nonmembers on Facebook, as well as exploring relationships between group participation and engagement in viral advertising. The findings offer valuable implications for advertisers using Facebook as part of their viral advertising strategies.

BACKGROUND INFORMATION

Facebook Groups

In today's online landscape, consumers increasingly turn to virtual communities for opinion expression and information exchange, making these communities an idea tool for marketers to build relationships with consumers (Hair, Clark, and Shapiro 2010). Rheingold (1993, p. 6) defines virtual communities as "*social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace.*" Using this conceptual definition, Facebook groups constitute a new form of virtual community that provides enhanced relevance and credibility and allows marketers to engage consumers at a personal level. As Facebook (2011b) itself states, Facebook groups make it easier for members and friends of groups to communicate about shared interests more effectively. Marketers such as Target, Walmart, and Victoria's Secret thus actively use Facebook groups to facilitate message transmission and generate brand interests.

Despite their overlapping features, the nature and functionality of Facebook groups differ from those of Facebook pages (e.g., brand profile pages) in several ways. First, Facebook groups provide a place for a small group of users to share common interests, discuss issues, express opinions, and post photos; pages are official and authentic profiles for representing businesses, celebrities, or organizations (Pineda 2010). Second, groups can be secret (i.e., only members have access to the group and what members post), closed (i.e., everyone can see the group; only members see posts), or open (i.e., everyone sees everything), whereas all

pages are public by default and accessible through search engines such as Google (Facebook.com 2011b; Pineda 2010). Third, the creators of Facebook groups can decide whether the groups allow anyone to join, require approval, or are by invitation only. However, any Facebook user can connect with a page by liking it or becoming a fan, then interacting with the focal brands, celebrities, or organizations (Pineda 2010).

Fourth, group administrators can send mass messages directly to members' Facebook inboxes (Greenstein 2009; O'Neill 2010; Xia 2009). That is, Facebook groups connect with users by using the group's shared e-mail address (Facebook.com 2011b). In contrast, Facebook pages mimic typical personal profiles on the site (i.e., brand or celebrity pages can have friends) and merely communicate through updates or notifications on fans' news feeds (Greenstein 2009; O'Neill 2010). The ability to send messages directly to a Facebook group user's inbox provides significant implications for advertisers, because personal messages sent to group members are much more effective and efficient than wall posts or news feed updates (Xia 2009). Similar to opt-in e-mail campaigns, open Facebook groups can serve as extremely effective viral advertising tools that build awareness around promotional messages. However, prior studies have not focused on different applications on Facebook that vary in their functionality. Nor has research examined the current practices of viral advertising through Facebook group applications and how Facebook group participation relates to viral advertising responses among college-aged users.

Viral Advertising on Facebook

Porter and Golan (2006, p. 33) offer the first empirical effort to define viral advertising, as "unpaid peer-to-peer communication of provocative content originating from an identified sponsor using the Internet to persuade or influence an audience to pass along the content to others." In viral advertising campaigns, viral messages about brands spread to potential consumers, who then pass along the information to other potential consumers rapidly (Dobele et al. 2007; Southgate, Westoby, and Page 2010). Previous studies indicate that emotion is an important component of viral advertising pass-on behavior. For example, Phelps and colleagues (2004) find that viral message senders tend to experience positive emotions (e.g., happy, excited, satisfied) when they pass along messages to contacts in their e-mail lists. Dobele et al. (2007) argue that emotional connection plays a critical role in influencing forwarding behavior, such that effective viral messages need to contain surprise. Eckler and Bolls (2011)

examine viral advertising from an information processing perspective and find that the emotional tone of viral video ads influence attitudinal responses and intention to forward: A positive emotional tone produces the strongest attitude toward the ad, attitude toward the brand, and forwarding intention.

With the emergence of social media, viral advertising also has gained tremendous popularity; online social platforms dramatically have changed the way consumers respond to advertising (Marken 2007). Social media such as Facebook allow target consumers to become message senders by passing on ads to friends, connecting them to the advertisers explicitly, or commenting on the ad and having those comments passed along in viral channels (Interactive Advertising Bureau [IAB] 2009). As Porter and Golan (2006, p. 33) recognize, "viral advertising is typically seeded through existing email lists of loyal customers or through official company sites." Because Facebook groups enable advertisers to send messages to members' Facebook inboxes, they provide further opportunities for implementing viral advertising campaigns. A recent report by Nielsen and Facebook also indicates an increase in ad recall, awareness, and purchase intentions when a user's news feeds indicate that friends have become fans of a particular brand's profile page (Neff 2010). Similarly, positive advertising responses indicate the power of using Facebook groups as a platform for viral advertising. When group members forward viral advertising to other friends, they become endorsers in that brand's Facebook ads and thus increase friends' likelihood to pass along the ads. Because advertisers value viral advertising, this study empirically examines whether joining Facebook groups relates to Facebook users' engagement in viral advertising pass-on behavior.

Conceptual Framework and Research Questions

This study investigates how Facebook group members and nonmembers differ on selected psychological variables and their subsequent forwarding behavior in viral advertising settings. On Facebook, consumers engage in viral advertising by consenting to disclose their social interactions and online persona (e.g., profile information; IAB, 2009) or sending private messages (e.g., Facebook inbox). In particular, this study examines whether the degrees of self-disclosure vary between group members and nonmembers and how such self-disclosure relates to viral advertising pass-on behavior. Attitudinal measures also may be pertinent, in that attitude toward social media, attitude toward advertising in social media, and attitude toward advertising in general may

influence users' decisions to participate in Facebook groups and engage in viral advertising. Therefore, self-disclosure and attitude variables are conceptualized as predictors of viral advertising pass-on behavior on Facebook.

Self-Disclosure

Self-disclosure, loosely defined, is "*what individuals verbally reveal about themselves to others, including thoughts, feelings, and experiences*" (Derlega et al. 1993, p. 1). Conceptually, it refers to any information (written or verbal) that a person presents to others (Derlega et al. 1993). Self-disclosure plays an important role in relationship development (Derlega and Grzelak 1979; Derlega et al. 1993) and affects social, psychological, and even behavioral aspects of the discloser (Im et al. 2008; Nyman and Daugherty 2001). In a recent study of consumers' voluntary self-disclosure in blogs, Lee, Im, and Taylor (2008) find that self-disclosure is a common practice that many consumers are willing to engage in within an online context.

In SNS, self-disclosure relates significantly to Facebook usage. Social media advertising refers to "an online ad that incorporates user interactions that the consumer has agreed to display and be shared. The resulting ad displays these interactions along with the user's persona (picture and/or name) within the ad content" (IAB 2009, p. 4). Thus, when consumers join brand-related Facebook groups, this information gets disclosed to their friends on the site. Beyond the typical Facebook profiles, members of groups also can post comments and opinions about products on discussion fora, and the activity in these groups may be viewed by other friends through news feeds. Members of Facebook groups often actively provide information to their groups to gain the most benefit and value from their online activities and interactions. In other words, groups represent an extension of users' personal actions, and the information a user discloses links to his or her personal identity (Greenstein 2009). Facebook group members thus should engage in different levels of self-disclosure than do nongroup members, which leads to the first research question:

RQ1: Are there significant differences in the self-disclosure levels of Facebook group members versus nonmembers?

Attitudes

Attitude-related variables also may influence Facebook group participation. Attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly and Chaiken 1993, p. 1). According

to the theory of reasoned action (Fishbein and Ajzen 1975), attitudes influence behavior by affecting intentions. For example, attitude toward the website is a good indicator of consumers' reception of the site's content. That is, consumers are more likely to rely on the website's content as a source of information when they have favorable attitudes toward the site (Poh and Adam 2002).

Daugherty, Eastin, and Bright (2008) also find that a positive attitude toward user-generated online content generally increases a person's creation and consumption of such content. Similarly, consumers' attitudes toward social media should relate positively to their use of the information available on these sites, which in turn could enhance their tendency to join groups and engage in viral messages. When a consumer maintains a favorable attitude toward social media, he or she should be more willing to participate actively in Facebook groups to provide or pass on product-related information. Thus, it is vital to examine Facebook users' attitudes toward social media and explore differences in these attitudes between group members and nonmembers.

To also gain more detailed insights into Facebook users, this study examines users' attitudes toward advertising in social media and their general attitude toward advertising. General advertising attitudes can influence attitudes toward advertisements, brand attitudes, and purchase intentions (MacKenzie, Lutz, and Belch 1986), so it is essential to understand potential differences in overall attitudes toward advertising, both in general and in social media, between Facebook group members and nonmembers. Understanding how attitudes toward advertising relate to group participation also could help advertisers determine effective media placements for different target audiences. Thus,

RQ2: Are there significant differences in the attitudes toward (a) social media, (b) advertising in social media, and (c) advertising in general between Facebook group members and nonmembers?

Viral Advertising Pass-On Behaviors

In addition to these potential self-disclosure and attitudinal differences between Facebook group members and nonmembers, the IAB (2009) notes that social media advertising is unique in that it enables users to select ads and pass them along to their social connections. Because advertisers can use their Facebook group member lists to send viral messages about contests or promotions (Greenstein 2009; O'Neill 2010), group members likely encounter more

opportunities to engage in viral messaging and pass on more messages to others than do nonmembers. Through Facebook groups, they even can share videos, photos, or text, which should help advertisers spread word of positive messages about their brands more easily. However, no research has examined empirically the relationships between group participation and viral advertising pass-on behavior. The next research question therefore aims to determine whether Facebook group members and nonmembers differ in such behavior:

RQ3: Are there significant differences in viral advertising pass-on behavior between Facebook group members and nonmembers?

Influences on Viral Advertising Pass-On Behaviors

Self-disclosure and attitudinal factors may be closely associated with Facebook users' tendency to pass along viral advertising. Users who join Facebook groups and spend time there also may gain psychological benefits from their participation. For example, Park, Kee, and Valenzuela (2009) identify four psychological needs that explain participation in Facebook groups: socializing, entertainment, self-status seeking, and information seeking. The socializing need implies that people participate in Facebook groups to build and maintain social relationships with others, as well as to seek social support and a sense of belongingness. Users who seek entertainment focus on achieving a sense of leisure and amusement. In terms of information needs, Facebook group members learn about specific products and services through discussions on group fora. Finally, Facebook group members seek and maintain their personal status through participation in groups. Although Park, Kee, and Valenzuela (2009) posit that these four primary participation needs relate to social outcomes (i.e., civic and political participation), they also could predict group members' decision to pass on viral advertising (see Dobeles et al. 2007; Phelps et al. 2004). To understand the impact of these psychological variables on viral advertising pass-on behavior on Facebook, as well as the variations between group members and nonmembers, the last research question asks:

RQ4: What psychological factors influence Facebook group members' and nonmembers' intentions to pass on viral advertising?

METHOD

An online survey served to gather the data to answer the research questions. The sample selection process began with the recognition that SNS users tend to be young, well-educated, and disproportionately composed of college students (Lenhart 2009). Facebook is the most popular SNS, attracting marketers and young adults worldwide (Lenhart et al. 2010). College students are active users of Facebook, and more than one of four cite it as their most visited website (eMarketer 2009). Moreover, young people engage in more mediated social interactions and are key targets for viral advertising campaigns. College students are more likely than any other demographic to have an SNS account and spend more time on the site daily (Pelling and White 2009). Thus, a college student sample, representing the largest segment of the SNS user population, is appropriate for this study.

Sampling and Data Collection Procedure

Most research on SNSs has used data from one university (e.g., Ellison, Steinfield, and Lampe 2007). However, the promise of using social media as a tool for marketing research has been recognized recently by advertising and marketing scholars (e.g., Casteleyn, Mottart, and Rutten 2009; Cooke and Buckley 2008). Therefore, to gain a more representative sample, this study employed a social network approach through Facebook to attract respondents from a variety of universities and states. Specifically, an e-mail invitation with a link to the online survey was sent first to students enrolled in an introductory advertising class in a large university in the Midwestern region of the United States. Students with a Facebook account were asked to forward this e-mail to their Facebook friends who also were college students. All participation was voluntary; students from the introductory advertising class who completed the survey and/or passed it along received extra credit as compensation for their participation. In addition, all participants were entered into a drawing for a \$50 gift card toward purchases at any Apple Computer Store. The time needed to complete the online survey was approximately 15 minutes. The data collection period spanned approximately two weeks, from May 2 to May 17, 2010. The online data collection technique recruited 359 participants. The elimination of incomplete responses and response from people residing outside the United States, as well as the limitation to users between the ages of 18 and 24 years, reduced the final sample to 302 respondents for the data analysis.

MEASURES

The central measures focus on key constructs for investigating self-disclosure, viral advertising pass-on behavior, needs that drive Facebook group participation, and attitudes toward social media, advertising in social media, and advertising in general. Porter and Golan's (2006) definition of viral advertising appeared at the beginning of the questionnaire, to ensure respondents understood the term. Except for the attitudes toward social media and advertising in social media scales, all items used seven-point Likert scales (1 = "strongly disagree" and 7 = "strongly agree"). The attitude toward social media and attitude toward advertising in social media measures instead used seven-point semantic differential scales. In addition, participants indicated whether they joined or used any Facebook groups related to products or brands. Only those who had joined or used brand-related Facebook groups answered questions about their group participation needs. Finally, the questionnaire included demographic items, such as gender, age, school classification, and ethnicity, as well as their university and major.

Self-Disclosure. The measure of SNS users' self-disclosure on Facebook featured two dimensions: depth and breadth (Laurenceau, Barrett, and Pietromonaco 1998), in line with prior research (Collins and Miller 1994). Depth refers to the quality of information disclosure, whereas breadth focuses on the quantity of information disclosed (Im et al. 2008). Two items developed by Laurenceau, Barrett, and Pietromonaco (1998) assess Facebook users' degrees of self-disclosure: "I disclosed my facts to my 'friends' on social media like Facebook" and "I disclosed my emotions to my 'friends' on social media like Facebook."

Attitudes. The scales for both attitude toward social media and attitude toward advertising in social media were adaptations of the attitude toward advertising scale developed by Muehling (1987). Three seven-point semantic differential items indicated Facebook users' attitudinal responses to social media and advertising therein: "bad/good," "negative/positive," and "unfavorable/favorable." The measures of attitude toward advertising in general came from previous studies, such that respondents completed the sentence, "In general, my attitude toward advertising is that..." by choosing from the following statements: "advertising is interesting," "advertising is fun," "advertising is informative," and "advertising is credible."

Viral Advertising Pass-On. The four items to measure pass-on behavior came from previous studies (Brown, Bhadury, and Pope 2010; Juster 1966; Okazaki 2009). These items, as

listed in Table 1, assessed behavioral intention by gauging the degree that Facebook users would pass along viral advertising to their contacts on the site.

Needs that Drive Group Participation. Park, Kee, and Valenzuela's (2009) measure of Facebook group uses and gratifications was adapted to assess the reasons for participating in Facebook groups. Five items measured the socializing dimension, and three items each served to assess entertainment, self-status seeking, and information seeking. The items were modified to fit the context of brand-related groups as necessary. As a result, the fourteen items in Table 2 provided the measure of group members' needs that drove their participation in Facebook groups.

Cronbach's alpha provided the test of the reliability of all scales. The internal reliability of all measures was acceptable (ranging from .73 to .98), because it exceeded the generally accepted minimum threshold of .70 (Hair et al. 2005). The Cronbach's alpha values for each measure appear in Tables 1 and 2.

RESULTS

Sample Characteristics

The sample consisted of 36.8% men and 63.2% women, ranging in age from 18 to 24 years, with an average age of 20.4 years. More than 28.9% of the participants were first-year students, followed by 26.5% sophomores, 26.5% seniors, and 18.2% juniors. They represented a variety of universities and majors. Most participants were Caucasian (70.2%), followed by African Americans (14.9%), Asian Americans (5.7%), Hispanic Americans (5.0%), multicultural (2.3%), and other (1.0%). Of the 302 respondents, 199 (65.9%) were members of Facebook brand-related groups, and 103 (34.1%) were not.

RQ1: Self-Disclosure and Facebook Brand-Related Group Participation

The first research question aims to examine whether Facebook group members and nonmembers exhibit different degrees of self-disclosure. According to an independent samples t-test, Facebook group members ($M = 4.22$) report a significantly

greater level of self-disclosure on Facebook than their nongroup member counterparts ($M = 3.37$; $t(1,283) = 4.20$, $p < .001$), as Table 1 reveals.

RQ2: Attitudes and Facebook Brand-Related Group Participation

To answer the second research question, a series of independent samples t-tests examined participants' attitudes toward social media, advertising in social media, and advertising in general. A significant difference emerged regarding attitudes toward social media, such that Facebook group members ($M = 4.99$) indicated more favorable attitudes than did nongroup members ($M = 4.42$; $t(1,288) = 3.23$, $p < .01$). However, Facebook group members ($M = 4.30$) and nonmembers ($M = 4.26$) revealed no significant differences in their attitudes toward advertising in social media ($t(1,288) = .21$, $p > .05$). Regarding attitudes toward advertising in general, Facebook group members ($M = 4.67$) reported more favorable attitudes than did their nongroup member counterparts ($M = 4.23$; $t(1,288) = 2.33$, $p < .05$). These results suggest differences in attitude responses between group members and nonmembers. That is, people who join or use Facebook groups tend to have more positive attitudes toward social media and advertising in general than do those who do not join Facebook groups.

RQ3: Viral Advertising Pass-On and Facebook Brand-Related Group Participation

To examine whether Facebook group members and nonmembers differed in their behavioral intention to pass on viral advertising on Facebook, another independent samples t-test was conducted. As Table 1 reveals, there was no significant difference in viral advertising pass-on behavior between Facebook group members ($M = 2.84$) and nonmembers ($M = 2.95$; $t(1,284) = -.57$, $p > .05$). Table 1 summarizes the t-test results for the first three research questions.

Table 1. Self-Disclosure, Attitudes, and Viral Advertising Pass-On of Facebook Group Members and Nonmembers

	Group Members		Nonmembers		<i>t</i>
	M	SD	M	SD	
Self-Disclosure (GM <i>a</i> = .77; NM <i>a</i> = .94)	4.22	1.49	3.37	1.74	4.20***
I disclosed my facts to my "friends" on social media like Facebook.					
I disclosed my emotions to my "friends" on social media like Facebook.					
Attitude toward Social Media (GM <i>a</i> = .96; NM <i>a</i> = .97)			4.99	1.334.42	1.513.23**
Bad/good					
Negative/positive					
Unfavorable/favorable					
Attitude toward Advertising in Social Media (GM <i>a</i> = .98; NM <i>a</i> = .96)			4.30	1.624.26	1.54.21
Bad/good					
Negative/positive					
Unfavorable/favorable					
Attitude toward Advertising in General (GM <i>a</i> = .89; NM <i>a</i> = .95)			4.67	1.394.23	1.742.33*
Advertising is interesting.					
Advertising is fun.					
Advertising is informative.					
Advertising is credible.					
Viral Advertising Pass-On (GM <i>a</i> = .94; NM <i>a</i> = .97)			2.84	1.462.95	1.61-.57
I would consider passing along viral advertising to someone I know.					
If I find an interesting Facebook viral advertising campaign, I want to tell my friends about it.					
If somebody asks me for advice about an interesting Facebook viral advertising campaign, I will encourage him or her to participate.					
I would recommend my friends and family to participate in an interesting Facebook viral advertising campaign.					

Notes: GM = group members; NM = nonmembers; α = Cronbach's alpha.

*Significant at .05.

**Significant at .01.

***Significant at .001.

RQ4: Predictors of Viral Advertising Pass-On by Facebook Group Members

A regression analysis examined the potential antecedents of viral advertising pass-on behavior by Facebook group members. First, a principle factor analysis, run on the needs that determine group participation items, indicated if the four subscales previously identified would emerge again. A factor analysis with Varimax rotation suggested four factors: information seeking (which explained 40.52% of the variance), socializing (12.82%), entertainment (11.67%), and self-status seeking (8.52%). The factor analysis results encouraged further consideration of the four identified dimensions.

Second, viral advertising pass-on was regressed on the average scores obtained for self-disclosure, the three attitude scales, and the four needs for group participation dimensions. The

eight index scores then appeared as predictors in the regression equation.

The multiple regression model was significant ($R_{adj}^2 = .20$; $F(8, 173) = 6.77, p < .001$). Attitude toward advertising in social media ($\beta = .21, t = 2.46, p < .05$), attitude toward advertising in general ($\beta = .17, t = 2.01, p < .05$), and self-status seeking ($\beta = .27, t = 3.53, p < .01$) emerged as significant predictors of Facebook group members' pass-on behavior for viral advertising. However, self-disclosure ($\beta = -.02, t = -.28, p > .05$), attitude toward social media ($\beta = .04, t = .42, p > .05$), socializing ($\beta = .04, t = .47, p > .05$), entertainment ($\beta = -.02, t = -.20, p > .05$), and information seeking ($\beta = .01, t = .14, p > .05$) did not produce significant influences on such behaviors, as summarized in Table 2.

Table 2. Regression Analysis: Predictors of Viral Advertising Pass-On by Facebook Group Members

Independent Variables	Standardized Coefficients	t	Adjusted R ² F	
Self-Disclosure	-.02	-8.28	.20	6.77***
Attitudes				
Attitude toward Social Media	.04	.42		
Attitude toward Advertising in Social Media	.21	2.46*		
Attitude toward Advertising in General	.17	2.01*		
Needs Driving Group Participation				
<i>Socializing</i> ($\alpha = .83$)	.04	.47		
To get peer support from others				
To meet interesting people				
To feel like I belong to a community				

To talk about something with others		
To stay in touch with people I know		
<i>Entertainment</i> ($\alpha = .88$)	-.02	-.20
Because it is entertaining		
Because it is funny		
Because it is exciting		
<i>Self-status seeking</i> ($\alpha = .73$)	.27	3.53**
Because I feel peer pressure to participate		
Because it makes myself look cool		
To develop my career through group participation		
<i>Information seeking</i> ($\alpha = .86$)	.01	.14
To make brand decisions		
To provide others with brand information		
To get useful brand information		

Notes: α = Cronbach's alpha.

*Significant at .05.

**Significant at .01.

***Significant at .001.

RQ4: Predictors of Viral Advertising Pass-On by Facebook Group Nonmembers

In another regression analysis, viral advertising pass-on was regressed on the average scores for self-disclosure and the three attitude scales among nonmembers; the four needs for group participation dimensions were not pertinent in this case. The regression model was significant ($R^2_{adj} = .39$; $F(4,$

$93) = 16.56, p < .001$), with two significant predictors. As Table 3 indicates, self-disclosure ($\beta = .38, t = 3.98, p < .001$) and attitude toward advertising in social media ($\beta = .38, t = 2.70, p < .01$) significantly predicted nonmembers' pass-on behavior for viral advertising on Facebook. Attitude toward social media ($\beta = -.03, t = -.20, p > .05$) and attitude toward advertising in general ($\beta = .05, t = .43, p > .05$) did not relate significantly to these respondents' pass-on behavior.

Table 3. Regression Analysis of Predictors of Viral Advertising Pass-On by Facebook Group Nonmembers

Independent Variables	Standardized Coefficients	t	Adjusted R ²	F
Self-Disclosure	.38	3.98***	.39	16.56***
Attitudes				
Attitude toward Social Media	-.03	-.20		
Attitude toward Advertising in Social Media	.38	2.70**		
Attitude toward Advertising in General	.05	.43		

**Significant at .01.

***Significant at .001.

DISCUSSION AND CONCLUSION

In the growing social media space, advertising messages often are communicated through a social network in which consumers explicitly connect with others, disclose their personal information, and can deliver relevant messages to their personal contacts using various applications and platforms (IAB 2009). In particular, the Facebook group application provides unique functionality and has been recognized as a promising tool for advertising communications (Xia 2009). Because advertisers can send viral messages through this application, it is crucial to consider these groups when examining the impacts of Facebook use for generating and promoting effective viral advertising campaigns. However, no prior research has addressed the relationships between brand-related group participation and viral advertising responses. The rate and effectiveness of viral advertising on Facebook depends on consumers' use of and engagement in group applications on the site, so understanding their psychological characteristics is helpful for explicating the viral advertising mechanism.

This research therefore has explored the link between Facebook brand-related group participation and viral advertising responses, as well as the psychological characteristics of self-disclosure and attitudes among Facebook group members and nonmembers. By examining the differences between the groups in their viral advertising responses, this study also has detailed which factors influence Facebook group members' and nonmembers' intentions to pass on viral advertising.

The first set of findings thus relates to the similarities and differences in the psychological characteristics (self-disclosure and attitude-related variables) between group members and nonmembers. Facebook group members are more likely to

disclose their personal data on Facebook than are nonmembers. This finding is not surprising; group participation and engagement in viral advertising necessitates high levels of self-disclosure, because users explicitly exhibit connections with groups and endorse brands when they pass on viral advertising to their contacts. The attitude-related findings further illuminate the influence of psychological characteristics on participation in Facebook groups. Facebook group members maintain a more favorable attitude toward social media and advertising in general than do nonmembers. In contrast, group members and nonmembers do not differ in their attitudes toward advertising in social media. It seems reasonable to postulate that college students who like social media more tend to be more receptive to various types of applications. Similarly, users who have more positive attitudes toward advertising in general are more likely to join Facebook groups to receive promotional messages. Despite the lack of significant difference in attitudes toward advertising in social media, the mean scores for each group (members $M = 4.30$, nonmembers $M = 4.26$) indicate that overall, Facebook's college-aged users have favorable attitudes toward advertising delivered through social media. Thus, social media are a potentially rich avenue for viral advertising campaigns.

In addition, this study offers a major contribution in the form of a better understanding of the relationship between Facebook group participation and viral advertising pass-on behaviors. Participation in Facebook groups does not exert an influence on college students' intention to pass along viral advertising. Although Facebook groups increasingly serve as online tools for communications between consumers and companies, as well as among consumers, they are not as influential as might be predicted. Although some popular brands attract substantial numbers of members (e.g., Addicted to Starbucks), many group members hesitate to forward viral

advertising to their Facebook friends. Considering that the foundation of Facebook is to build and maintain social relationships (e.g., Ellison, Steinfield, and Lampe 2007), consumers may feel a sense of intrusion if they receive provocative messages from advertisers or peers, which in turn may make them reluctant to pass along the messages to others.

The regression results demonstrate variations in the predictors of viral advertising pass-on between group members and nonmembers. Whereas self-disclosure is a significant predictor of pass-on behaviors by Facebook group nonmembers, it has no significant impact on group members. Attitude toward advertising in social media significantly influences both group members' and nonmembers' likelihood to pass along viral advertising, but attitude toward advertising in general affects this behavior only among group members. These results indicate that consumers who do not join Facebook groups may pass on viral messages only if they are willing to disclose their personal information and have positive attitudes toward advertising in social media. In terms of their needs for group participation, self-status seeking is a significant determinant of viral advertising pass-along behaviors by Facebook group members. Facebook groups provide channels that consumers deem useful when seeking self-status in a product category, as does passing on viral content about brands to their social contacts.

Managerially, this study provides important implications for companies using Facebook groups as part of their overall advertising media strategies. To make Facebook groups more cohesive and powerful, advertisers should send out more personalized and customized messages to members' inboxes to announce upcoming promotions or provide incentives to encourage them to pass on messages. Brand managers' advertising efforts also should focus more on encouraging Facebook group members who already have favorable attitudes toward advertising in social media and in general to share viral advertising with their contacts, because these consumers are more likely to engage actively in viral advertising through group applications. From an online privacy perspective, advertisers should work to protect consumer privacy to erase the concerns of some Facebook users. For example, advertisers could provide consumers with an option to pass along viral messages without self-disclosure in the public, online social spaces.

Although this research sheds more light on critical aspects of group participation and viral advertising on Facebook, its limitations also offer directions for further research. The

respondents to this study include Facebook users from various universities and states, but the findings cannot necessarily be generalized to the entire Facebook user population or the general SNS user population. Additional research should explore Facebook group use and viral advertising responses with samples that differ in terms of age and field of study, as well as investigate group applications on other SNS (e.g., Twitter Groups). Furthermore, this exploratory study only focuses on self-disclosure and attitude-related variables in relation to participation in Facebook groups. Further research should examine how emotion-related variables or levels of commitment to and satisfaction with a particular group influence consumers' intentions to spread viral messages. In the online social sphere, advertisers can track consumers' activities and access their general profiles without their awareness (Hoy and Milne 2010). Therefore, more research should address the privacy expectations of Facebook users who pass on viral advertising. Finally, additional studies should investigate conversation management, a concept closely relevant to viral advertising in social media. That is, the success of viral advertising cannot be determined solely by intentions to pass it along; other factors, such as level of engagement with viral advertising and how viral advertising is being discussed (positively vs. negatively), also have effects.

The emergence of social media has dramatically changed the ways available and strategies used to communicate with and engage consumers. Overall, it is imperative for advertisers and policymakers to gain a more comprehensive understanding of consumers' psychological characteristics and design viral advertising campaigns that do not create additional privacy concerns.

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