

The Impact of Fan Identification and Notification on Survey Response and Data Quality

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Abstract

The use of online data collection techniques in sport marketing research has increased in recent years. The value of data obtained this way is determined, in part, by the quality of survey response. Scholars have studied strategies that enhance survey response, including the use of notification and topic salience. However, empirical support for the use of notification has been obtained primarily from mail-based survey research, so it is unclear if the benefits would be evident with online data collection. This study examined the influence of notification techniques and topic salience, measured as fan identification, on two metrics commonly used to measure survey response: response rate and response quality. Overall, findings revealed a significant relationship between notification and response rate while no relationship was found between notification and response quality. Additionally, there was no relationship between fan identification scores and survey participation while a relationship between fan identification and response quality was identified.

Introduction

In recent years, the use of online methods for data collection has increased considerably in survey research (Dillman, Smyth, & Christian, 2009; Pan, 2010; Sue & Ritter, 2007). This trend is noticeable within the fields of sport management and marketing, exemplified by four mainstream journals in the field: *Sport Marketing Quarterly* (SMQ), *Journal of Sport Management* (JSM), *Sport Management Review* (SMR), and *European Sport Management Quarterly* (ESMQ) (Shilbury, 2012). From 2009-2012, a total of 223 articles that used survey methods for data collection were published in these four journals, of which 91 (40.8%) utilized online data collection methods.

As the popularity of online survey research has grown, there has been much discussion of the benefits and challenges associated with this method of data collection. One issue that has received considerable atten-

tion is that of topic salience, which is defined as the relative importance of the research topic to the study population (Anseel, Lievens, Schollaert, & Choragwicka; 2010; Baruch, 1999; Turner, Jordan, & Sagas, 2006). This form of interaction between the researcher and target population has been shown to increase participation and involvement among survey participants (Anseel et al., 2010). There is substantial evidence to suggest that when the focus of the research study is highly salient to potential participants, they are more likely to respond compared to individuals who are less interested (e.g., Barrios, Villarroya, Borrego, & Ollé, 2011; Groves, Presser, & Dipko, 2004; Sheehan & McMillan, 1999). In fact, participant interest in the content of the study has been shown, at times, to be the most important factor impacting response rates (Baruch, 1999). This has potentially major implications for the integrity of data obtained through online

collection methods, as it is possible that the responses of individuals with greater psychological connection to the survey topic will be over-represented.

With specific reference to the aforementioned sport management publications (SMQ, JSM, SMR, and ESMQ), over 60% of the articles that used online data collection selected sport and event consumers (e.g., sport fans, sport event participants) as their target population. There is considerable evidence to suggest that sport consumers form unique relationships with associated products and organizations, which leads to differing behavioral outcomes in consumers of other sources of entertainment (Shilbury, Quick, Westerbeek, & Funk, 2009; Sutton, McDonald, Milne, & Cimperman, 1997). In spite of these unique characteristics, there is little empirical evidence to support the impact of topic salience on survey response among sport consumers. In other words, given the affective connection sport consumers often have with sport products (e.g., teams or events), it is important to determine if the degree to which someone identifies with a sport product combined with the content of a research study impacts willingness to participate.

In addition to topic salience, response rate and response quality have also been identified as being of paramount importance when conducting survey research (e.g. Kwak & Radler, 2002; Munoz-Leiva, Sanchez-Fernandez, Montoro-Rios, & Ibanez-Zapata, 2010). While response rate simply refers to the number of people who responded to the survey in comparison to the total number who received it, response quality is typically measured through item nonresponse, or conversely, item completion rates (Barrios et al., 2011; Deutskens, de Ruyter, & Wetzels, 2006; Galesic & Bosnjak; 2009; Kwak & Radler, 2002; Munoz-Leiva et al., 2010). When the average number of questions respondents leave unanswered is small, the response quality for data obtained is considered high (Schaefer & Dillman, 1998), and vice versa.

Both response rate and quality are vital in ensuring that the data collected is representative of the intended sample, and one of the most commonly utilized strategies for maximizing both is that of notification (Cook, Heath, & Thompson, 2000). This process alerts study participants that a survey either will be or has been sent to them, using various combinations of pre- and post-notification. Therefore, the purpose of this study is to investigate the relationship between both topic salience and notification on the two key metrics of survey data collection (response rate and response quality) in online surveys among sport consumers.

Literature Review

Research that has examined the relationship between topic salience, survey participation and response quality with online data collection are limited. Given its likely influence on survey response patterns, sport marketing researchers would benefit from increased understanding of how respondent characteristics are related to topic salience (Anseel et al., 2010; Groves, Singer, & Corning, 2000). The differences between sport consumers and general consumers is their attitudinal involvement with products and organizations (Shilbury et al., 2009; Sutton et al., 1997), which necessitates specific examination of this group as subsequent behavior will be subject to levels of emotional attachment and identification with sport products or organizations. Despite this, there is a lack of empirical evidence of such relationships within the sport marketing literature. Therefore, there is value in understanding how topic salience would influence the survey response pattern among sport consumers in sport marketing research. The following section reviews relevant literature to develop research questions for the present study.

Topic Salience

Topic salience is the importance of the survey's subject matter to those who are participating (Lavrakas, 2008), and has been identified as an important factor in determining willingness to respond (Anseel et al., 2010; Baruch, 1999; Sheehan & McMillan, 1999; Turner et al., 2006). Achieving adequate response rates can at times be challenging as recipients will perceive a certain level of burden associated with completing and submitting surveys regardless of whether they are in mail or online formats. When an individual believes the subject matter of a survey to be of high personal relevance or of considerable interest, this can offset some of that burden. Conversely, when topic salience is low, it is considerably less likely to evoke a response as participants have less motivation to do so (Dillman, Eltinge, Groves, & Little, 2002; Groves et al., 2004; Marcus, Bosnjak, Lindner, Pilischenko, & Schütz, 2007).

Theoretically, topic salience operates in a similar fashion to personal relevance with an issue, object or person, which increases the likelihood that an individual will put more cognitive effort into completing the survey. Prior research indicates that personal relevance reflects the strength of an individual's attitude toward a topic. This level of interest should increase the level of cognitive elaboration that occurs when processing information (Petty & Cacioppo, 1986). For example, individuals who demonstrated strong identification

with a professional team recalled more facts and exhibited more positive thoughts after reviewing newspaper articles about the team compared to individuals who were less identified (Funk & Pritchard, 2006).

Within the present context, the influence of fan identification on survey response is of particular interest. Fan identification is defined as “the personal commitment and emotional involvement customers have with a sport organization” (Sutton et al., 1997, p.15). These authors suggest that sport can differ from other types of entertainment because individuals can develop a stronger connection with a sport brand that involves high levels of emotional attachment and identification. Kunkel, Funk, and Hill (2013) note that these brands often refer to specific teams rather than to the sports in general, and highly involved consumers are more likely to watch that team play in live games (Armstrong, 2002), purchase merchandise (Wann & Branscombe, 1993), and evaluate sponsors more favorably (Filo, Funk, & O’Brien, 2010). In light of the effect that an individual’s psychological connection has on these behaviors, it is plausible that an individual’s degree of fandom could impact survey participation in some way. This might be especially true in situations where individuals are being asked to respond to surveys regarding preferred sport leagues, teams or players.

Subsequently, it would seem prudent to use fan identification as a proxy for topic salience and determine any relationships with survey participation and response quality. Despite the lack of empirical evidence, we anticipate that participants with stronger levels of identification with a sport team would be more likely to participate in survey research and provide responses of higher quality when the content of the research project focuses on that sport team. This leads to the following two research questions:

RQ1: What is the relationship between fan identification and survey participation with online data collection?

RQ2: What is the relationship between fan identification and response quality with online data collection?

Notification and Survey Response

The emergence of online data collection methods has led to numerous studies comparing online and mail surveys in different ways, with the comparison of response rates between these two survey modes being most prevalent. Past studies have generally reported that online surveys produce a lower response rate than traditional mail surveys (Cole, 2005; Crawford, Couper, & Lamais, 2001; Kwak & Radler, 2002), with Shih and Fan’s (2008) meta-analysis revealing a difference of 10%. Subsequent investigation of different

methods to increase online response rate has shown that the use of notification, both pre- and post-notification, is one of the most effective strategies to do so (Cook et al., 2000; Kent & Turner, 2002; Munoz-Leiva et al., 2010).

Pre-notification provides a positive and timely notice that the participant will be receiving a request to take part in a research study by completing and returning a survey (Dillman et al., 2009) and is associated with a higher response rate in online survey studies (Hart, Brennan, Sym, & Larson, 2009). However, examination of the relationship between pre-notification and response rate among sport consumers has been extremely limited. In one of the few studies, Kent and Turner (2002) reported that e-mail pre-notification was effective for increasing response rates, although this study utilized mail-based data collection techniques rather than online methods, so it is unclear if the same finding would be evident with online survey methods.

The use of post-notification, a follow-up message sent after the initial deployment of a survey, has also been recognized as a way to increase survey response (Munoz-Leiva et al., 2010; Roth & BeVier, 1998; Shannon & Bradshaw, 2002). In a mail-based survey, Roose, Lievens, and Waeye (2007) found a 12% increase in response rate as a result of sending a reminder to participants who had been selected as part of a sample; however, post-notification strategies in online surveys may not be as effective (Shih & Fan, 2008). Kaplowitz, Hadlock, and Levine (2004) examined the response rate of online surveys with a combination of pre- and post-notification messages, finding that pre-notification messages elicited significantly higher response rates than no message. Despite this, the positive effect of the post-notification message was limited to those who didn’t receive a pre-notification message. Given the unique nature of the aforementioned psychological connections formed by sport consumers (Shilbury et al., 2009; Sutton et al., 1997), it is important to ascertain the most effective combination of notification strategies to maximize response rate when attempting to reach this group. Thus, the following research question is put forth:

RQ3: What is the relationship between notification techniques and response rate with online data collection?

Notification and Response Quality

While response rate is an important metric of overall survey response (Barrios et al, 2011; Munoz-Leiva et al., 2010), it is not representative of data quality. Although response quality has not received as much attention within the literature (Schmidt, Calantone, Griffin & Montoya-Weiss, 2005), it has important implications for the legitimacy of subsequent data. One of the most

frequently employed criteria to examine data quality is item completion rates (Barrios et al., 2011; Deutskens et al., 2006; Galesic & Bosnjak; 2009; Munoz-Leiva et al., 2010), where the quality of data obtained is defined, in part, by the percentage of items left unanswered (Schaefer & Dillman, 1998). Participants' decisions regarding whether or not to answer survey items are impacted by a number of factors including their ability to understand the questions and retrieve relevant information as well as their motivation to provide response (Beatty & Herrmann, 2002).

The convenient response formats common with online surveys have been associated with higher rates of item completion compared with other methods of data collection (Kwak & Radler, 2002; Schaefer & Dillman, 1998), yet the limited work examining the impact of notification techniques on response quality has not established a clear relationship (Munoz-Leiva et al., 2010). Deutskens, de Ruyter, Wetzels, and Oosterveld (2004) suggested that the timing of post-notification will not influence response quality and found no significant difference based on the use of early and late notification. Conversely, Diaz de rada (2005) argued that early respondents were more likely to exert the necessary attention and effort than late responders, resulting in lower response quality for those who respond late. As an extension of this work, Munoz-Leiva et al. (2010) proposed an inverse relationship between post-notification and response quality; however, results of their work failed to support their premise as no relationship was evident.

Given the limited amount of research that has examined the presence of this relationship, including lack of consideration of pre-notification techniques, the following research question is presented:

RQ4: What is the relationship between notification techniques and response quality with online data collection?

Method

Participants

The population in this study consisted of 23,569 email subscribers to a daily electronic sport newsletter distributed by a newspaper located in the Northeastern portion of the United States. A total of 1,884 usable surveys were returned for an overall response rate of 8.0%. Demographic characteristics of participants revealed that the sample was predominantly male (82%) and Caucasian (86%) with a median age of 48 years, and most (70%) of the respondents possessed an undergraduate or graduate degree.

Procedure

Data was obtained via an online survey where each participant was sent an email message explaining the purpose of the study, information on a prize incentive for completion of the survey, and an email link that directed them to the website hosting the survey. The incentive, a random drawing for sport-related merchandise, was made available to all participants of the study regardless of which notification group they were assigned, eliminating the potential bias of the incentive option on the response rate within the research design. Initially, the association between fan identification, response rate, and response quality were examined among respondents.

In order to answer the research questions examining the relationship between notification technique and response rate and quality, a 2×2 factorial design was employed with pre-notification (Yes/No) and post-notification (Yes/No) as the two factors. For this study, the pre-notification and post-notification message sent to participants contained the same content, with the exception that the post-notification message indicated that the participant had recently received an email invitation and link to the online survey. Participants were randomly assigned in to one of four groups. Group 1 ($n=5,892$) received pre-notification of the survey (pre only); Group 2 ($n=5,892$) received both pre-notification and post-notification (pre/post); Group 3 ($n=5,892$) received post-notification (post only); and Group 4 ($n=5,893$) did not receive notification of any type (control). No statistically significant differences were identified between the four groups (pre, pre/post, post and control) on demographic characteristics such as, gender, ethnicity, age, or level of education, confirming the random assignment of participants to each group. Additionally, no between-group differences were observed for fan identification.

One week after the deployment of the survey (i.e., 10 days after pre-notification), Groups 2 (pre/post) and 3 (post only) were sent a reminder email message (i.e., post-notification). The reminder message was only sent to participants in Group 2 and Group 3 who had not completed the survey prior to the date of post-notification. For all groups, data collection was closed two weeks after the initial deployment of the survey.

After the completion data collection, all nonrespondents were asked to participate in a shorter version of the survey that contained five items intended to assess the relationship between fan identification and survey participation. This shortened survey contained four demographic items (gender, age, zip code, and education) and one item that measured fan identification. Previous studies have used comparisons between early and late responders to look at nonresponse bias

(Dooley & Lindner, 2003; Jordan, Walker, Kent, & Inoue, 2011), a method based upon the assumption that late respondents are most similar to nonrespondents (Armstrong & Overton, 1977; Miller & Smith, 1983). In order to provide a more rigorous proxy for nonrespondents to the original survey, a second, shortened survey was distributed online to those who had not completed the original one to ascertain fan identification scores. A total of 417 responses were obtained from this group.

Measures

All four groups were linked to a survey that included 49 items that measured demographic, psychographic and behavioral variables related to being a fan of collegiate and/or professional sport teams. The data obtained was used to answer the four research questions developed for the study related to topic salience, response rate, and response quality.

Fan Identification: To assess the impact of topic salience on survey participation and data quality, fan identification was measured with five items developed by Mael and Ashforth (1992). This scale was modified for the current study by inserting the name of the team each participant identified as their “favorite team” instead of “name of school” as in the original scale. A Likert scale of 1 = *Strongly Disagree* to 5 = *Strongly Agree* was used to record responses. Based on previous research, this scale represents a sound measure of participants’ identification with a team (Gwinner & Swanson, 2003) and serves as an appropriate proxy for topic salience. For the shortened version of the survey completed by nonrespondents, one of the five items (“If a story in the media criticized the team, I would feel embarrassed”) was included in the questionnaire so that the relationship between fan identification and survey participation could be examined for respondents and nonrespondents.

Response Rate: The current study measured response rate as the number of returned surveys (completed and partially completed) divided by the total number of survey requests sent out, which is defined as Response Rate 2 (RR2) by the American Association for Public Opinion Research (AAPOR, 2009). This group identified six methods to calculate response rate depending on the purpose of the study, with RR2 being a common method used in survey research to calculate response rate (e.g., Abraham, Maitland, & Bianchi, 2006; Curtin, Presser, & Singer, 2005; Grellaw & Brown-Welty, 2009; Westrick & Mount, 2008).

Response Quality: Response quality was determined based on the item completion rate assessed by the number of completed items divided by the total number of items. The item completion rate is one of the

most frequently employed criteria to examine response quality (e.g., Deutschens et al., 2006; Munoz-Leiva et al., 2010; Schaefer & Dillman, 1998). For the present study, the item completion rate was calculated based on 49 common items presented to all four groups.

Data Analysis

Independent sample t-tests were conducted to examine fan identification between respondents and nonrespondents while bivariate correlation was performed to evaluate associations between fan identification and response quality. Chi-square analysis was used to detect differences of response rate among the four groups that received differing combinations of notification (including control group). As for notification strategy and response quality, the subsequent analysis revealed that the assumption of normality and homogeneity of variances between the groups was violated. Therefore, the nonparametric equivalent to ANOVA, Kruskal–Wallis test, was employed in this study as this test does not assume normality or equal variance of the dependent variables and can provide more robust results than ANOVA if the sample size of each group is not equal (Field, 2009).

Results

To examine the relationship between fan identification and survey participation, data from the initial survey (respondents) and the shortened survey sent to nonrespondents were compared. Independent sample t-tests revealed that there was no statistically significant difference on the fan identification item completed by both respondents ($M=2.41$, $SD=1.00$) and nonrespondents ($M=2.41$, $SD=.99$), $t(2112) = -.00$, $p=1.00$, indicating that fan identification did not influence survey participation in the present study. Additionally, no differences were found between respondents and the nonrespondent group across the four demographic items included in the shortened survey (gender, age, zip code, and education).

Data from those who completed the original survey indicated that fan identification was positively associated with response quality ($p=.04$). However, the correlation coefficients between the two variables was small ($\gamma(1716) = .05$). The mean score of the five fan identification items was 2.89 ($SD=.89$) ranging from 2.83 (Group 4) to 2.92 (Group 3). There was no statistical difference in fan identification between the four groups.

Response rates for Groups 1 (pre), 2 (pre/post), 3 (post) and 4 (control) are summarized in Table 2. As can be seen, Group 3 had the highest response rate at 10.7%. Chi-square analysis revealed a significant difference by four groups ($\chi^2(3)=81.89$, Cramer’s $V = .06$,

Table 1
Fan Identification by Group

Type of notification	N	Mean	SD	95% CI	
				LB	UB
Group 1 (pre)	412	2.87	0.94	2.78	2.96
Group 2 (pre/post)	389	2.91	0.87	2.82	2.99
Group 3 (post)	563	2.92	0.88	2.85	2.99
Group 4 (control)	352	2.83	0.87	2.74	2.92
All	1716	2.89	0.89	2.84	2.93

Note: No significant differences in fan identification were identified by type of notification.

$p < .01$). The post-hoc analysis showed that the response rate of Group 3 (post) was statistically higher than that of Group 1 (pre) ($\chi^2(1)=32.69$, Cramer's $V = .05$, $p < .01$), Group 2 (pre/post) ($\chi^2(1)=45.23$, Cramer's $V = .06$, $p < .01$), and Group 4 (control) ($\chi^2(1)=64.87$, Cramer's $V = .07$, $p < .01$). Additionally, Group 1 (pre) was statistically higher than Group 4 (control) ($\chi^2(1)=5.63$, Cramer's $V = .02$, $p = .02$). However, the effect sizes were small as Cramer's V ranged from .02 to .07. No significant difference on response rate was identified between Group 2 (pre/post) and Group 4 (control) ($\chi^2(1)=1.83$, Cramer's $V = .01$, $p = .18$).

Descriptive results of response quality across the four groups are presented in Table 3. The item completion rate for each group ranged from 90.0% (Group 3) to 92.5% (Group 1 and 2). The Kruskal–Wallis test indicated no significant differences between groups ($H(3)=2.54$, $p = .47$), suggesting that notification did not have an effect on response quality.

Discussion

This study examined the influence of fan identification and notification on two metrics commonly used to measure survey response: response rate and response quality. The current research represents an important extension of previous work to better understand whether mail-based methods designed to enhance survey response are equally effective for online survey research in sport marketing and, specifically, sport consumers.

Topic Salience

Overall, findings revealed that topic salience as measured by fan identification did not influence survey response. No relationship was observed between fan identification and survey participation. A significant correlation was identified between fan identification and response quality; however, the low correlation coefficient between the two variables suggests that caution should be used when considering this finding. Additionally, a significant relationship was demon-

strated between notification and response rate while no relationship was found between notification and response quality.

In contrast to previous work on topic salience (Anseel et al., 2010; Baruch, 1999; Sheehan & McMillan, 1999; Turner, et al., 2006), no evidence of a relationship with survey participation was observed. In the present study, no difference in the measure of fan identification was found between respondents and those that did not participate in the initial data collection. Prior work on the impact of topic salience on data collection through survey methods would suggest that respondents who scored higher on fan identification would have been more willing to participate in the study (e.g., Anseel et al., 2010; Sheehan & McMillan, 1999) as their psychological connection to the subject matter would provide an additional motivation that is not present for those with lower scores. Conversely, nonrespondents would have scored lower on this measure and would have had less interest in a study on sport fandom and therefore would be less likely to participate. One potential outcome of this would be the overrepresentation high fan identification group, whose overrepresentation in the sample could compromise the integrity of the results. However, in the present study this potential bias was not evident as fan identification scores did not differentiate respondents from nonrespondents.

The contrast between the findings of the present study and the prior investigations of topic salience and survey response raises two distinct possibilities. First, other factors besides the subject matter of the survey may have been considered when individuals made determinations about whether to participate or demonstrate the cognitive effort required to respond to survey items. Groves et al. (2004) suggested that if the information considered by respondents when deciding whether to respond does not include the survey topic, little difference between respondents and nonrespondents on variables related to the focus of the research (in this case, fan identification) will be evident. In

Table 2
Response Rate by Type of Notification

Notification method	# of surveys sent	# of respondents	Response rate (%)
Group 1 (pre)	5892	450	7.6
Group 2 (pre/post)	5892	421	7.1
Group 3 (post)	5892	629	10.7
Group 4 (control)	5893	384	6.5

Note: Response rate of Group 3 is statistically higher than that of all other three groups at $p < .01$. Response rate of Group 1 is higher than that of Group 4 at $p = .02$.

Table 3
Response Quality by Type of Notification

Type of notification	Mean (%)	SD	Median (%)
Group 1 (pre)	92.5	21.5	100.0
Group 2 (pre/post)	92.5	22.0	98.0
Group 3 (post)	90.1	25.4	98.0
Group 4 (control)	91.4	24.5	100.0

Note: No significant difference in response quality was identified by type of notification.

other words, people uninterested in the topic of a study are likely to be motivated to respond to a survey by other aspects of the survey request, such as the use of participation maximization techniques.

One such technique that has become an increasingly popular method of increasing response to online surveys is providing incentives. These have been shown to not only encourage individuals to open and begin the survey, but also to discourage dropout (Göriz, 2004). Additionally, a positive relationship was observed between the value of the incentive and its effectiveness. Further research by Göriz (2006) examined the effectiveness of different types of incentive systems (e.g., redeemable bonus points, money lottery, and gift lottery), finding that response quality and survey outcome were not affected. In order to maximize response rate in online surveys, additional investigation of the types of incentives and incentive systems that appeal to sport consumers should be encouraged.

Second, the contrast between the present findings and those of previous research may provide support for the idea that products relating to sports entities are consumed differently than those that are not. This refers to the unique relationships that sport consumers form with associated products and organizations (Shilbury et al., 2009; Sutton et al., 1997). It should be noted, however, that consumers of sport-related products will exist simultaneously as consumers of other

products; therefore, it is not that sport consumers possess unique characteristics, rather the unique outcomes of the psychological connections that consumers form with sport-related products that influence related behaviors. While topic salience may influence participation (or non-participation) in surveys relating to other areas, those concerned with sports teams, brands, or products may not be subject to the same motivations.

It is noteworthy that while motivation to provide survey response was not differentiated by fan identification, the relative quality of the response provided was positively correlated with level of identification. Caution should be used when considering this finding as the strength of the relationship was small; however, it warrants further investigation to determine if this relationship could be confirmed in other research. Conceptually it makes sense that individuals who are most interested in the topic of the study would demonstrate the greatest cognitive effort when providing response, but there is limited empirical support of the premise. Future work should include measures of topic salience, specifically measures of fan identification, when the topic of the study relates to sport consumption.

Response Rate

Consistent with previous work (Barrios et al., 2011; Munoz-Leiva et al., 2010), this study identified a positive and non-linear relationship between response rates

and the combination of pre- and post-notification in online surveys. First, no significant difference was found in response rate between the control group (Group 4) and the group that received multiple forms of notification (Group 2, pre/post). Second, both Group 1 (pre only) and Group 3 (post only) had response rates significantly higher than the control group. Third, Group 3 (post only) had a response rate significantly greater than the other three groups. The results suggest that increasing the number of notifications will not equate to a positive increase in overall response, especially when compared with groups who received only one notification. This represents an extension of Munoz-Leiva et al. (2010), who found that increasing the frequency of post-notifications (i.e., follow-up messages) had only a marginal effect on response rates. This can be explained by the negative perceptions participants associate with the electronic delivery of multiple notifications that request participation in a research study (Anderson & Kanuka, 2003; Solomon, 2001). Recent work illustrates that individuals receive an average of 32 emails per day (Radicati & Hoang, 2010) compared with four documents sent via postal mail (Mazzone & Pickett, 2010). Dillman et al. (2009) suggested that one reason multiple notifications may not be as effective with online survey research is the frequency of email correspondence individuals receive compared with mail correspondence.

According to these authors, individuals are more likely to ignore or forget about notification messages, especially if they are unsolicited requests for study participation. Therefore, while the use of multiple notifications has been shown to increase response rates with mail-based survey research (Dillman et al., 2009), findings from this study suggest that there may be limited incremental benefit for using multiple contacts (i.e., pre- and post-notifications) to maximize survey response with online survey research for sport consumers. With online research it appears that one notification message might be optimal in terms of increasing response rate.

Based on findings from the present study, it would also appear that utilization of post-notification is more likely to yield the expected increase to response rate compared with pre-notification. One reason that post-notification might be more effective in increasing response rates is the underlying mechanism contributing to survey nonresponse. In general, participant nonresponse can be categorized as either passive or active nonresponse (Jordan et al., 2011; Rogelberg, Conway, Sederburg, Spitzmüller, Aziz, & Knight, 2003). Passive nonresponse is unintentional in nature and is normally not based on a conscious or overt decision to decline participation in a research study (Jordan et al., 2011).

Individuals classified as passive nonrespondents are normally not opposed to participating in a study but for various reasons, such as forgetfulness or personal time constraints, are unable to complete the survey. In contrast, active nonrespondents are those individuals who consciously and purposefully choose not to respond to a survey request. Given the high number of emails received on a daily basis (Dillman et al., 2009) individuals might find it easy to forget or even ignore survey solicitation messages. The use of post-notification techniques in online surveys could remind passive nonrespondents of the potential rewards of survey participation and thus be a more effective method to increase overall response rates with this group. Among active nonrespondents, however, the negative effects associated with multiple notifications may be greater than perceived benefits of survey participation. As a result, refusal to participate in the survey does not change despite the use of different response maximization strategies (e.g., post-notification or other inducements) and the use of post-notification is unlikely to increase survey response with active nonrespondents. Therefore, when choosing between pre- and post-notification, it appears studies that incorporate pre-notification into the research design rather than post-notification would not realize this same benefit, as no reminder would be sent to prompt action. So, as suggested by Dillman et al. (2009), one modification that could be made to notification strategies for online surveys when utilizing online data collection methods is the elimination of one or more contacts, specifically the use of pre-notification.

Response Quality

The present study found a relationship between response rate and use of notification; however, no such relationship was evident with response quality. The item completion rate for each of the four groups was similar and no significant differences were evident. This finding is consistent with Deutskens et al. (2004) who measured response quality and found no significant difference based on the use of early and late notification. Additionally, Munoz-Leiva et al. (2010) concluded there were no significant differences between the number of post-notification messages sent and response quality. This work combined with findings from the current study suggest that once an individual decides to participate in an online research study the use of notification does not impact the willingness to respond to survey items. So, while notification might prompt study participation, it does not appear to impact the degree to which the person responds to survey items. It should also be noted that item completion rates for all groups were relatively

high, ranging from a low of 90% (Group 3) to a high of 92.5% (Groups 1 and 2) suggesting that online survey formats might allow for more convenient response options resulting in a higher completion rates compared with mail-based survey research (Deutskens et al., 2004; Kwak & Radler, 2002).

Limitations and Future Research

As in all research, the present study includes limitations that must be considered when evaluating results. First, the overall response rate for this study was low, which increases the threat of nonresponse error. If data obtained from respondents are significantly different from what would have been provided by nonrespondents, the external validity and reliability of the study is compromised. Given the research focus and design of the current study, the use of established response maximization strategies could not be employed uniformly across all four groups (e.g., postnotification), likely impacting overall response. Future research should attempt to confirm findings from the present study with other samples. Second, the high item completion rates across four groups (over 90%) may introduce some restrictions in examining the relationship between notification techniques and response quality. Online survey formats can result in higher completion rates compared with mail-based survey research (Kwak & Radler, 2002; Schaefer & Dillman, 1998). Due to the small variation of the item completion rates, however, it may be harder to detect the relationship. Future research may consider developing questionnaires that produce greater variation in item completion rates.

Conclusion

The use of online data collection techniques in sport management research, specifically those involving sport consumers, has increased in recent years. The findings of the present study demonstrate that willingness to respond to online surveys and the quality of those responses are not impacted by topic salience among sport consumers. This supports the use of such data collection methods for researching this population, alleviating concerns of the overrepresentation of individuals for whom the subject of the survey is more relevant.

Another method that has been shown to improve survey response, specifically the response rate of a survey, is the use of notification. While the findings of the present study confirm the value of notification, this study found that the use of multiple notifications might not be the best strategy with online data collection as it did not increase survey response. Additionally, it was revealed that the use of post-notifi-

cation resulted in a response rate significantly higher than all other notification treatments. Hence, efforts to collect information on sport consumers using online surveys would be enhanced by a post-notification-only method.

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The authors would like to acknowledge the Sport Industry Research Center at Temple University for support of this research.