



Attitude Towards Marketing Surveys: The Comparison of Student and Non-Student Samples

Ufuk Pala¹ , Kalender Özcan Atılğan² 

Abstract

Using student samples in marketing research is a debated issue. This study aims to test the differences in attitude towards surveys and marketing surveys between student and non-student samples, the variation differences in attitude towards surveys and marketing surveys between student and non-student sample, the differences among sample groups by means of the impact of different types of promised incentive. The sample of the study consists of two convenient sample groups (student and non-student samples). The survey was applied online and face-to-face to randomly selected 94 college students and 90 non-student individuals. The results demonstrate that there is a difference in attitude towards surveys but not for marketing surveys. While results measuring survey value results are mixed, there is no difference in variation of attitude towards marketing surveys for student and non-student samples. Also, no significant differences exist for the incentives related to the attitude towards marketing surveys.

Keywords

Student sample, Generalizability, Marketing research, Marketing survey attitude

1 Corresponding author: Ufuk Pala (Asst. Prof.), Giresun University, Faculty of Economics and Administrative Sciences, Department of Business Administration, Giresun, Türkiye. E-Mail: palaufuk@yahoo.com ORCID: 0000-0002-1326-0501
2 Kalender Özcan Atılğan (Assoc. Prof.), College of Erdemli Applied Technology and Management, Department of Business Information Management, Mersin, Türkiye. E-mail: atilgan@mersin.edu.tr ORCID: 0000-0003-1482-4505

To cite this article: Pala, U., Atılğan, K.O. (2022). Attitude towards marketing surveys: the comparison of student and non-student samples. *Istanbul Management Journal*, 92, 47-60. <http://doi.org/10.26650/imj.2022.92.003>

1. Introduction

Marketing research relies mostly on student samples in empirical testing which is an issue that social scientists have debated about its benefits and dangers in recent years (Ashraf & Merunka, 2017; Peterson, 2001). Due to the convenience and low cost of using student sample, it has been a much-used data source, especially for academic researchers (Cunningham, Anderson, & Murphy, 1974, p. 399; Enis, Cox, & Stafford, 1972; Gordon, Slade, & Schmitt, 1986). However, considering the differences between individuals in life periods, college students are thought to have “less defined attitudes, less formulated self-feelings, stronger cognitive skills, stronger tendency to conform to authority and more unstable peer-group relationships compared to non-student adults” (Sears, 1986, p. 515). This argument has been the most important criticism about the use of student samples especially in theory tests. Some of the studies show that the students are separated into different groups both in theory development and in the answers given to the questionnaires (Burnett & Dunne, 1986). Besides, it has been claimed that student samples are more homogenous than non-student samples (Peterson, 2001). Therefore, several questions were raised related to representativeness, generalizability and comparability of student samples.

Despite all these arguments above, there are also proponents of using student samples in research. They state that using a student sample in research is not wrong, but researchers should be more careful about the data obtained from the student sample in reaching the generalizable results, and the biases that will affect the results should be minimized (Ashraf & Merunka, 2017; Henry, 2008). Even some researchers defend using student samples on theory testing related to human behaviors and psychological investigations (Kardes, 1996; Lucas, 2003). Thus, it would be more appropriate to evaluate research according to the scope of the theory to be examined or the main purpose of the study, rather than avoiding the student sample usage.

Some of the studies (Clevenger, Lazier, & Clark, 1965; Cunningham et al., 1974; Espinosa & Ortinau, 2016) reveal the socio-psychological and behavioral similarities of the general consumers, especially in marketing studies of the student sample. In order to examine whether the student sample differs from the non-student sample, it is necessary to examine whether there is a difference between the two independent samples.

2. Concept and Hypotheses Development

In general, marketing research tends to study the attitudes towards a particular product or a service to examine the buying potential of individuals. Since willingness to participate in surveys affects the quality of the research results, it is vital to understand primarily the individuals' attitude towards marketing surveys in order to obtain an

accurate source of information. Therefore, this study seeks to measure the attitude towards marketing surveys to reveal whether there is a difference between students and non-student adults. Additionally, the postulate that students are more homogenous than non-student adults should also be investigated. The second aim of this study is to analyze the variation of the student and non-student samples to examine the homogeneity of these two samples.

2.1. Generalizability issue

Debate on student sample usage tended to concentrate on whether the results obtained from the student sample are generalizable to the non-student population (Peterson & Merunka, 2014). Researchers conducting studies based on student samples “should be able to demonstrate that their results are generalizable to situations that they want to shed light on in real life” (Bello, Leung, Radebaugh, Tung, & van Witteloostuijn, 2009, p. 362).

Generalizability is often expressed as “external validity”. Campbell (1957), who put forward the concept for the first time, stated that external validity means the effect under research can be generalized to research population, environment and variables. In theoretical research, it is thought that external validity should be questioned primarily and research with poor external validity does not test the theory adequately (Calder, Phillips, & Tybout, 1982). Providing external validity can be in two ways (Ashraf & Merunka, 2017): (1) the better a study design explains real-life events (the study needs to be repeated in different samples), (2) or the more precise and holistic a study in terms of theoretical simulation, the more it can be generalizable.

Another type of study is the generalization of the data obtained from the student sample to the student population only. This is called “partial generalization”. If the aim of the research is not to generalize results to the whole population, sampling student subjects can be appropriate for the study (Compeau, Marcolin, Kelley, & Higgins, 2012). Considering that the student sample has a homogenous structure (Peterson, 2001) and unique characteristics (Sears, 1986), it is thought that the sample characteristics can be easily transferred to other student groups. For example, if marketing researchers only want to examine the effect of students’ attitudes towards an innovative product, such research can be conducted without generalizability issues.

Using the heterogeneous non-student sample is considered to be the best way to analyze entire consumer behavior in a holistic manner in marketing research. However, taking its cost-effectiveness and convenience into consideration, it would not be wrong to use a student sample that is properly explained and can be generalized to other consumer groups. According to Compeau et al. (2012), generalizable results of student-based research can be presented if “(a) students are part of the population, (b) or similar conditions are aligned” (p. 1100).

As mentioned earlier, some studies claim that student samples differ from non-student consumer samples in certain respects (Burnett & Dunne, 1986; Enis et al., 1972; Ford, 2016; Peterson, 2001; Sears, 1986). However, it is the researchers' task to explain whether the studies they conducted with a student sample represent consumer groups and are applicable to the whole population. This can be done by comparing the distributions of the sample or by explaining the similar characteristics of the sample with the research population of the study (Ferber, 1977). In this study, we examine whether the student sample has similar characteristics with the non-student sample. Within this context, we focus on the generalizability of the student sample to the non-student sample examining their attitude towards marketing surveys.

2.2. Attitude towards marketing surveys

An attitude towards a certain behavior occurs in relation to the belief that behavior will have positive results (Ajzen & Fishbein, 1980). In other words, behavioral beliefs create the attitude towards a behavior. Surveys are a source of strength that uniquely gathers the desired information about the society. Therefore, it is necessary to evaluate the attitudes of the individuals participating in the survey and to reveal their preferences correctly.

Although the examination of the attitude towards surveys first dates back to the past (Sjoberg, 1955), there are a few studies in the literature since then. Surveys are frequently used in research methods. The attitude of the respondents towards questionnaires affects many factors on the data obtained, especially the data quality. (Rogelberg, Fisher, Maynard, Hakel, & Horvath, 2001). On the other hand, it is proposed that studies can be conducted in order to validate findings internally and externally using non-student samples (Le, Cheng, Lee & Jain, 2012: 613).

According to Goyder (1986), respondents who show a positive attitude towards surveys are usually individuals who have responded to a survey before. Respondents, who did not want to respond to a survey for the first time but were persuaded for the second time, show a negative attitude towards the surveys (Stinchcombe, Jones, & Sheatsley, 1981). In this case, it can be said that first of all, the past survey experiences of the respondents will shape their attitude towards the surveys. On the other hand, private or sensitive questions in surveys negatively affect respondents' attitudes towards surveys (Stocké, 2006). Using closed-ended questions instead of open-ended questions is also time-efficient, making it easier for participants to answer questionnaires voluntarily (Rogelberg et al., 2001).

Survey attitude measure consists of two dimensions: survey enjoyment and survey value (Rogelberg et al., 2001). These dimensions are the most important factors that affect the attitude towards surveys are the enjoyment and value of the surveys (de

Leeuw, Hox, Silber, Struminskaya, & Vis, 2019; Rogelberg et al., 2001). Respondents who find answering the questionnaire enjoyable or valuable show a positive attitude towards the surveys. Survey enjoyment represents the positive perception of individuals towards surveys. To assess whether the respondents like to participate in surveys and the difference between student sample and non-student sample, we hypothesized:

H1a: Significant differences exist in the attitude towards survey enjoyment between students and non-student samples.

Survey value reflects the individual's own attributed importance to the surveys. A respondent who thinks that much can be learned from information gathered from the surveys finds the surveys valuable. To reveal if there's a difference between student sample and non-student sample according to the survey value, we hypothesized:

H1b: Significant differences exist in the attitude towards survey value between students and non-student samples.

After measuring the attitude towards surveys, we investigate the attitude towards marketing surveys. Marketing surveys generally try to gather information for a particular product or a service in order to understand the buying potential of the individuals. Implications of marketing surveys help academicians or marketers to figure out consumers' needs and their expectations. In order to obtain an accurate source of information from the consumers, academicians or companies need to understand the attitude towards marketing surveys at first (Roster, Rogers, Hozier, Baker, & Albaum, 2007; Singh, Howell, & Rhoads, 1990). As mentioned before, marketing research heavily relies on student samples and it is important to investigate whether student samples provide an accurate estimation of the consumer population itself. Thus, we hypothesized:

H2: Significant differences exist in the attitude towards marketing surveys between student and non-student samples.

The assumption that college students are more homogenous than non-student adults (Ashraf & Merunka, 2017; Calder, Phillips, & Tybout, 1981; Greenberg, 1987; Peterson, 2001; Peterson & Merunka, 2014; Sears, 1986) is substantive in social sciences research. Researchers claim that similar demographic and psychographic features of college students cause less variation according to answers given in the surveys (Peterson & Merunka, 2014; Sears, 1986). Current research examines whether there is a difference in the variation in the attitude towards surveys and marketing surveys. Thus, we hypothesized:

H3a: Significant differences exist in the variation of attitude towards survey value for students and non-student samples.

H3b: Significant differences exist in the variation of attitude towards survey enjoyment for students and non-student samples.

H4: Significant differences exist in the variation of attitude towards marketing surveys for students and non-student samples.

To encourage the willingness to participate in surveys, incentives are also a tool to increase participation. Some reasons that incentives increase participation are (Ryu, Couper, & Marans, 2005); (1) participant's cost-benefit calculation for the completion of survey, (2) positive attitudes towards a favorable incentive, (3) reciprocity whereby the respondent feels obligated to fill the survey, (4) leveraging salience towards the survey. For the college students, incentives would be extra credits, small gifts, or cash (Espinosa & Ortinau, 2016; Groves, Cialdini, & Couper, 1992; Ryu et al., 2005). While students are more eager to favor incentives to participate in surveys (Malaviya & John, 2001; Tangpong & Ro, 2008), non-student adults can find incentives meaningless. Also, some researchers consider students as volunteer research participants, so they think that college students will be eager to participate in surveys. To reveal whether there is a difference between student and non-student study groups related to survey incentives, we hypothesized:

H5: Significant differences exist in the incentives for attitude towards marketing surveys for study groups.

3. Method

3.1. Sampling Procedure

The sample of the study consists of both student and non-student individuals. Gordon et al. (1986) asserted that to present the strongest proof of generalizable results, data should be collected from student and non-student subjects under exact conditions. Therefore, two convenient sample groups (student and non-student samples) were selected for the current study. 184 usable responses were returned in total from the 220 questionnaires. College students are randomly selected from a major state university located in the south of Turkey and the non-student sample consists of individuals residing in the same region. The survey was applied online and face-to-face to randomly selected individuals on a voluntary basis, 94 college students and 90 non-student individuals volunteered to participate in the study and answered the statements in the questionnaire. In case of survey studies using combination of different survey modes, it is still ambiguous whether there are significant differences among survey modes. It is important by whom the surveys are answered rather than how they are answered for the representation of the sample (Lindhjem & Navrud, 2011).

This study was carried out in two stages. First, the participants were asked to answer the statements about measuring their attitude towards surveys. In the second stage, scenarios were read by the participants. In order to investigate the effect of incentives on study variables for student sample, each attendee was randomly assigned to one of the three scenarios (e.g., volunteer participation, 5 points extra credit, and 10 Turkish Liras) and for non-student sample, each attendee was randomly assigned to one of the two scenarios (volunteer participation and 10 Turkish Liras). In the scenario, respondents are asked to participate in a survey that will take approximately 15 minutes to complete in a scientific research on marketing at the university. In the following scenario of the questionnaire, respondents are asked to complete the survey on attitude towards marketing surveys.

The student respondents consisted of 63% female (n=59), and 35% male (n=35) and the non-student respondents consisted of 56% female (n=50) and 44% male (n=40). The mean age of the student sample was 22,01 years (SD=1.94) and the mean age of the non-student sample was 35,56 years (SD=10.46). The age of the students ranged from 18 to 26 and the age of the non-student subjects ranged from 23 to 66.

3.2. Measurements

The statements in the questionnaire consist of closed-ended scale items to be responded easily. In order to measure survey value and survey enjoyment dimensions, the scale developed by Rogelberg et al. (2001) was used. Overall attitudinal score was formed with a five-point continuous rating scales, where each scale point is narratively described as ranging from 1=totally disagree to 5=totally agree. By following the suggestions on adjective-pairs of the item pool developed by Osgood, Suci, and Tannenbaum (1957), the scale used by Bosnjak and Batinic (2002) was adapted to form the attitude towards marketing surveys scale. In order to facilitate a comparison over their attitudes, the respondents were given a standardized list of bipolar adjective-pairs on a seven-point scale ranging from 1=good to 7=bad, 1=positive to 7=negative and 1=interesting to 7=not interesting, 1=fine to 7=not fine (Appendix A. Survey Questionnaire).

3.3. Validity and Reliability

SPSS AMOS was used to perform confirmatory factor analysis on the data obtained in this empirical study. As a result of confirmatory factor analysis CMIN/DF = 1.976 \leq 3 ($p = 0.000 < 0.001$), CFI = 0.968 \geq 0.9, IFI = 0.968 \geq 0.9 and RMSEA = 0.073 \leq 0.08 values were obtained. The wellness indices calculated as a result of CFA show that the scales have a good fit (Schermelele-Engel, Moosbrugger, & Müller, 2003).

Table 1
Reliability and Validity Assessments

Variable	Items	Factor Loading	AVE	CR	Cronbach's Alpha
Survey Enjoyment	SE1	0.514	0.659	0.846	0.814
	SE2	0.946			
	SE3	0.905			
Survey Value	SV1	0.799	0.486	0.737	0.729
	SV2	0.635			
	SV3	0.646			
Attitude Towards Marketing Survey	MS1	0.826	0.610	0.860	0.871
	MS2	0.932			
	MS3	0.646			
	MS4	0.687			

According to Fornell and Larcker (1981), as a conservative estimator of convergence validity, they stated that the calculated mean variance (AVE) should be higher than 0.5. On the other hand, if the AVE is less than 0.5 and the compound reliability (CR) is higher than 0.6, it is known that the convergent validity of the construct is still sufficient (Fornell & Larcker, 1981, p. 46). Accordingly, as seen in Table 1, convergence validity of the scales used in the study can be accepted.

4. Data Analysis and Results

The aim of the research is to test the equality of means and variations among independent samples. Widely used test statistics for the equality of means are ANOVA, Welch, and Brown-Forsythe (Brown & Forsythe, 1974). Since assumption related problems such as sensitivity to a lack of homogeneity of within group variances or deviation from normality of the distributions in ANOVA, Welch or Brown-Forsythe tests are alternatively used (Brown & Forsythe, 1974). On the other hand, in case of the distributions deviate from normality, the Welch test is known to perform reasonably better than the Brown-Forsythe (Gamage & Weerahandi, 1998).

Homogeneity or variability of two sample groups (i.e., student and non-student) was investigated by assessing the variance of the response to the questionnaire variables. F-ratio tests were conducted to compare the difference between variations of the study groups. The summary of the research results of the hypotheses are provided in Table 2.

The first three hypotheses are to investigate whether the student sample represent the population in terms of attitude towards survey. Welch test shows the differences between two independent samples. The test results indicate that, on average, attitude towards survey value of student sample (StudATSV = 4.22) are significantly different than those attitude towards survey value of non-student sample (NonStudATSV = 3.95; $p < .05$). Thus, H1a is supported. The test results also support differences in the

attitude towards survey enjoyment between student and non-student samples (sample (StudATSE = 3.40; NonStudATSE = 3.04; $p < .05$), providing empirical evidence supporting H1b. H2 predicts that there is a difference between student and non-student sample according to the attitude towards marketing surveys. The test results fail to support differences in the attitude towards marketing surveys between student and non-student samples (StudATMS = 4.78; NonStudATMS = 4.81; $p > .05$); thus; H2 is not supported.

To investigate the postulate that students are more homogenous than non-student adults, H3a, H3b and H4 predicts that there is a difference between student and non-student samples according to the homogeneity. Hypothesis testing the differences in the variation of attitude towards survey value between students and non-student samples is supported (StudVariatATSV = 0.472; NonStudVariatATSV = 0.843; $p < .05$). On the other hand, the test results did not support the differences in the variation of attitude towards survey enjoyment between students and non-student samples (StudVariatATSE = 1.077; NonStudVariatATSE = 1.394; $p > .05$). Hypothesis H4, concerning differences in the variation of attitude towards marketing surveys for students and non-student samples is not supported (StudVariatATMS = 2.046; NonStudVariatATMS = 2.166; $p > .05$). The test results did not provide empirical evidence that, there are any significant differences in the incentives for attitude towards marketing surveys for study groups ($p > .05$), thus H5 is not supported.

Table 2

Overview of the results of hypothesis testing

Hypotheses	n	M	SE	σ	σ^2	Welch F-value / F ratio	Results
H1a: Significant differences exist in the attitude towards survey enjoyment between student and non-student samples.	[n = 94] [n = 90]	3,40 3,04	0,11 0,12	1,04 1,18	1,081 1,392	5,003*	Supported (0,027<0,05)
H1b: Significant differences exist in the attitude towards survey value between student and non-student samples.	[n = 94] [n = 90]	4,22 3,95	0,07 0,09	0,68 0,92	0,462 0,846	4,860*	Supported (0,029<0,05)
H2: Significant differences exist in the attitude towards marketing surveys between student and non-student samples.	[n = 94] [n = 90]	4,78 4,81	0,15 0,16	1,43 1,47	2,044 2,160	0,022*	Not supported (0,881>0,05)
H3a: Significant differences exist in the variation of attitude towards survey value for students and non-student samples.	[n = 94] [n = 90]	4,216 3,952	0,070 0,096	0,687 0,918	0,472 0,843	1,783**	Supported (0,0031<0,05)

H3b: Significant differences exist in the variation of attitude towards survey enjoyment for students and non-student samples.	[n = 94] [n = 90]	3,403 3,037	0,107 0,124	1,037 1,180	1,077 1,394	1,294**	Not supported (0,109>0,05)
H4: Significant differences exist in the variation of attitude towards marketing surveys for students and non-student samples.	[n = 94] [n = 90]	4,781 4,813	0,147 0,155	1,430 1,471	2,046 2,166	1,058**	Not supported (0,392>0,05)
H5: Significant differences exist in the incentives for attitude towards marketing surveys for study groups.	[n = 30] [n = 34] [n = 30] [n = 45] [n = 45]	5,066 5,014 4,233 4,783 4,844	0,307 0,212 0,225 0,224 0,216	1,682 1,236 1,236 1,506 1,453	2,829 1,527 1,527 2,268 2,111	1,962*	Not Supported (0,108>0,05)

Note: *Welch test results; ** F-ratio test results.

5. Discussion

This study focuses on providing perspectives for future research based on the differences between student and non-student samples. As regards to dimensions of attitude towards surveys (e.g., survey enjoyment, survey value), the results of H1a and H1b show that there is a significant difference between student and non-student samples. However, the results of H2 show that there is no any significant difference between student and non-student samples according to the attitude towards marketing surveys.

By testing the variation of two independent samples, we examined the degree of similarity of student and non-student samples separately. The results of H3a show that significant differences exist in the variation of attitude towards survey enjoyment for student and non-student samples. These results may confirm the assumption that students are affected from common demographic and psychographic characteristics (Peterson, 2001; Peterson & Merunka, 2014; Sears, 1986) while participating in a survey. However, the results of H3b and H4 shows that significant differences do not exist in the variation of attitude towards survey enjoyment and attitude towards marketing surveys for student and non-student samples.

As can be seen, the results are mixed. These results show that it is not certain that students differ completely from non-student adults and “homogeneity of a sample group should not be based primarily on demographic groups, but should also use pertinent non-demographic factors including attitudinal, affective, psychographic, knowledge, experiential and motivational factors”(Espinosa & Ortinou, 2016). The accurate representativeness of student samples for the whole population can only be achieved by replication of studies with non-student samples. Therefore, generalizability of student samples still remains as an empirical question.

While conducting a research, researchers' task is to identify and scrutinize the target population. Besides, researchers should be careful about the data obtained from the student sample to reach the generalizable results. When applicable, source of data should be enriched by using non-student subjects and the biases that will affect the results should be minimized.

These findings suggest that, by specifying certain conditions, the differences between student and non-student samples can be eliminated and these two samples may show similar characteristics in experimental studies.

Another finding of this study shows the fact that incentives do not have an effect on groups is a proof of the similarities between student and non-student samples. This study has been carried out in a city located in south of Turkey, study findings of the data obtained from students and non-student individuals reflect the cultural characteristics of respondents. Turkey, which has a high power distance, is known as a collectivist culture (Hofstede, 2001). In this cultural framework, it was observed that the attitude of the non-student sample towards the questionnaire was similar to the student sample as a result of the individuals participating in the study giving institutional information about participating in the survey (information that it was a research conducted at the university).

In this study, the attitude variable towards the marketing surveys was discussed. In this way, it was aimed to determine the differences of the samples according to their responses to the variables, as well as to determine the attitude towards the surveys. For the future studies, more generalizable ideas can be formed with the results of whether there are differences according to different marketing variables.

6. Limitations and Future Research

These results may differ for different surveys or scales. For the attitude towards marketing surveys, culture can also be a differentiating factor for the results. Therefore, different results can be observed for different cultures. The respondents of the attitude towards marketing surveys are those who accept to complete the survey, so the sample cannot be generalized as it does not include those who do not agree to participate in the survey. In terms of incentives, this study focused on extra credits and cash. Nowadays, most of the studies conduct their research using online surveys, thus, incentives like internet discount coupons or coupons for a membership of a web site can be investigated.

It is suggested that the results of this study, like many other studies conducted in the field of social sciences, cannot be generalized due to the fact that results are limited only to respondents of this study and these results should be expanded with studies that will be carried out on different samples in different cultures.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The authors have no conflict of interest to declare.

Grant Support: The authors declared that this study has received no financial support.

Author Contributions: Conception/Design of Study- ; Data Acquisition- U.P., K.Ö.A.; Data Analysis/Interpretation- U.P., K.Ö.A. ; Drafting Manuscript- U.P.; Critical Revision of Manuscript- K.Ö.A.; Final Approval and Accountability- U.P., K.Ö.A.

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemiştir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadığını beyan etmiştir.

Yazar Katkıları: Çalışma Konsepti/Tasarım- K.Ö.A.; Veri Toplama- U.P., K.Ö.A.; Veri Analizi/Yorumlama- U.P., K.Ö.A.; Yazı Taslağı- U.P.; İçeriğin Eleştirel İncelemesi- K.Ö.A.; Son Onay ve Sorumluluk- U.P., K.Ö.A.

References

- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, N.J.: Prentice-Hall.
- Ashraf, R., & Merunka, D. (2017). The use and misuse of student samples: An empirical investigation of European marketing research. *Journal of Consumer Behaviour*, 16(4), 295-308. doi:https://doi.org/10.1002/cb.1590
- Bello, D., Leung, K., Radebaugh, L., Tung, R. L., & van Witteloostuijn, A. (2009). From the Editors: Student samples in international business research. *Journal of International Business Studies*, 40(3), 361-364. doi:10.1057/jibs.2008.101
- Bosnjak, M., & Batinic, B. (2002). Understanding the Willingness to Participate in Online Surveys: the case of e-mail questionnaires. In U.-D. R. Bernad Batinic & M. B. A. Werner (Eds.), *Online social sciences* (Vol. 81, pp. 92).
- Brown, M. B., & Forsythe, A. B. (1974). The Small Sample Behavior of Some Statistics Which Test the Equality of Several Means. *Technometrics*, 16(1), 129-132. doi:10.2307/1267501
- Burnett, J. J., & Dunne, P. M. (1986). An appraisal of the use of student subjects in marketing research. *Journal of Business Research*, 14(4), 329-343. doi:https://doi.org/10.1016/0148-2963(86)90024-X
- Calder, B. J., Phillips, L. W., & Tybout, A. M. (1981). Designing Research for Application. *Journal of Consumer Research*, 8(2), 197-207. Retrieved from http://www.jstor.org/stable/2488831
- Calder, B. J., Phillips, L. W., & Tybout, A. M. (1982). The Concept of External Validity. *Journal of Consumer Research*, 9(3), 240-244. doi:10.1086/208920
- Campbell, D. T. (1957). Factors relevant to the validity of experiments in social settings. *Psychological Bulletin*, 54(4), 297-312. doi:10.1037/h0040950
- Clevenger, T., Lazier, G. A., & Clark, M. L. (1965). Measurement of Corporate Images by the Semantic Differential. *Journal of Marketing Research*, 2(1), 80-82. doi:10.2307/3149342
- Compeau, D., Marcolin, B., Kelley, H., & Higgins, C. (2012). Research Commentary: Generalizability of Information Systems Research Using Student Subjects—A Reflection on Our Practices and Recommendations for Future Research. *Information Systems Research*, 23(4), 1093-1109.
- Cunningham, W. H., Anderson, W. T., & Murphy, J. H. (1974). Are Students Real People? *The Journal of Business*, 47(3), 399-409.
- de Leeuw, E., Hox, J., Silber, H., Struminskaya, B., & Vis, C. (2019). Development of an international survey attitude scale: measurement equivalence, reliability, and predictive validity. *Measurement Instruments for the Social Sciences*, 1(1), 9. doi:10.1186/s42409-019-0012-x

- Enis, B. M., Cox, K. K., & Stafford, J. E. (1972). Students as Subjects in Consumer Behavior Experiments. *Journal of Marketing Research*, 9(1), 72-74. doi:10.2307/3149612
- Espinosa, J. A., & Ortinau, D. J. (2016). Debunking legendary beliefs about student samples in marketing research. *Journal of Business Research*, 69(8), 3149-3158. doi:https://doi.org/10.1016/j.jbusres.2015.12.003
- Ferber, R. (1977). Research By Convenience. *Journal of Consumer Research*, 4(1), 57-58. doi:10.1086/208679
- Ford, J. B. (2016). Cost vs credibility: the student sample trap in business research. *European Business Review*, 28(6), 652-656. doi:10.1108/EBR-08-2016-0100
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50. doi:10.2307/3151312
- Gamage, J., & Weerahandi, S. (1998). Size performance of some tests in one-way anova. *Communications in Statistics - Simulation and Computation*, 27(3), 625-640. doi:10.1080/03610919808813500
- Gordon, M. E., Slade, L. A., & Schmitt, N. (1986). The "Science of the Sophomore" Revisited: From Conjecture to Empiricism. *The Academy of Management Review*, 11(1), 191-207. doi:10.2307/258340
- Goyder, J. (1986). Surveys on Surveys: Limitations and Potentialities. *The Public Opinion Quarterly*, 50(1), 27-41.
- Greenberg, J. (1987). The College Sophomore as Guinea Pig: Setting the Record Straight. *The Academy of Management Review*, 12(1), 157-159. doi:10.2307/258001
- Groves, R. M., Cialdini, R. B., & Couper, M. P. (1992). Understanding The Decision to Participate in a Survey. *The Public Opinion Quarterly*, 56(4), 475-495.
- Henry, P. J. (2008). College Sophomores in the Laboratory Redux: Influences of a Narrow Data Base on Social Psychology's View of the Nature of Prejudice. *Psychological Inquiry*, 19(2), 49-71. doi:10.1080/10478400802049936
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*: Sage publications.
- Kardes, F. R. (1996). In Defense of Experimental Consumer Psychology. *Journal of Consumer Psychology*, 5(3), 279-296. doi:https://doi.org/10.1207/s15327663jcp0503_04
- Le, A. N. H., Cheng, J. M. S., Lee, Y. H., & Jain, M. (2012). Brand extension: using parent brand personality as leverage. *Asia Pacific Journal of Marketing and Logistics*, 24(4), 599-618.
- Lindhjem, H., & Navrud, S. (2011). Using internet in stated preference surveys: a review and comparison of survey modes. *International Review of Environmental and Resource Economics*, 5, 309-351.
- Lucas, J. W. (2003). Theory-Testing, Generalization, and the Problem of External Validity. *Sociological Theory*, 21(3), 236-253. doi:10.1111/1467-9558.00187
- Malaviya, P., & John, D. R. (2001). Recruiting Experimental Participants. *Journal of Consumer Psychology*, 10(1/2), 115-117.
- Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. (1957). *The measurement of meaning*. Oxford, England: Univer. Illinois Press.
- Peterson, R. A. (2001). On the Use of College Students in Social Science Research: Insights from a Second-Order Meta-analysis. *Journal of Consumer Research*, 28(3), 450-461. doi:10.1086/323732

- Peterson, R. A., & Merunka, D. R. (2014). Convenience samples of college students and research reproducibility. *Journal of Business Research*, 67(5), 1035-1041. doi:<https://doi.org/10.1016/j.jbusres.2013.08.010>
- Rogelberg, S. G., Fisher, G. G., Maynard, D. C., Hakel, M. D., & Horvath, M. (2001). Attitudes toward Surveys: Development of a Measure and Its Relationship to Respondent Behavior. *Organizational Research Methods*, 4(1), 3-25. doi:10.1177/109442810141001
- Roster, C. A., Rogers, R. D., Hozier, G. C., Baker, K. G., & Albaum, G. (2007). Management of Marketing Research Projects: Does Delivery Method Matter Anymore in Survey Research? *Journal of Marketing Theory and Practice*, 15(2), 127-144. doi:10.2753/MTP1069-6679150203
- Ryu, E., Couper, M. P., & Marans, R. W. (2005). Survey Incentives: Cash vs. In-Kind; Face-to-Face vs. Mail; Response Rate vs. Nonresponse Error. *International Journal of Public Opinion Research*, 18(1), 89-106. doi:10.1093/ijpor/edh089
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the Fit of Structural Equation Models: Tests of Significance and Descriptive Goodness-of-Fit Measures. *Methods of Psychological Research*, 8(2), 23-74.
- Sears, D. O. (1986). College sophomores in the laboratory: Influences of a narrow data base on social psychology's view of human nature. *Journal of Personality and Social Psychology*, 51(3), 515-530. doi:10.1037/0022-3514.51.3.515
- Singh, J., Howell, R. D., & Rhoads, G. K. (1990). Adaptive Designs for Likert-Type Data: An Approach for Implementing Marketing Surveys. *Journal of Marketing Research*, 27(3), 304-321. doi:10.1177/002224379002700305
- Sjoberg, G. (1955). A Questionnaire on Questionnaires. *The Public Opinion Quarterly*, 18(4), 423-427.
- Stinchcombe, A. L., Jones, C., & Sheatsley, P. (1981). Nonresponse bias for attitude questions. *Public Opinion Quarterly*, 45(3), 359-375. doi:10.1086/268670
- Tangpong, C., & Ro, Y. K. (2008). Student-manager surrogacy in supply chain decision making. *Journal of Business and Management*, 14(1), 77-91.