JCSDCB

JOURNAL OF CONSUMER SATISFACTION, DISSATISFACTION AND COMPLAINING BEHAVIOR

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INFORMATION AND STYLE SHEET

The Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior is published annually to present articles central to the theme of the journal. Conceptual pieces and research conducted in the contexts of B2B, Services, B2C and C2C are of equal interest. Authors are solely responsible for all statements and facts in their articles. The Journal is not responsible for unsolicited manuscripts.

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REFERENCES: Reference citations in the text of the manuscript should be in parentheses, by author's last name and year of publication, for example (Hunt 1977). If the author's name appears in a sentence the name should be followed by the year, for example, "...Hunt (1977)..." If a page is cited it should be noted as follows: (Hunt 1977, p.26). If a citation has only two authors always use both authors' names (Day and Hunt 1978). If a citation has three or more authors, include all the authors' names the first time the citation appears. After the first appearance use only the name of the first author, for example, an article by Hunt, Day and Goodwin would be (Hunt, et al. 1978). In a series of citations in the same location, separate the citations with a semicolon, for example, (Day 1977; Hunt et al. 1978). Works published in the same year by the same author(s) should be differentiated by letters after the date, for example, Taylor 1997a; 1997b).

All references cited in the article and ONLY references cited in the article are to be fully listed in alphabetical order at the end of the article, with the first author surname first and other authors' names surname last. APA style is expected.

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ADDRESS: Manuscripts, subscriptions, and all correspondence should be sent by email to:
JCSDCB@unlv.edu
Dr. Gillian S. Naylor
Gillian.naylor@unlv.edu
MIB Marketing and International Business
425 Beam Hall
4505 S. Maryland Pkwy, mail stop 6010
Las Vegas NV 89154-6010

WEBSITE:
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CSDCB CONFERENCES: Since the late 1980's, CSDCB conferences had, with a few exceptions, been held in odd-numbered years. Since 2003, however, the conferences have been held in June '06, June '08, June '10 and June '12 and the next conference is scheduled to be held June 2018. Papers and presentations of all kinds are welcome, as long as they are focused on satisfaction, dissatisfaction and/or complaining behavior, or related topics. The paper submission deadline is usually in early April. Contact Gillian Naylor for more conference information.

IMPACT ON AND OF THE JOURNAL OF CONSUMER SATISFACTION, DISSATISFACTION, AND COMPLAINING BEHAVIOR: A 30-YEAR RETROSPECTIVE

Val Larsen, Ph.D., James Madison University
Newell D. Wright, Ph.D., North Dakota State University

ABSTRACT

On the 30th anniversary of its first publication, this article focuses on the people and practices that have shaped the Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior. It also focuses on the influence that the journal has had on our understanding of consumer satisfaction and dissatisfaction. The article suggests that the journal has not only developed knowledge about how consumer satisfaction is created, dissatisfaction avoided; it has also applied that understanding to enhance the value of the journal itself.

INTRODUCTION

In this volume of the *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior* (JCSDCB), the journal celebrates its 30th year of publication. Over the years, several retrospective and prospective articles have commented on the history or future direction of the JCSDCB and the research contained therein (e.g., Dahl and Peltier 2015; Davidow 2012; Hunt 1993; Perkins 2012a and 2012b; Swan and Trawick 1993; Woodruff 1993). While the reviews of past research and future directions have been very helpful, these articles have not focused primarily on the figures who have shaped the JCSDCB or on the impact of the JCSDCB on the marketing discipline. This article focuses on those two themes, first briefly recalling the figures who have most shaped the journal, then at somewhat more length, tracking how the journal has influenced consumer research. This article also examines changes made by the JCSDCB to increase consumer satisfaction and decrease dissatisfaction.

INFLUENCES ON THE JCSDCB

A journal tends to be influenced by four main groups: editors, reviewers, authors, and audience. Interactions between these four groups will typically determine the character of a research journal. In general, the single biggest influence on a journal at any given time is the editor. In addition to making final calls on what articles will be published, editors usually heavily shape the review process by selecting the reviewers to whom each manuscript is sent for review.

What is true in general about the importance of editors is still more true of H. Keith Hunt of Brigham Young University who, with Ralph L Day of Indiana University, played a pivotal role in founding the JCSDCB. As the Executive Secretary for the Association for Consumer Research and, in effect, the publisher of *Advances in Consumer Research*, Hunt had deep experience in organizing conferences and supervising the publication of academic work. He was thus exceptionally well qualified to organize this new, recurring conference focused on the study of consumer satisfaction, dissatisfaction, and complaining behavior and to carry out the work incident to publishing a new academic journal, the JCSDCB.

The antecedent of the journal was a biennial conference, organized by Hunt and Day, which focused on consumer satisfaction/dissatisfaction. The conference began in 1977. The first volume of the

JCSDCB was published in 1988, with Hunt and Day as co-editors and Hunt as the managing editor. Hunt and Day were listed as co-editors of the journal for its first twelve volumes. Hunt then edited the next five volumes, 13 – 17, by himself. Hunt has been listed on all subsequent volumes of the journal as editor emeritus.

Hunt was notable for conscientiousness, good humor, and the encouragement he gave to young scholars entering the discipline. The authors of this article personally witnessed his generous encouragement, having been invited by Hunt while still graduate students to submit an article to the conference. Because of their unduly narrow conception of the scope of consumer satisfaction/dissatisfaction, the authors had not planned to submit their article to the conference and the JCSDCB. But with Hunt's encouragement, they did. The article was accepted, published in the JCSDCB, and became their first professional publication. It is included below on the Table 5 list of most cited JCSDCB articles. Upon assuming sole responsibility for editing the JCSDCB in 2000, Hunt made changes in editorial practice that significantly enhanced product quality and, presumably, consumer satisfaction. Those changes are discussed below.

For Volume 18 published in 2005, Steven A. Goodwin of Illinois State University assumed editorship of the journal. Goodwin had served on the editorial review board for seven years prior to becoming editor. Goodwin recruited two associate editors, Steven A. Taylor, also of Illinois State University, and Kevin G. Celuch, of the University of Southern Indiana. Taylor and Celuch had each served on the editorial review board for eight years prior to becoming associate editors, so the new editorial team had considerable experience with the JCSDCB review process.

Starting with Volume 27, published in 2014, Gillian S. Naylor of the University of Nevada, Las Vegas, became editor of the JCSDCB. Steven A. Taylor continued in his role as associate editor and was joined in that role by Moshe Davidow of Technion, the Israel Institute of Technology. Naylor had nine years of experience as a member of the editorial board when she became editor. Taylor had served for fifteen years as a member of the editorial review board or as associate editor. Davidow had eight years of experience on the review board when he became associate editor. Both Hunt and Goodwin are now listed on each volume as emeritus editors.

As the recruitment of all editors and associate editors since Hunt and Day indicates, the editorial review board has been a very important source of demonstrated editing talent. And, of course, the review board plays its own independent role in determining what articles are published in the journal. During the first 29 years of the JCSDCB, 112 scholars served as members of the review board. The number of review board members varied dramatically across volumes during that time. For the first three volumes, there were just three review board members: Marsha Richins, John E. Swan, and Robert A Westbrook. Richins retired from the board after the publication of Volume 6. Swan continued on the board through the publication of Volume 13. Westbrook served on the editorial review board for 26 years. As Table 1 indicates, his tenure on the board and affiliation with the journal exceeds that of all other scholars by a wide margin.

The average term of service on the board has been 6.3 years. At its largest in 1999, the editorial review board had 52 members. The average number of review board members during the 29 years of the journal's existence has been 24.3. The standard deviation for members of the board has been 17.4. In the early years and again, recently, the board has been much smaller than it was between 1997 (when it was increased from 6 to 50 members) and 2014 when it had 21 members. The board dropped to 9 and 10 members for the most recent two volumes.

While the influence of the review board as a whole has been more or less constant across time, the influence of individual board members has fluctuated greatly. During the JCSDCB's first two years when it had only three board members and published 18 articles per year, each board member would have reviewed an average of 12 published articles per year, assuming two reviewers per article. During the JCSDCB's first nine years, board members reviewed an average of 9.21 published articles per year. When the editorial review board was greatly expanded in 1997 for Volume 10, the number of published articles reviewed by each reviewer dramatically declined. Articles reviewed per board member bottomed out in Volume 13. That year, the review board had expanded to 51 members and the journal published only six articles, so each board member would have reviewed on average only .24 published articles. During the past three years, the number of published articles reviewed per board member has again increased to 1.3 published articles per year. Of course, board members provide an important service when they review articles that are not published in the journal. That work is not reflected in this summary.

Board members with 10 or more years of service are listed in Table 1.

TABLE 1

Editorial Review Board Years of Service				
Robert A. Westbrook	26		Doug Grisaffe	12
Kevin G Celuch	18		Diane M. Halstead	12
Dennis E. Garrett	18		Anand Kumar	12
Steve Taylor	18		Dong Hwan Lee	12
Jeff Blodgett	16		Pratibha A. Dabholkar	11
Douglas Hausknecht	16		Moshe Davidow	11
Newell D. Wright	15		Robert East	11
Marianne Bickle	14		Chickery J. Kasouf	11
James H. Drew	14		Richard Spreng	11
Sally K. Francis	14		Gary Hunter	10
David Aron	13		Mark Slama	10
Barry Babin	13		Terrell G. Williams	10
John E. Swan	13			

TABLE 2

Author and Articles				
ND Wright	11		LW Johnson	6
KG Celuch	10		G Naylor	6
HK Hunt	10		RB Woodruff	6
RA Spreng	10		JG Blodgett	5
DS Perkins	9		J Bloemer	5
SA Taylor	9		CC Caughey	5
SK Francis	8		J Kolodinsky	5
DE Garrett	7		BL Parry	5
V Larsen	7		CR Payne	5
RW Olshavsky	7		M Davidow	4
JE Swan	7		D Grisaffe	4
D Aron	6		D Hausknecht	4
D Halstead	6		JM Hogarth	4
J Huefner	6		SS Tax	4

Another key group which influences the character of a journal is the authors who publish in it. If we focus on how authors affect the journal (as opposed to how they affect the discipline), the key indicator of their influence is the number of articles each author has published in the journal. As of volume 29, the JCSDCB has published 413 articles. The authors listed in Table 2 have 191 authorships among them. There are, of course, a number of co-authorships, so the table does not indicate authorship of 191 of the 413 articles. But it does indicate that these authors have had a very substantial influence on the character of the journal.

This author table underscores the influence that the editors of the JCSDCB and members of the review board have had. Having founded the journal and edited 56% of the volumes published to date, by almost any measure Keith Hunt has more strongly influenced the JCSDCB than any other single person. Table 2 reveals another dimension of his influence: publication of 10 articles in the journal. Associate editor Celuch has likewise published 10 articles. Associate editor Taylor has published nine, editor Naylor six, and associate editor Davidow has published four articles. Among the other most prolific authors in the JCSDCB reported in Table 2, many also contributed as members of the editorial review board, serving for at least 10 years as reported in Table 1, e.g., ND Wright, RA Spreng, SK Francis, DE Garrett, JE Swan, D Aron, D Halstead, JG Blodgett, D Grisaffe, and D Hausknecht. Another index of the contribution of the editorial review board is the sixteen names that appear both in Table 1, reflecting 10 or more years of service on the editorial review board, and Table 4, the most cited authors who have published in the JCSDCB. Likewise, nine board members from Table 1 and two editors, Hunt and Goodwin, published an article listed in Table 5, the most cited articles published by the JCSDCB.

Influence on Consumer Research

The influence of a journal on its discipline is most saliently reflected by how much it is cited by researchers in the field. In this section of the paper, we review citations of the JCSDCB to assess its influence. Our study addresses a deficit created by the failure of *Journal Citation Reports* to track JCSDCB citations. We also look at the influence of the journal, of individual volumes of the journal, individual authors, and particular articles.

METHODOLOGY

We used Harzing's *Publish or Perish* (PoP) software (version 5) for this analysis. PoP software retrieves and analyzes academic citations generated by Google Scholar and Microsoft Academic Search. The software program has demonstrated longitudinal stability (Harzing 2013) and is particularly well suited for citation analyses in the various business disciplines (Harzing 2017) because most business journals are published in English and are indexed by Google Scholar. In addition to PoP, we made extensive use of our library of the 29 volumes of the JCSDCB that have been published to date to verify the data produced by PoP.

After running PoP on the journal title, we downloaded the raw data into spreadsheets for further analysis (on 20 January, 2017) to give us a snapshot of the impact of the journal up to that date. There were some errors in the data collated by Google Scholar and PoP (e.g., misspelled names, double-counted entries, truncated lists of authors). We corrected errors as we discovered them in the data. It is likely, however, that some errors remain. We report the data in various tables below.

RESULTS

Volumes. Table 3 contains the citation history of the JCSDCB as measured by our methods. Table 3 reports the volume, year of publication, number of Articles, and number of citations. The last two columns, Vol/Cites/Year and Art/Cites/Year, are described below. Unsurprisingly, articles in volume 1, which have been available for 29 years, are more heavily cited (624 citations) that articles in volume 29, which had just been published when these data were collected (0 citations). It takes some time after publication for articles to be read and cited and for the articles that cite them to be reviewed and published.

To account, while assessing their influence, for the different lengths of time that volumes have been available, we calculated the average number of times a volume has been cited each year since its publication by dividing total citations per volume by years since publication. This value is reported as Volume Citations per Year (VCY). And since volumes differ dramatically in the number of articles they contain, from 5 to 28 per volume, we also calculated the article citations per year by dividing total citations by years since publication and by number of articles per volume. This Article Citations per Year (ACY) value reports the average number of times each article in that volume was cited each year since publication.

As noted above, unsurprisingly, there is a clear trend in the data such that older articles are cited more frequently than newer articles. Less predictably, the number of articles published in a volume had no significant effect on the VCY, i.e., publishing more articles did not significantly increase the number of times that a journal volume was cited. To evaluate this relationship, we calculated the correlation between number of articles and the VCY.

TABLE 3

Volume	Year	Articles	Cites	Vol/Cites/Year	Art/Cites/Year
1	1988	18	624	21.52	1.195
2	1989	18	1213	43.32	2.407
3	1990	17	536	19.85	1.168
4	1991	23	469	18.04	0.784
5	1992	22	1354	54.16	2.462
6	1993	24	1116	46.50	1.938
7	1994	28	425	18.48	0.660
8	1995	25	280	12.73	0.509
9	1996	24	345	16.43	0.685
10	1997	16	270	13.50	0.844
11	1998	22	331	17.42	0.792
12	1999	19	323	17.94	0.944
13	2000	6	542	31.88	5.314
14	2001	13	1040	65.00	5.000
15	2002	11	899	59.93	5.448
16	2003	19	945	67.50	3.553
17	2004	13	481	37.00	2.846
18	2005	5	219	18.25	3.650
19	2006	9	291	26.45	2.939
20	2007	7	172	17.20	2.457
21	2008	8	109	12.11	1.514
22	2009	7	78	9.75	1.393
23	2010	8	69	9.86	1.232
24	2011	6	74	12.33	2.056
25	2012	13	72	14.40	1.108
26	2013	8	61	15.25	1.906
27	2014	10	20	6.67	0.667
28	2015	7	1	0.50	0.071
29	2016	7	0	0.00	0.000

The relationship was not significant ($R = .18$, $p = .369$). In doing this calculation, we excluded the two most recent volumes since, given the review and publication cycle for new articles, those articles have not had sufficient time to be read and cited by articles that are, in turn, reviewed and published.

While there was no relationship between number of articles and the overall average annual citations for that volume, there was a strong relationship between the number of articles in a volume and the average annual citations of each article. To evaluate this relationship, we calculated the correlation between number of articles in a volume and the ACY. This relationship was significant ($R = -.49$, $p = .009$).

This correlation seems to reflect a move to quality in the journal's editorial policy. From the first volume of the journal in 1988 to the twelfth volume in 1999, the journal averaged 21.3 articles per volume. Clearly reflecting a change in editorial policy, the number of articles published dropped dramatically from 1999 (19) to 2000 (6). From 2000 to the present, the journal has averaged 9.2 articles per volume, less than half the number that were published prior to 2000. This change in policy led to a significant increase in the number of citations per articles per year since publication (Vol 1-12 μ = 1.25, Vol 13-27 μ = 3.05, t = 3.63, p = .001). Apparently, the contribution per article in the JCSDCB has dramatically increased since the turn of the century. This change in editorial policy has consumer satisfaction/dissatisfaction implications that will be discussed below.

The most influential volumes of the JCSDCB vary depending on whether the influence of the volume is time weighted. If not time weighted, the top five most influential volumes are 5 (1992), 2 (1989), 6 (1993), 14 (2001), and 16 (2003). If weighted for time since publication, the top five most influential volumes are 16 (2003), 14 (2001), 15 (2002), 5 (1992), and 6 (1993).

Authors

Approximately 474 researchers have authored or co-authored research that has appeared in the JCSDCB since its inception. Articles from the JCSDCB have been cited a total of 12,359 times from 1988 to 2017, about 26 citations per published author. As is to be expected, not all researchers have had the same impact on satisfaction/dissatisfaction research. A number of researchers have appeared in the JCSDCB only one time, and yet their impact has been quite substantial as measured by the number of citations of their work. For example, the second most cited paper in the JCSDCB is Bei and Chiao's (2001) article that developed an integrated model of factors impacting customer loyalty. Neither author published in the JCSDCB before or since the publication of that article. Though he published just two articles in the JCSDCB, Richard L. Oliver is at the top of the citation list, with 957 citations. In Table 4, the influence of individual authors, judging from citations of their work, is reported, along with number of JCSDCB articles each author has published. The table includes only those authors who have been cited at least 100 times. The relationship between number of articles published and number of citations is not significant (R = .061, p = .662).

Articles

As noted above, between 1989 and 2016, a total of 413 articles were published in the JCSDCB. One measure of those articles' influence is the H-Index developed by Hirsch (2005). This index identifies the point at which the number of articles and the number of citations converge. For articles published in the JCSDCB, the H-Index score is 53. This means that there have been 53 articles published in the JCSDCB that have been cited at least 53 times. The 54th article in the list of most cited JCSDCB articles has fewer than 54 citations. Table 5 lists all articles that have at least 100 citations, as of 20 January, 2017.

In total, the 413 articles in the JCSDCB to date have been cited 12,520 times, an average of about 30 citations per article. Of that total, 21 articles have not been cited at all. Most of these uncited articles are from later volumes, Volume 25 (2012) onward. However, three non-cited articles were from 1996 and three were from 1998. Twenty-four articles (approximately 6%) were cited only once. In total, 125 articles (approximately 30%) were cited fewer than five times.

Audience.

Along with editors, review board members, and authors, the audience of a journal has an effect on the journal and its reputation. Since academic journals are typically purchased by university libraries and are read in the library or on its website, direct observation of who has read the JCSDCB and other journals is not possible. We can, nevertheless, gain some idea about who reads the journal by looking at where and how often articles from the journal are cited in the JCSDCB and elsewhere. Almost half, 40.1%, of the citations of JCSDCB articles appear in the JCSDCB. So it is clear that an important part of the journal's audience is scholars who have a strong interest in consumer satisfaction, dissatisfaction, and complaining behavior and who publish in the JCSDCB. But the journal has a wider audience as well. Table 6 contains a list of other journals where JCSDCB articles have been cited six or more times. Citations in those journals represent the direct influence of the JCSDCB. Also reported in the table is the average number of times each article that cites the JCSDCB was itself cited. These numbers indicate the indirect influence of the JCSDCB. It is apparent in this table that the JCSDCB has had an especially large impact on the various branches of services marketing.

TABLE 4
TOP CITED AUTHORS WITH NUMBER OF ARTICLES

Cites	Authors	Articles		Cites	Author	Articles
957	RL Oliver	2		212	DW Schumann	3
693	J Bloemer	5		206	PG Patterson	3
547	D Halstead	6		204	SS Tax	4
496	LT Bei	1		197	C Goodwin	2
496	YC Chiao	1		189	PA Dabholkar	2
436	RW Olshavsky	7		176	I Ross	1
432	HK Hunt	10		174	DS Clemons	2
398	TJ Page	2		173	ND Wright	11
383	C Leavitt	1		164	A Kumar	2
383	S Erevelles	1		164	V Larsen	7
367	RA Spreng	10		147	J Kolodinsky	5
360	J Huefner	6		144	M Chandrashekaran	2
347	E Day	2		137	G Hunter	3
328	JG Blodgett	5		131	G Naylor	6
317	RB Woodruff	6		128	R Sanchez-Fernandez	1
294	ER Cadotte	1		127	AL Dixon	1
294	N Turgeon	1		120	BL Parry	5
290	SA Taylor	9		120	CR Payne	5
289	JW Overby	1		119	JE Swan	7
289	E Lee	1		117	AR Andreason	1
277	DR Hausknecht	4		117	J Manning	1
269	M Davidow	4		107	GJ Salegna	2
266	LW Johnson	6		105	KG Celuch	10
244	RA Westbrook	3		103	T Poiesz	1
239	SF Gardial	3		103	T Strandvik	1
237	MR Crask	1		103	V Liljander	1
213	DH Granbois	1				

TABLE 5
ARTICLES WITH AT LEAST 100 CITATIONS (AS OF 20 JANUARY 2017)

Citations	Author(s)
744	Oliver 1989
496	Bei and Chiao 2001
492	Bloemer and Odekerken-Schröder 2002
383	Erevelles and Leavitt 1992
322	Halstead and Page 1992
294	Cadotte and Turgeon 1988
289	Lee and Overby 2004
237	Day and Crask 2000
215	Davidow 2003
213	Blodgett and Granbois 1992
208	Oliver and Westbrook 1993
206	Hausknecht 1990
196	Huefner and Hunt 2000
176	Goodwin and Ross 1989
169	Patterson and Johnson 1993
162	Woodruff et. al 1991
136	Taylor and Hunter 2003
130	Halstead 2002
128	Sánchez-Fernández and Ángeles-Bonillo 2006
127	Spreng, Dixon, and Olshavsky 1993
122	Kumar, Olshavsky, and King 2001
120	Wright and Larsen 1993
117	Andreasen and Manning 1990
110	Day 2002
103	Bloemer and Poiesz 1989
103	Liljander and Strandvik 1993

DISCUSSION

Data presented above demonstrate that the JCSDCB has contributed in important ways to our understanding of consumer satisfaction and dissatisfaction. Reflecting that contribution, the popular Australian Business Dean's Council (ABDC) journal list ranks the JCSDCB as a B journal (ABDC 2017). B journals rank in the top 35 to 65% of all journals. The JCSDCB is one of only 42 B ranked journals. Most listed journals (and all unlisted) are ranked lower. There are indications in this article of the strategy followed to position the JCSDCB as a quality B journal.

As this article indicates, the JCSDCB is the product of a research community with many interacting parts. From one point of view, the journal can be seen as a retailer of academic research. The consumers are the audience of people who read and cite research published in the journal.

Authors produce the product. Review board members assure quality. Editors manage the product assortment. The high degree of overlap between authors, review board members, editors, and those who read and cite the JCSDCB suggests that this is an institution/community that has well implemented service dominant logic (Vargo and Lusch, 2004; Lusch and Vargo, 2006), integrating effectively the production and consumption of knowledge about the focal aspects of consumer behavior addressed by this journal.

The data suggest, as well, that participants in this community have not only developed but have also applied insights on how consumer satisfaction can be increased and dissatisfaction minimized. The most notable phenomenon apparent in the data is a change in strategy that was designed to, and did, increase the quality of the service provided to JCSDCB consumers. That change in strategy was implemented between volume 12 (1999) and volume 13 (2000). Production standards were elevated and article quality increased. The result was a significant improvement in the average benefit delivered to readers, a benefit increase that is manifest in the significantly higher per article citation rate that followed the change in editorial strategy and article assortment.

TABLE 6
DIRECT AND INDIRECT CITATIONS OF JCSDCB ARTICLES IN OTHER JOURNALS

Journal	Direct	Indirect
Journal of Services Marketing	38	248
Journal of Service Research	26	360
Journal of the Academy of Marketing Science	22	981
International Journal of Hospitality Management	21	154
Advances in Consumer Research	18	115
International Journal of Bank Marketing	18	251
International Journal of Service Industry Management	18	438
Book chapter	17	875
Managing Service Quality: An International Journal	17	108
European journal of Marketing	15	469
Journal of Business Research	14	295
Journal of Retailing	14	968
Journal of Marketing	11	1501
Journal of Hospitality & Tourism Research	10	167
Psychology & Marketing	10	267
Industrial Marketing Management	9	220
Journal of Retailing and Consumer Services	8	118
Tourism Management	8	188
Journal of Business & Industrial Marketing	7	80
Journal of Consumer Marketing	7	165
International Journal of Consumer Studies	6	97
Journal of Business Logistics	6	1071

LIMITATIONS

This study did not directly measure consumer satisfaction with the JCSDCB. Citations are an important, but indirect measure of reader satisfaction. More significantly, the calculation of citations per year since publication was purely linear. No attempt was made to determine if there are variations in the lifetime value of articles as a function of time since publication. It is likely that articles not only require some time after publication to find their audience (we operationalized this nominally, and thus imprecisely, by excluding the most recent two years from statistical comparisons), but also that their influence declines over time such that the rate of new citations diminish as some function of time passed since publication. Future researchers might identify the curvilinear rate of article obsolescence. Analyses such as this one could then be adjusted to more accurately weight the probable longitudinal influence of published articles.

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Val Larsen, Ph.D.
Professor of Marketing
MSC 0205
James Madison University
Harrisonburg, VA 22807
Phone: (540) 568-3858
FAX: (540) 568-2754
E-mail: larsenwv@jmu.edu

Newell D. Wright, Ph.D
Professor of Marketing
North Dakota State University
Dept. 2420
PO Box 6050
Fargo, ND 58108-6050
Phone: (701) 231-6532
E-Mail: newell.wright@ndsu.edu

WHO POSTS ONLINE CUSTOMER REVIEWS? THE ROLE OF SOCIODEMOGRAPHICS AND PERSONALITY TRAITS

Christopher K. Manner, Union University
Wilburn C. Lane, Union University

ABSTRACT

Online customer reviews (OCRs) are becoming increasing popular among consumers who read them to make informed decisions about products and services. However, little attention has been given to factors that influence those who generate OCRs. This study aims to fill this gap by exploring the sociodemographic characteristics and personality traits associated with positive and negative OCR creation. Logistic regression analysis shows that age has a quadratic (inverse U-shaped) effect on the likelihood of posting an OCR. Moreover, openness to new experiences, agreeableness, and conscientiousness are significant predictors of OCR creation. These findings may help marketers develop OCR platforms that encourage positive reviews.

Keywords: *Online customer reviews; Sociodemographics; Personality; Big Five Inventory; Openness; Agreeableness*

INTRODUCTION

Online customer reviews (OCRs) are an increasing phenomena that influence consumers' choice and purchasing behavior. The BrightLocal (2015) Local Consumer Review Survey shows that 92% of consumers regularly or occasionally read online reviews. Although traditional word of mouth remains the most popular method for recommending a business, 27% of consumers have recommended a local business via Facebook; this figure rises to 32% among consumers aged 16-34 (BrightLocal, 2015). According to Nielsen (2015), 66% of global consumers surveyed online indicated they trust OCRs. Only recommendations from family and friends ranked higher in trust. Moreover, a survey from Dimensional Research (2013) found that 90% of respondents who recalled reading online reviews claimed that positive reviews influenced their decision to buy, while 86% said that negative reviews had also influenced buying decisions.

Industry-specific studies suggest that OCRs are having a considerable impact on consumer decision making and business sales. For example, Luca (2016) found that a one-star increase on Yelp.com rating leads to a 5-9% increase in revenue for restaurants. According to Digital Air Strike (2014), the majority of car buyers said they consider review sites as "helpful" in their decision as to where to purchase a vehicle. The same study found that 24% of consumers consider online review sites to be the "most helpful" factor, exceeding all other factors including the 15% of car buyers who consider dealership websites "most helpful." A study conducted by Software Advice (2015), a digital resource for field service technology, reported that 68% of consumers said online reviews are a "very important" factor in helping them select a residential service provider. Additionally, 86% said they would be willing to pay more for services if a given provider had positive online reviews.

In light of these developments, scholars from the social sciences, computer science, and marketing have identified OCRs as a growing opportunity (and potential threat) that is worthy of managerial consideration. Although research has advanced our knowledge of OCRs, most studies have focused on how OCRs affect the purchase decision and sales (e.g., Filieri & McLeay, 2014; Luca, 2016; Ye, Law, & Gu, 2009). More work is needed to help practitioners understand the conditions that enhance the likelihood of consumers providing feedback (G. S. Naylor, 2016). Furthermore, little attention has been given to the investigation of factors influencing the two distinct types (positive and negative) of OCRs. The present study aims to fill this gap in the literature by examining the sociodemographic characteristics and personality traits of those who post OCRs. In particular, this study offers the following research questions:

RQ1: Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing OCRs?

RQ1a: Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing positive OCRs?

RQ1b: Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing negative OCRs?

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Online Customer Reviews. Filieri (2016, p. 47) defines OCRs as “any positive, negative, or neutral comment, rating, ranking, of a product, a service, a brand, or a person supposedly made by a former customer and that is shared with other customers in an unstructured format such as a blog post or in a more structured format, such as customer reviews published on an independent customer review website, third-party e-commerce website, or corporate website.” In contrast to traditional word-of-mouth communication, OCRs are often posted anonymously. Furthermore, there is a greater abundance of OCRs than traditional offline reviews and OCRs can reach a larger audience (Lee, Park, & Han, 2008).

Scholars have dedicated much attention to OCRs, particularly the study of why consumers generate online reviews. A prominent study by Hennig-Thurau, Gwinner, Walsh, & Gremler (2004) identified eight different motivations for contributing to online review forums: platform assistance, concern for other consumers, self-enhancement, economic incentives, venting negative feelings, helping the company, desire for social interaction, and advice seeking. Subsequent efforts aimed at improving the understanding of why individuals write and publish OCRs have found extreme passion for the product or firm (i.e. delight) to be the main driver of online recommendations (Bechwati & Nasr, 2011). Another motivating factor could be the feedback system used by online review sites which displays feedback received by individual reviews and reviewers from the community (Dellarocas, 2003; Miller, Resnick, & Zeckhauser, 2005; Moon & Sproull, 2008). In a recent study of Yelp review writers, Mcintyre, Mcquarrie, & Shanmugam (2016) have shown that receiving positive feedback increases the probability that a novice reviewer will continue to produce reviews. In the same study, Mcintyre et al. (2016) found that the desire to publish one’s writing was the single best predictor of review productivity. They suggest that writing reviews provides intrinsic value, and represents expressive rather than utilitarian behavior.

In a second research stream, researchers have investigated the impact OCRs have on sales and purchasing behavior. For example, studies have examined the influence OCRs have on sales (Ye et al., 2009), consumer awareness and attitude toward service providers (Vermeulen & Seegers, 2009), consumer purchasing intentions (Filieri & McLeay, 2014; Sparks & Browning, 2011; Vermeulen & Seegers, 2009) and consumer assessment of trustworthiness (Filieri, 2016).

OCRs can be classified into positive and negative forms. Studies on the impact of positive OCRs report mixed results. Some studies argue that positive reviews affect consumers' decision making (e.g., Vermeulen & Seegers, 2009); however, other researchers conclude positive reviews have little or no effect (e.g., Duan, Gu, & Whinston, 2008). On the other hand, negative OCRs often remain on websites for long periods of time, resulting in a negative impact on the reputation and performance of businesses (Hennig-Thurau et al., 2004). Negative OCRs may be perceived to be more trustworthy (Pan & Chiou, 2011) and more useful or diagnostic for decision-making purposes and are therefore given greater weight than positive OCRs (Lee et al., 2008). East, Hammond, & Wright (2007) suggest that the motivations behind a consumer's decision to engage in positive versus negative OCRs are likely to differ. Therefore, our analysis of the factors that predict OCR behavior distinguishes between positive and negative OCRs.

Online Customer Reviews as Electronic Word of Mouth. Electronic word of mouth (eWOM) can be defined as "any positive or negative statement made by a potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via Internet (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004, p39). Mudambi & Schuff (2010) have proposed that OCRs are a form of eWOM in the form of user generated content that is posted on e-vendor or third party websites. Moreover, Chatterjee (2001) suggests that consumer reviews and ratings are the most accessible and prevalent forms of eWOM.

Marketers distinguish between two types of eWOM: organic and amplified. Organic eWOM occurs naturally when a person wants to tell others about a positive or negative experience with a product or a company (Word of Mouth Marketing Association (WOMMA), 2005). According to Godes & Mayzlin (2009), this endogenous form of eWOM involves no direct intervention for the firm and occurs among consumers as a result of their experiences. Online reviews, like those compiled at Yelp, Amazon, Epinions, and TripAdvisor, are produced without compensation. As such, they are generally considered a form of organic eWOM. Amplified (i.e. exogenous) eWOM occurs when a marketer encourages others to speak about a product or a company (Word of Mouth Marketing Association (WOMMA), 2005). The marketer tries to exert influence over the content of amplified eWOM through a variety of campaigns, opinion leader programs and viral marketing (Kulmala, Mesiranta, & Tuominen, 2013). For example, bloggers often receive free products to provide their OCRs (Naylor, 2016).

Compared to traditional WOM, which is an oral form of interpersonal communication among acquaintances (Arndt, 1967), eWOM can take place in various settings. Consumers can post their opinions, comments, and reviews of products on blogging/personal websites, review websites (e.g. Yelp), retail websites (e.g. Amazon), and discussion websites (e.g. Reddit). eWOM communication also differs from traditional WOM in that the statements made about a product or service are available to a multitude of people and institutions, which can be accessed via the

Internet (Hennig-Thurau et al., 2004). Another significant difference is that eWOM communications are more persistent and accessible than traditional WOM. Most of the text-based information presented on the Internet is stored for an indefinite period, which consumers can repeatedly access at their convenience (Hung & Li, 2007; Park & Lee, 2009). This breadth of eWOM scope and ease of accessing reviews can greatly impact a firm's performance. Therefore, professionals and academics are increasingly seeking to understand the factors that influence the creation and use of eWOM.

OCRs and Sociodemographic Considerations. There are a number of important demographic and socioeconomic factors that are likely to influence OCR behavior. At least four main sociodemographic variables have been identified, although no consensus of results exists, which may cause a segment of the population to engage in OCR behavior. These variables are typified as gender, age, income, and ethnicity.

A study in 2010 by Pew Research Center found that among internet users, there are only small differences by gender, race, and age in the likelihood of posting an OCR (Jansen, 2010). The same study shows that higher income brackets are more likely than those in lower income brackets to post OCRs. However, the results of this study are not comprehensive, as they are based on univariate analysis.

Looking more broadly at eWOM, existing studies found that the users and creators of eWOM often differ depending on their gender, age, income, and ethnicity. In particular, males tend to outnumber females in eWOM activity among adult demographics, while white females tend to dominate when samples are limited to preteens, teens, and college students (eMarketer, 2009). Wang, Keng, Yeh, Chen, & Tsydypov (2016) found that female and older users are more likely to engage in eWOM on social network sites. A number of studies suggest that eWOM users and creators tend to be younger (eMarketer, 2009; Jones & Fox, 2009; Lenhart, Madden, Macgill, & Smith, 2008). Bloggers have been found to be mostly male and in the 25-44 age range (Technorati, 2011). According to a demographic profile report (eMarketer, 2009), eWOM users are more likely college educated, full-time employed, and predominately white. In the context of the travel industry, eWOM creators tend to be young (Yoo & Gretzel, 2011), male, and more affluent (Yoo & Gretzel, 2008).

These previous studies suggest that OCR creators are more likely to be male among adult populations (eMarketer, 2009), young (eMarketer, 2009; Lenhart et al., 2008), have higher incomes (Yoo & Gretzel, 2008), and Caucasian (eMarketer, 2009). Based on these findings from previous literature, the following hypotheses are formulated:

H1: Males are more likely to engage in OCR creation than females.

H2: Age has a negative effect on the likelihood of OCR creation.

H3: Income has a positive effect on the likelihood of OCR creation.

H4: Caucasians are more likely to engage in OCR creation than non-Caucasians.

Empirical research on the demographic determinants of positive and negative OCR behavior is somewhat sparse. However, demographic variables such as age, income, and education are have been found to influence customer complaint behavior (CCB). It has been found that complaint behavior is positively related to age (Phau & Baird, 2008). Bearden & Mason (1984) found a positive relationship between CCB and education and income. Studies in Singapore and Indonesia found that females were more likely to complain than males and complainers who resorted to public action were older, better educated, and earned higher income (Phau & Sari, 2004; Wang et al., 2016). Cornwell, Bligh, & Babakus (1991), however, pointed out that Mexican-American complainants tended to have a lower education level. Research by Morganosky & Buckley (1987) revealed that higher income and better-educated consumers were significantly more likely to agree with the statement, "if I buy clothes and am not satisfied with them, I take them back to the store and complain." In a study of the banking industry, Hogarth & English (2002) show that complainants are male, middle aged, non-white, and have slightly higher income (120% of the U.S. household median income).

Analysis of positive and negative WOM by Naylor (1999) suggests that women engage in significantly greater amounts of positive versus negative WOM. However, Zhang, Feick, & Mittal (2013) find that women are more likely to transmit negative WOM to their strong ties than to their weak ties, especially when they have a relatively high level of image-impairment concern. In the case of males, however, the transmission of negative WOM does not differ across tie strength depending on their image-impairment concern.

Based on the above arguments, we propose the following hypotheses:

H1a: Females are more likely to engage in positive OCR creation than males.
H1b: Males are more likely to engage in negative OCR creation than females.
H2a: Age has a negative effect on the likelihood of positive OCR creation.
H2b: Age has a positive effect on the likelihood of negative OCR creation.
H3a: Income has a negative effect on the likelihood of positive OCR creation.
H3b: Income has a positive effect on the likelihood of negative OCR creation.
H4a: Caucasians are more likely to engage in positive OCR creation than non-Caucasians.
H4b: Non-Caucasians are more likely to engage in negative OCR creation than Caucasians.

In summary, differences in OCR, eWOM, and CCB have been examined in terms of sociodemographic characteristics. While those are important drivers of behavior, other factors should be investigated as well. Personality is one of the factors that has been used extensively to explain human behavior and, thus, should also be investigated in the context of OCRs.

OCRs and Personality Considerations. There is a large body of literature on the psychological aspects of Internet use that may be helpful in understanding and predicting who will post OCRs. While personality types can be identified using a variety of instruments, the "Big Five Inventory" (BFI) is commonly used to identify personality type when studying variables related to technology. It is referred to as the most comprehensive and parsimonious model of personality (Costa & McCrae, 1992). The BFI identifies five personality types— *extraversion, neuroticism, openness, agreeableness, and conscientiousness.* Studies have shown that these personality traits predict the intent to share knowledge, individual differences in technology use, online social network site (SNS) applications, eWOM activity, and other forms of online behavior.

Extraverts are optimistic, gregarious, ambitious, and seek out new opportunities and excitement (McElroy, Hindrickson, Townsend, & DeMarie, 2007), active, outgoing, and place high value on close and warm interpersonal relationships (Watson & Clark, 1997). A study by Wang & Yang (2007) suggests that extraversion is positively related to individuals' intentions to share knowledge. In terms of online behavior, extraverts spend more time texting (Ehrenberg, Juckes, White, & Walsh, 2008) and are more likely to forward video ads (Lane & Manner, 2014). Correa, Hinsley, & de Zuniga (2010) found that extraversion was correlated with the use of instant messaging on SNS. Wang, Jackson, Zhang, & Su (2012) found that extraverts are more likely to use the communicative function of SNS, including status update, comment, and adding more friends. Acar & Polonsky (2007) found that extraverts maintain bigger social networks on SNS. Looking specifically at Facebook, researchers have found that extraversion is associated with greater Facebook use (Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011; Seidman, 2013; Wilson, Fornasier, & White, 2010) and more friends (Amichai-Hamburger & Vinitzky, 2010; Moore & McElroy, 2012; Ryan & Xenos, 2011). A study by Ross et al., (2009) indicated that individuals high on the trait of extraversion belong to significantly more Facebook groups. Other studies show that extraverts use Facebook to communicate with others by contacting friends (Correa et al., 2010) and commenting on friends' pages (Gosling et al., 2011).

Since OCRs are created in virtual communities, individuals high in extraversion are expected to be more willing to post OCRs. By posting OCRs, extraverts are able to satisfy their need for social interaction (Costa & McCrae, 1992). Furthermore, people high in extraversion report higher levels of self-efficacy (Thoms, Moore, & Scott, 1996). As such, it is expected that individuals high in extraversion believe they have sufficient competence to provide OCRs. This leads to the following hypothesis:

H5: Extraversion has a positive effect on the likelihood of OCR creation.

Yoo & Gretzel's (2011) study of the influence of personality on consumer-generated media found a positive interaction between extraversion and self-enhancement, concern for others, and venting negative feelings. Extraverts enjoy human interaction and gain energy by communicating with others. Extraverts may seek social contact with others to vent their feelings. Hence we posit:

H5a: Extraversion has a positive effect on the likelihood of positive OCR creation.

H5b: Extraversion has a positive effect on the likelihood of negative OCR creation.

Highly neurotic people tend to be fearful, distrustful, sad, embarrassed, and have trouble managing stress (McElroy et al., 2007). They tend to be anxious, self-conscious and paranoid (Devaraj, Easley, & Crant, 2008). Individuals scoring high in neuroticism spend more time texting and report stronger mobile phone addictive tendencies (Ehrenberg et al., 2008). Picazo-Vela, Chou, Melcher, & Pearson, (2010) found that neuroticism had a significantly negative effect on an individual's intention to provide an online review. With regard to neuroticism and technology use, Tuten & Bosnjak (2001) found that neuroticism was negatively related to amount of time spent on the Internet. However, other studies report that individuals high in neuroticism use the Internet more frequently to reduce loneliness (Amiai-Hamburger & Ben-Artzi, 2003) and are more likely to use it for instant messaging (Ehrenberg et al., 2008) and social media (Correa et al., 2010). Forest & Wood (2012) found that low self-esteem, a trait closely linked to neuroticism, was associated with the belief that Facebook provided opportunities to connect with others, and to get support and attention under circumstances they feared would burden others offline. It is also argued that individuals high in neuroticism may become easily frustrated when something goes wrong during the process and thus believe that creating OCRs is a negative event (Picazo-Vela et al., 2010). That is, the tendency toward emotional instability may reduce the likelihood that neurotic individuals will provide OCRs because of the potential complexity of the task. Considering the above arguments, we expect individuals scoring higher in neuroticism will be less likely to post OCRs. Consequently, we hypothesize the following:

H6: Neuroticism has a negative effect on the likelihood of OCR creation.

Unlike other personality traits, a negative influence is found for neurotic individuals and the concern for others (Yoo & Gretzel, 2011). Because neurotics are generally anxious, pessimistic, and insecure, they are less likely to help or warn other consumers. According to previous studies, the goal of more neurotic individuals for creating eWOM to vent negative feelings (Seidman, 2013; Wang et al., 2012) and to seek advice (Seidman, 2013; Yoo & Gretzel, 2011). Creating OCRs can be a way for neurotics to lessen the frustrations from a negative purchase experience. Hence, we propose:

H6a: Neuroticism has a negative effect on the likelihood of positive OCR creation.

H6b: Neuroticism has a positive effect on the likelihood of negative OCR creation.

Individuals who score high in openness seek out new and varied experiences and value change (McCrae & Costa, 1997) . Individuals with high scores on openness to experience are more likely to try new methods of communication (McCrae & Costa, 1997), have broad interests (Butt & Phillips, 2008), use the Internet for entertainment and product information (Tuten & Bosnjak, 2001), and play online games on SNS (Wang et al., 2012) . Openness to experience has been correlated with the use of instant messaging (Correa et al., 2010) and the use of a wide variety of Facebook features (Amichai-Hamburger & Vinitzky, 2010). Those who are high on the trait of openness showed a greater tendency to be sociable through Facebook and report posting more on others' walls (Ross et al., 2009). Cabrera et al. (2006) found that openness is positively correlated with knowledge sharing intentions.

Although OCRs have been in use for years, it can still be considered as an unconventional method to share information for most individuals. In addition, Roesch, Wee, & Vaughn (2006) suggest that individuals who score high in openness are more flexible and thus may be better able to develop coping strategies that are appropriate for a given situation. Since providing an OCR can be considered a coping strategy for dealing with unpleasant consumer experiences, it is expected that individuals who are high in openness will be more likely to provide OCRs. As a result, we suggest the following hypotheses:

H7: Openness to new experiences has a positive effect on the likelihood of OCR creation.

H7a: Openness to new experiences has a positive effect on the likelihood of positive OCR creation.

H7b: Openness to new experiences has a positive effect on the likelihood of negative OCR creation.

People who score high in agreeableness are good natured, sympathetic, and forgiving (McElroy et al., 2007), likable, kind, helpful and cooperative (Graziano & Eisenberg, 1997). Devaraj et al. (2008) found that agreeable people viewed technology as useful. Phillips, Butt, & Blaszczynski (2006) concluded that those who scored lower in agreeableness were more likely to play games on their phones. Landers & Lounsbury (2006) found a negative relationship between agreeableness and Internet usage among college students. They suggest that students who do not get along with other students choose to spend more time on the Internet rather than interpersonal settings.

A number of studies (e.g. Cabrera, Collins, & Salgado, 2006; Matzler, Renzl, Müller, Herting, & Mooradian, 2008; Wang & Yang, 2007) suggest that agreeableness is positively related to knowledge sharing intentions. In addition, Mundinger & Le Boudec (2008) suggest that an OCR can be considered a cooperative behavior in the sense that it helps potential buyers make better choices. Thus, it is expected that individuals who have high levels of agreeableness perceive providing an OCR as helpful and cooperative behavior. Therefore, we hypothesize the following:

H8: Agreeableness has a positive effect on the likelihood of OCR creation.

Agreeable persons seek cooperation rather than competition because they are considerate and concerned with the well-being of others. Therefore, our next two hypotheses are:

H8a: Agreeableness has a positive effect on the likelihood of positive OCR creation.

H8b: Agreeableness has a negative effect on the likelihood of negative OCR creation.

Conscientious people are known for their self-control and their need for achievement and order (Costa, McCrae, & Dye, 1991). Studies by Cabrera et al. (2006), Liao & Chuang (2004) and Wang & Yang (2007) suggest that conscientiousness is related to knowledge sharing intentions in both offline and online settings. Conscientious people are more likely to look for ways to use technology to be more efficient (Barrick & Mount, 1991) and they are more likely to find technology to be useful (Devaraj et al. 2008). Picazo-Vela et al., (2010) found that conscientiousness had a significant positive effect on an individual's intent to provide an online review.

Since providing an OCR can be considered a part of the overall transaction, it is expected that high conscientious individuals will engage in providing OCRs because they view it as a final step in completing a transaction (Picazo-Vela et al., 2010). Tan & Tan (2008) claim that low conscientious people may find it more acceptable to hide in the crowd and not contribute as much when the potential for behavioral evaluation is low. Since providing an OCR is a voluntary behavior, individuals scoring low in conscientiousness may be less likely to post OCRs. Consequently, we hypothesize that:

H9: Conscientiousness has a positive effect on the likelihood of OCR creation.

Generally, more conscientious people tend to think carefully before acting. They will carefully weigh the advantages and disadvantages of creating OCRs. Yoo & Gretzel (2011) suggest that conscientiousness positively influences self-enhancement as a motivation to create consumer-generated content. OCRs can also be created to obtain feedback from users (Mcintyre et al., 2016). More conscientious individuals may consider this a motivation for OCR creation. Accordingly, we hypothesize:

H9a: Conscientiousness has a positive effect on the likelihood of positive OCR creation.

H9b: Conscientiousness has a positive effect on the likelihood of negative OCR creation.

METHOD

Sample and Procedure. An online survey (administered through Qualtrics) served to gather the data to answer the research questions. Social networking and various online techniques were used to draw participants to the survey. Specifically, undergraduate marketing students from a private, Southern university e-mailed a link to the online survey to student and non-student acquaintances. All participation was voluntary and informed consent was obtained before launching the survey. The survey was divided into three sections: (1) sociodemographic characteristics, (2) the Big Five personality factors, and (3) OCR behavior. The time needed to complete the survey was less than ten minutes. The online data collection technique recruited 771 participants; however, the elimination of incomplete responses reduced the final sample to 739 respondents for the data analysis. The data were downloaded, screened for abnormalities, and analyzed using IBM SPSS Statistics 21.0 software.

Measures. The first dependent variable, *posted an OCR*, was measured as a dichotomous variable (1 = yes, I have posted an OCR; 0 = no, I have not posted an OCR). Among those who reported posting an OCR, there were three subsets: (1) those who posted only positive reviews, (2) those who posted only negative reviews, and (3) those who posted both positive and negative reviews. In order to test for differences between positive and negative reviewers, two dichotomous dependent variables were measured: *positive OCRs* (1 = posted only positive review and posted positive and negative review; 0 = posted only negative review) and *negative OCRs* (1 = posted only negative review and posted positive and negative review; 0 = posted only positive review). A fourth dependent variable, *number of OCRs*, measured the number of reported OCRs posted in the previous twelve months. In its original form, this variable had a significant positive skew (skewness = 3.15 and kurtosis = 11.623). As such, a square root transformation was performed. Once again, this variable was measured only for those who reported posting an OCR.

Sociodemographics included *gender* (1 = female; 0 = male), *age* (in years, mean-centered), *ethnicity* (1 = non-Caucasian; 0 = Caucasian), and *income* (1 = < $25,000; 2 = $25,001-50,000,; 3 = $50,001 – 75,000; 4 = $75,001- 100,000; 5 = $100,001-125,000; 6 = $125,001-150,000; 7 = $150,001-175,000; 8 = $175,001-200,000; and 9 = > $200,000). In order to test for a possible quadratic relationship, *age* and *age-squared* were included in all models. *Age* was mean-centered in order to avoid possible multicollinearity.

Personality was measured using John, Donahue, & Kentle's (1991) Big-Five Personality Inventory. This instrument (44 items) takes only a few minutes to complete, so using it in an online survey enhances the response rate. For each item, users reported their level of agreement with a brief statement on a 1-5 scale that describes them. Each Big-Five trait score was calculated by summing the subject's responses. Reliability analyses on each factor were conducted. For the current sample, the internal Cronbach alphas were good, ranging from 0.861 for extraversion to 0.784 for conscientiousness.

Analytic Approach. To examine *RQ1* and the corresponding hypotheses (*H1-H9*), logistic regression was applied whereby *posted an OCR* was regressed by sociodemographics and personality. To examine *RQ2a* and *RQ2b*, logistic regression was also applied to predict *positive OCRs* and *negative OCRs*, and the sample was restricted to those who had posted an OCR (N = 335). Finally, multiple linear regression analysis was used to predict the *number of OCRs* in the restricted sample.

RESULTS

Sample Characteristics. The full sample consisted of 36.8% men and 63.2% women, ranging in age from 18 to 73, with an average age of 31.48 years. Almost half (48.9%) of the participants reported family income of more than $75,000 per year. Most participants were Caucasian (89.9%), followed by African American (4.2%), Hispanic (2.1%), and Asian (1.8%). Of the 739 respondents, 335 reported that they have posted a review of a product or service online. The restricted sample consisted of 35.5% men and 64.5% women, with an average age of 32.87 years. The income and ethnicity characteristics of the restricted sample are very similar to those of the full sample. On average, those who posted an online review reported posting 3.92 reviews in the previous twelve months. Approximately 95% of those who posted online product reviews reported posting positive reviews; 67% reported posting a negative review. Table 1 describes the full sample and restricted sample in detail.

Correlations Among Study Variables. Table 2 reports the Pearson's correlation coefficients for all the study variables. The sociodemographic variables were moderately intercorrelated, with gender positively associated with age and negatively associated with income. There was a significant correlation between age and age squared, even after age was mean centered. However, once the regression analysis was performed, all variance inflation factors (VIF) were well below five. Thus, multicollinearity was not a concern.

The personality variables were moderately intercorrelated, with more open individuals tending to be more extraverted and agreeable, and less neurotic. Agreeable individuals tend to be more extraverted, less neurotic, and more conscientious. Those scoring higher in conscientious are more extraverted and less neurotic.

Turning toward cross-domain correlations, gender and age were positively associated with agreeableness and conscientiousness and negatively associated with openness. Participant income was negatively associated with neuroticism and openness.

OCR behavior was moderately correlated with personality. In particular, posting a positive OCR is positively associated with agreeableness and conscientiousness. Posting a negative OCR is negatively associated with agreeableness.

Prediction of Posting OCRs. With respect to *RQ1* and the corresponding hypotheses (*H1-H9*), the results of the logistic regression analysis indicated significant differences among age, age squared, openness, and agreeableness in reported OCR behavior (see Table 3). Higher age is associated with an increasing likelihood of posting an OCR. However, the association is non-linear or quadratic. The likelihood of posting an OCR increases until age 47 and then begins to fall, thus supporting (at least in part) *H2*. Of the five personality traits measured, openness and agreeableness were found to significantly predict product review positing. The odds ratio indicates that a one unit increase in the openness measure a one unit increase in the openness measure is associated with a 4.5% increase in the odds of posting an online review. This supports H7. Similarly, for every one unit increase in the agreeableness scale, the likelihood of

TABLE 1
Sample Characteristics

	Full Sample (*N = 739*)		Restricted Sample (*N = 335*)	
Characteristics	Frequency	Percent (%)	Frequency	Percent (%)
Gender				
Male	272	36.8	119	35.6
Female	467	63.2	216	64.4
Age				
18-19	42	5.7	15	4.5
20-29	383	51.8	163	48.6
30-39	114	15.4	58	17.3
40-49	105	14.2	51	15.2
50-59	66	8.9	34	10.1
60-69	26	3.5	13	3.9
70-79	3	0.0	1	0.0
Income ($)				
<25,000	65	8.8	27	8.0
25,001-50,000	159	21.5	67	20.0
50,001-75,000	153	20.7	69	20.6
75,001-100,000	112	15.2	57	17.0
100,001-125,000	95	12.8	51	15.2
125,001-150,000	46	6.2	19	5.7
150,001-175,000	36	4.9	15	4.5
175,001-200,000	24	3.2	10	3.0
>200,000	49	6.6	20	6.0
Ethnicity				
African American	31	4.2	14	4.2
Asian	14	1.9	5	1.5
Hispanic	16	2.1	5	1.5
White/Caucasian	664	89.9	305	91.0
Other	14	1.9	6	1.8

TABLE 2
Correlations among study variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Gender	1													
2.Age[a]	.17*	1												
3.Age-squared	.06	.66*	1											
4.Income	-.12*	.09	.07	1										
5.Ethnicity	-.08	-.06	.01	-.01	1									
6.Extraversion	.05	-.06	-.05	.03	-.01	1								
7.Neuroticism	.22	-.07	-.07	-.12*	-.07	-.20*	1							
8.Openness	-.13*	-.14*	-.06	-.11*	.07	.19*	-.10*	1						
9.Agreeableness	.20*	.12*	.06	-.01	-.05	.21*	-.27*	.18*	1					

10.Conscientiousness	.14*	.11*	.04	.03	.01	.11*	-.34*	.09	.36*	1				
11.Posted an OCR	.02	.09	-.01	.01	-.05	.06	.00	.08	-.04	.04	1			
12.Positive OCR	.14	.00	-.13	-.02	-.11	.06	-.07	.04	.14*	.20*	-	1		
13.Negative OCR	-.02	.11	.3	.09	.09	.00	.07	-.01	-.16*	-.01	-	-.08	1	
14.Number of OCRs	-.09	-.01	.02	-.08	.09	.05	-.05	.18*	.00	.08	-	.02	.12	1

Note: The total sample was used for posted an OCR (N=739, and the sample was restricted to those who posted OCRs for positive and negative OCRs and number of OCRs (*N=335*). a Age is mean-centered; * $p < .01$.

posting an online review decreased slightly (by 4.5%), after controlling for the other factors in the model. This result does not support our prediction that agreeableness would increase the likelihood of generating OCRs (*H8*).

Prediction of Posting Positive and Negative OCRs. To address *RQ1a* and *RQ1b* and the corresponding hypotheses (*H1a-H9a* and *H1b-H9b*), logistic regression was applied to predict positive OCRs and negative OCRs. Focusing on those respondents who reported posting an OCR, as shown in Table 3, age was found to be an important explanatory variable in predicting posting positive OCRs. Similar to the previous results, the association with age is quadratic, with the odds of posting a positive OCR increasing until age 38 and then falling. This supports *H2a*. Among the personality traits, only conscientiousness substantially predicted posting positive OCRs. A one-unit increase in conscientiousness is associated with an 11.4% probability of posting a positive OCR, thus supporting *H9a*.

Turning now to posting negative OCRs, for every unit increase in age, the probability of posting a negative OCR increases by 3.9%. The quadratic effect of age was not statistically significant. Therefore, the research supported *H2b*. Among the personality traits, those who score higher in agreeableness are less likely to post negative OCRs, showing a 7.9% decrease for every one unit increase in the agreeableness scale. This supports *H9b*.

Prediction of Number of OCRs. To explore the potential contribution of sociodemographics and personality in explaining OCR behavior further, a multiple linear regression analysis was computed. Using the restricted sample of those respondents who reported posting an OCR, the number of OCRs posted in the previous twelve months was set as the dependent variable. As can be seen in Table 3, only

TABLE 3

Logistic and multiple linear regression models for OCR behavior.

Independent Variables	Posted OCR Exp(β)	Positive OCR Exp(β)	Negative OCR Exp(β)	Number of OCRs[b] Standardized β
Gender	1.073	2.917	0.904	-0.078
Age	1.032**	1.071**	1.039**	0.023
Age Squared	0.999*	0.995*	0.999	0.032
Income	1.005	0.934	1.095	-0.085
Ethnicity	0.726	0.416	2.437	0.091
Extraversion	1.024	1.018	1.027	0.060
Neuroticism	1.003	0.966	1.031	0.000
Openness	1.045**	1.018	1.020	0.147**
Agreeableness	0.955*	1.040	0.921**	-0.050
Conscientiousness	1.020	1.114*	1.032	0.089
Constant	0.383	0.295	1.412	0.802
Likelihood Ratio χ^2	28.572**	31.394**	25.757**	
Nagelkerke R^2	0.051	0.249	0.099	
Model F				2.011*
Adjusted R^2				0.031

Note: Logistic regression was used to predict *posted OCR*, *positive OCR*, and *negative OCR*. Multiple linear regression was used to predict the *number of OCRs* posted in the previous twelve months. The total sample was used to predict *posted OCR* (*N=739*), and the sample was restricted to those who had posted an OCR to predict *positive OCR*, *negative OCR* and *number of OCRs (N=335*). For the logistic regression, variance accounted for was based on Nagelkerke R^2.
*$p<0.05$; **$p<0.01$; [a] Age is mean centered. [b] Number of OCRs is square root transformed.

openness was significantly and positively a predictor of the number of OCRs posted in the previous twelve months.

Summary of Results. In summary, we did not find support for our predictions regarding gender *(H1, H1a,* and *H1b*), income (*H3, H3a,* and *H3b*), and ethnicity (*H4, H4a,* and *H4b*). We find partial support for *H2* and *H2a*. The likelihood of posting OCRs does decrease, at higher age levels. In terms of the Big Five personality traits, we found that openness to new experiences (*H7*) was a significant predictor of OCR creation. However, contrary to our prediction, agreeableness (*H8*) was found to reduce the likelihood of posting OCRs. Extraversion (*H5*), neuroticism (*H6*), and conscientiousness (*H9*) were unrelated to the likelihood of posting OCRs.

Concerning positive and negative OCRs, we find a quadratic relationship between age and the likelihood of posting a positive OCR. Age had the expected positive effect on posting negative OCRs (*H2b*). Among the Big Five personality traits, only conscientiousness was found to be a significant predictor of generating positive OCRs (*H9a*) and agreeableness was a significant predictor of creating negative OCRs (*H8b*). Extraversion (*H5a* and *H5b*), neuroticism (*H6a* and *H6b*) and openness to new experiences (*H7a* and *H7b*) were unrelated to the likelihood of posting positive and negative OCRs.

DISCUSSION

One of the interesting aspects of OCRs is the inequality in the number of users and actual creators. A study by Pew Research Center found that while 78% of Internet users have researched products online, only 32% of Internet users have actually posted OCRs (Jansen, 2010). Thus, from a marketing point of view, it is important to find out who posts OCRs and what drives them to create positive and negative OCRs. The findings of this study provide important insights regarding the sociodemographic characteristics and personality traits associated with OCR creation.

Previous studies have found significant gender differences in eWOM activity. In particular, eMarketer (2009) and Yoo & Gretzel (2008) suggest that eWOM creators are more likely to be male. Our results, however, show no significant difference with regard to gender and OCR behavior. There are several possible explanations for these inconsistencies. First, our analysis does not distinguish among the various platforms for posting OCRs. Posting on a website like Amazon or eBay is very different than posting a review on Facebook or a blog. Previous studies show that bloggers are mostly male (Technorati, 2011). On the other hand, recent work by Wang et al. (2016) indicates that females are more likely to engage in eWOM on social network sites. Second, OCR behavior may vary within product types. Yoo & Gretzel's (2008) finding that eWOM creators tend to be male is in the context of travel-related eWOM. For other goods and services, we might expect females to be more likely to generate OCRs. Third, previous studies relating gender to OCR or eWOM behavior do not account for the different personality types. Males tend to score higher in certain facets of openness (Weisberg, DeYoung, & Hirsch, 2011), which has a significant influence on eWOM creation motivations, such as self-enhancement, helping others, and venting (Yoo & Gretzel, 2011). Consequently, the observed gender differences in eWOM activity found in some studies may be a reflection of underlying personality differences.

One of the most noteworthy findings of the current study is the non-linear (quadratic) association between age and OCR behavior. In particular, the likelihood of posting an OCR increases until the late 40s and then begins to fall. The odds of posting a positive OCR follows a similar pattern, with the turning point being somewhat earlier (late 30s). These patterns are likely a reflection of the consumer life cycle and technology acceptance rates. That is, consumers aged 40 to 50 are in their peak spending stage of the life cycle (Fernandez-Villaverde & Krueger, 2007). During this stage, they purchase more goods and services and will be inclined to review those products. Beyond age 50, Internet use (Pew Research Center, 2014a) and social media use (Pew Research Center, 2014b) begin to fall. As such, we would expect OCR behavior to decline as well. Interestingly, the odds of posting negative OCRs increases with age. Phau & Baird (2008) suggest that consumers over the age of 40 have higher expectations for the products they purchase and they are less concerned about social expectations and perceptions. Thus, they are more likely to complain. Furthermore, older consumers may have more time on their hands than younger consumers and are therefore more willing to expend the time and effort involved in making a complaint (Phau & Baird, 2008).

According to Jansen (2010), those in higher income brackets are more likely to post OCRs than those in lower income brackets. It is reasonable to assume that consumers with higher incomes purchase more goods and big-ticket items, therefore having more items to evaluate and review. Also, individuals with more income have greater personal resources which enable them to express satisfaction and dissatisfaction more readily (Tronvoll, 2007). However, we found income to be unrelated to the likelihood of posting an OCR. We performed an ad hoc analysis to identify possible reasons for this discrepancy. Specifically, we recoded the income variable as nine separate binary variables and included those in the regression models, while omitting the median income category (the omitted reference group). Using this approach, we found that the likelihood of posting a negative OCR does increase at lower income levels. Once income is greater than $75,000, the association between income and OCR behavior is no longer statistically significant. These results are consistent with Phau & Baird's (2008) findings that consumers with an income above $40,000 are more likely to complain than those with income of less than $40,000.

Regarding personality, our results reveal some expected and some unexpected results. Although extraversion was positively associated with all four measures of OCR behavior, none of the coefficients were statistically significant. This is somewhat surprising given that extraversion has been linked to information sharing and a number of online activities. Picazo-Vela et al. (2010) found similar results and suggests that the lack of face-to-face interaction may discourage extraverts from providing an OCR. These results suggest that online sellers may want to create a more interactive OCR platform in order to attract extraverts.

No association was found between neuroticism and OCR behavior. This could be the result of two countervailing factors. On the one hand, previous studies suggest neurotics may find OCR platforms too complicated and thus avoid posting OCRs in order to avoid the frustration (Picazo-Vela et al., 2010). On the other hand, previous studies have also found that higher levels of neuroticism are related to the use of Web social services, such as chat rooms (Hamburger & Ben-Artzi, 2000) and instant messaging (Ehrenberg et al., 2008). Given that neuroticism is related to loneliness, anxious and nervous people may use these services to seek support and company (Correa et al., 2010). The same relationship may hold for OCR behavior. Neurotics may view OCRs as a means of connecting with others. Therefore, the different facets of neuroticism may have conflicting effects on OCR behavior.

Although OCRs have been in use for years, they are still considered a novel method of gathering and sharing information about an online transaction. Thus, it is no surprise that individuals who are more open to new experiences are more likely to post OCRs and tend to post OCRs more frequently. Online retailers who wish to develop more OCRs may consider updating their website regularly and develop new and unique online experiences in order to attract this personality type.

Picazo-Vela et al. (2010, p. 693) suggest "that to view providing an online review as cooperative behavior or as accurate information sharing may be questionable. Specifically, because almost all online reviews are posted anonymously by buyers as an expression of personal satisfaction or dissatisfaction, individuals with high levels of agreeableness may perceive providing an online review not as a cooperative behavior or information-sharing behavior but as a behavior of expressing personal feelings." This notion, however, is inconsistent with Yoo & Gretzel's, (2011) study which found that reciprocity and altruism were strong motivations for eWOM creators with high levels of agreeableness.

We believe the reason for this apparent conflict in the literature is a failure to consider the impact of those who score low on the agreeableness scale (i.e., people who are disagreeable) and their tendency to generate negative OCRs. The results presented in this paper indicate that more agreeable people are less likely to post a negative OCR. Conversely, more disagreeable people have a greater likelihood of posting a negative OCR. This could be the result of a higher motivation to vent or express anger about a negative purchase experience, as those who are disagreeable are often antagonistic and vindictive (Costa et al., 1991).

If disagreeable people post negative OCRs for venting purposes and agreeable people post OCRs in order to help others, regression analysis may fail to identify a statistically significant association between agreeableness and OCR behavior. Our full-sample analysis indicates that people who are more agreeable are less likely to post OCRs. However, this is the result of disagreeable people having greater odds of posting negative reviews.

To the extent that posting an OCR is a helping behavior, it is not surprising to find that more conscientious people have a higher likelihood of posting positive OCRs. Because conscientious people are generally self-motivated, achievement-oriented and task-oriented (Barrick & Mount, 1991; Costa & McCrae, 1992; Goldberg, 1993) and cooperative (Molleman, 2004), they post positive OCRs in order to help others to make better decisions. Furthermore, providing an online review could be considered a part of the overall transaction. As such, high conscientious individuals may post an online review because they view it as the last step in completing an online transaction (Picazo-Vela et al., 2010).

CONCLUSION

In conclusion, the current study adds to a small body of research that focuses on the creators of OCRs. In particular, the results of this investigation demonstrate the impact of sociodemographic factors and the Big Five personality traits in predicting OCR behavior. Findings of this study may be used by marketers to elicit more positive OCRs and fewer negative OCRs. For example, Yoo & Gretzel (2011) suggest that web sites with OCR platforms may integrate a brief personality quiz in the registration process. This information could be used to help encourage positive OCR creation and help enhance the trust placed in the content by those who read them. Additionally, online retailers could use "friendly reminders" targeted at those groups that are likely to post positive OCRs.

The current study has several important strengths and limitations. The first major strength is that it addresses an important and timely topic that is largely ignored in the literature. While OCRs are an influential source of consumer opinion, much of the research examines the receiver's perspective rather than the sender. What remains relatively unknown is why consumers are inclined to post OCRs. This study is an attempt to address this research gap. Moreover, the results of this study are especially relevant in light of Amazon's recent announcement to ban "incentivized" reviews. Under the new guidelines, "creating, modifying, or posting content in exchange for compensation of any kind (including free or discounted products) or on behalf of anyone else" is now prohibited (Amazon, 2016). Consequently, it is important for marketers to know more about the conditions that enhance the likelihood of providing OCRs without an extrinsic inducement. Second, the determinant that explain consumers' decisions to engage in positive versus negative OCRs are likely to differ; however, there are no empirical studies that explore these factors. The current study is a first attempt to examine the role of sociodemographics and personality in determining both positive and negative OCR behavior. Third, the current study builds on previous studies on the role of personality in providing OCRs (e.g., Picazo-Vela et al., 2010) by (1) utilizing a larger, more age-diverse sample, (2) utilizing a longer version of the Big-Five personality measure in order to obtain higher alphas and good factor analysis fit, and (3) analyzing actual OCR behavior rather than intent.

Several limitations in this study should be noted, providing new directions for future investigation. First, the sample was younger, more affluent, and less racially diverse than the general population. Consequently, the generalizability of the study is limited and further research on a broader demographic sample may be warranted. Second, individuals who reported posting only negative reviews represented a fairly small group in our sample. Though there were still a number of significant inter-group differences, researchers may want to over sample this group in the future. Third, we used self-reports of OCR behavior as our primary outcome variables. As such, common-method bias is a potential problem. Future researchers can adopt procedural methods to address this issue. Fourth, the present study did not distinguish among the different OCR platforms and product types. The conditions that enhance the likelihood of generating OCRs could vary depending on the type of platform being used. For example, those individuals who post OCRs on websites like Yelp and TripAdvisor may have a very different sociodemographic and/or personality profile than those who post on social media websites like Facebook or Instagram. Similarly, there may be significant differences according to the type of product being reviewed. These differences may be further complicated depending on whether the reviews are incentivized or not. Thus, we suggest that future research examine various platform, product types, and forms of incentivization, which would ensure the generalizability of the present findings. Fifth, as mentioned in the literature review, previous research has given attention to the motivations for posting OCRs (e.g. Bechwati & Nasr, 2011; Dellarocas, 2003; Hennig-Thurau et al., 2004; Mcintyre et al.). The current study does not consider motivation, focusing instead on sociodemographic and personality factors. Future researchers will want to incorporate measures of motivations in the analysis OCR behavior. Finally, a substantial proportion of the variance in OCR behavior remained unexplained. It is possible that some variables not included in the models could account for substantial variance. Future research should continue to identify the factors predicting OCR behavior. It would also be interesting to investigate the factors that influence the degree of positivity and negativity of OCRs. That is, what are the characteristics of an individual that may help predict the posting of glowing OCRs versus scathing OCRs? But, these are tasks for the future.

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Christopher K. Manner
McAfee School of Business
Union University
1050 Union University Drive
Jackson, TN 38305-3697
cmanner@uu.edu

Wilburn C. Lane
McAfee School of Business
Union University
1050 Union University Drive
Jackson, TN 38305-3697
wlane@uu.edu

A MORE PERSONALIZED SATISFACTION MODEL: INCLUDING THE BFI-44 IN THE AMERICAN CUSTOMER SATISFACTION MODEL.

Dr. Elizabeth Crisp Crawford, North Dakota State University
Dr. Jeremy Jackson, North Dakota State University
Dr. Andrew Pritchard, Iowa State University

ABSTRACT

This study extends current research on customer satisfaction and the American Customer Satisfaction Index (ACSI) by incorporating personality into the American Customer Satisfaction Model (ACSM). Survey responses including basic demographic information, major choice, the ACSM, and BFI-44 were collected from 849 students from various colleges and universities across the United States. The research revealed that the BFI-44 can be reliably incorporated into the ACSM. Additionally, the inclusion of BFI personality traits substantially altered satisfaction rankings and comparisons that the students made relating to their choice of undergraduate major, a high-involvement product. The findings show that excluding personality from customer satisfaction data could result in less accurate information relating to customers' true satisfaction levels.

Keywords: customer satisfaction, personality, ACSM, five-factor model

INTRODUCTION

Hyper personalization is an important immerging marketing trend. Increasingly, consumers prefer individualized attention from organizations they patronize (Grossberg, 2016). Understanding customers is becoming more essential to finding and establishing a market and retaining loyal consumers. Identifying customer traits routinely helps marketers differentiate among potential consumer groups and create customized messages relating to these market segments. Traditional audience demographic data usually includes information such as age, income, and sex. Recent trends have suggested that common individual differences such as personality, passions, and positions on social and political issues should be used to identify and reach market segments (Stein, 2015; Hirsh, Kang & Bodenhausen, 2012, Haugtvelt, Petty & Cacioppo, 1992). Personality is an important customer characteristic that already has significant implications for advertising and marketing research (Haugtvelt, Petty & Cacioppo, 1992). Personality can influence perception of a product or service (Hennig-Thurau, 2004; Ekinci, & Dawes, 2009) and potentially introduce bias into the measurement of satisfaction. Research in customer satisfaction has explored the relationship between individual differences and complaining behaviors (Bodey & Grace, 2006; Gursoy, McCleary, & Lepsito, 2007), customer satisfaction antecedents (attitudinal, cognitive, social, and demographic), the connection between customer satisfaction and complimenting and complaining behaviors, and customer satisfaction outcomes (repurchase, loyalty, and firm performance) (Dahl & Peltier, 2015). Although the research on customer satisfaction has covered a range of topics, very little research has focused on the role that individual differences or personality plays in consumer satisfaction and dissatisfaction (Agarwal, Mehrotra, & Barger, 2016). Therefore, to follow recent trends in marketing, the research in customer satisfaction needs to explore how personality traits could increase the understanding of customer satisfaction.

In addition to attracting new customers, marketers need to retain the customers that they have. Attracting new customers is more expensive than maintaining one's current customer base. Satisfaction is one way that marketers work to maintain their clientele. Although scholars in marketing and retailing have examined how to promote products and advertise according to personality traits (Haugtvedt, Petty, & Cacioppo, 1992; Mooradian & Olver, 1997; Wolburg & Pokrywczynski, 2001), relatively little research has explored the influence of personality on customer satisfaction and intent to repurchase (Matzler, Faullant, Renzl, & Leiter, 2005; Gountas & Gountas, 2007; Jani & Han, 2014). The majority of the research on personality and customer satisfaction relates specifically to customer service experiences (Hennig-Thurau, 2004; Ekinci & Dawes, 2009; Agarwal et. al., 2016). The American Customer Satisfaction Model (ACSM) examines customer satisfaction in a broad context (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). The ACSM is one of the most important tools that marketers use to gauge the health of their industry, business, and brand. This research explores the influence of personality on customer satisfaction by including the Five-factor model (BFI-44) in the ACSM. A new model, PAM, is created that includes the five personality traits. By creating a model that accounts for the influence of personality on satisfaction, we can show a potential bias present in the current model, the ACSM.

LITERATURE REVIEW

There are many factors that drive product purchases. Advertising messages and retail environments are important tools that can influence individuals to make a purchase decision. However, most marketers want to do more than simply drive a single purchase; they want to cultivate customer loyalty to generate repeat purchases. Satisfying customers is key to achieving this essential goal. Marketing researchers agree that the benefits of customer loyalty should not be underestimated in today's competitive market (Reichheld & Teal, 1996; Yi, & Jeon, 2003; Yi & La, 2004). In addition to having an influence on how consumers perceive retail experiences and advertising and promotional messages, personality plays an important role in customers' satisfaction levels (Tan, Foo, & Kwek, 2004; Hirsh, Kang & Bodenhausen, 2012). Consumer post-purchase evaluation is essential to generating future sales. Satisfied customers tend to be more loyal and customer loyalty increases profits through repeat purchase (Anderson, Fornell, & Rust, 1997). During a social media age where customer reviews provide important information about products and services, customer satisfaction has become essential to organizational and product marketing and promotion. Satisfied customers generate free positive word-of-mouth saving media placement costs.

The benefits of customer satisfaction also extend beyond generating word-of-mouth and future sales. Corporate retention strategies are also positively influenced by customer satisfaction (Luo & Homburg, 2007). Because of its multifaceted nature, customer satisfaction also serves as an indicator of organizational effectiveness and value through increased stock prices (Luo, Homburg, & Wieseke, 2010). Research in the hospitality and tourism industries indicates that customer satisfaction enhances a firm's profitability and value (Sun & Kim, 2013).

Customer satisfaction and an understanding of consumer psychology are especially important for high-involvement products. High-involvement products and services are those that the consumer perceives to be of greatest importance and consumers think about the most. Mittal (1989) defines involvement as, "the degree of interest of a person in an object." Consumers with a high level of dedication are more affected by consumer-generated information such as online reviews (Park, Lee, & Han, 2007). Customers research high-involvement products, follow news and media coverage of the products, and even allow these types of products to form an aspect of their ego or identity (Taylor, 1999). Therefore, a great deal of care is taken in the selection of the high-involvement product or service. Because of the level of concern that the consumer demonstrates involving these types of products, customer satisfaction is extremely important.

An understanding of consumer psychology and personality traits can also help organizations understand whether their customers are truly satisfied with their product or service. A lower score from a group exhibiting certain personality traits might not actually indicate lower satisfaction if the market group's tendency is to be more conservative or critical in their reporting. Likewise, another group might be more inclined to report higher scores. However, these higher scores might not actually indicate higher satisfaction levels. Instead, the market group could be predisposed to try to please the researcher or might be less critical by nature. Like other aspects of marketing communication, customer satisfaction can also be influenced by demographics and personality traits. Relatively few studies have examined the influence of individual differences on customer satisfaction. The limited research that has explored personality and customer satisfaction found a significant relationship linking the two (Mooradian & Olver, 1997).

Gaining a better understanding of how individual differences, such as personality traits, influence satisfaction can help marketers better understand how to satisfy their highly-involved customers and interpret their satisfaction levels. For instance, market segments exhibiting certain personality characteristics might report higher or lower levels of satisfaction based on their individual predispositions (Brody & Cunningham, 1968; Haugtvedt, Petty, & Cacioppo, 1992; Hirsh & Dolderman, 2007). Therefore, the goal of this research is to incorporate personality into the ACSM to attain a more accurate reading of customer satisfaction within the context of a high-involvement product purchase.

The American Customer Satisfaction Index Model (ACSM)

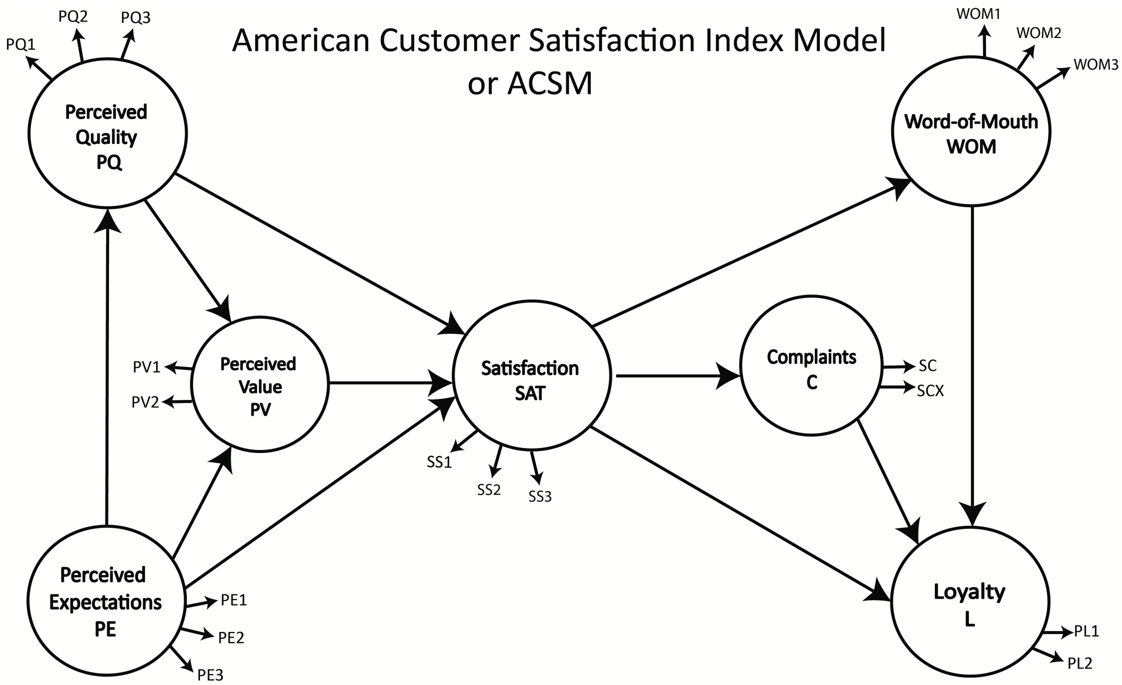
The ACSM is a market and consumer-based performance measure for organizations, economic sectors, and national economies. The ACSM is based in economics and reflects overall consumer satisfaction with products and services. The ACSM represents a cumulative evaluation of customer satisfaction rather than an evaluation of a single instance or transaction (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). The customer satisfaction literature provides a number of models and measures for evaluating customer satisfaction. However, the ACSM is unique in offering both antecedents and consequences of satisfaction. Researchers and practitioners benefit greatly from knowing specific factors influencing satisfaction as well as the ways satisfaction influences organizational constructs. The ACSM is also robust and adaptable. It can be successfully applied to a variety of goods and services (Anderson & Fornell, 2000).

Cumulatively, the ACSM represents a comprehensive evaluation of organizations' market offerings rather than an individual's assessment of a market transaction. Even though transaction specific measures provide information about specific situations relating to consumers' interactions with products and services, overall satisfaction is a broader assessment of an organization's past, current, and future performance through the lens of customers' expectations and experiences (Anderson, Fornell, & Lehmann, 1994). Measurements of customer satisfaction also have predictive value because they can be used to forecast future profits.

Customer satisfaction as measured by the ACSM has three antecedent variables: customer expectations, perceived value, and perceived quality. Perceived expectations (PE) represent the served market's previous consumption experience, including non-experiential information available through sources such as advertising and word-of-mouth, and the customer's evaluation of the firm's ability to deliver quality in the future. Including perceived value (PV), or the perceived level of product quality relative to the price paid, adds price information into the model and increases comparability of results. Perceived quality (PQ) or performance evaluates the served markets' perceptions of their consumption experience. PQ is expected to positively and directly influence customer satisfaction (Anderson & Fornell, 2000).

Increased customer satisfaction results in an increase in customer loyalty and a decrease in customer complaints (Fornell & Wernerfelt, 1988). Because of its value as a proxy for profitability, loyalty is the most important dependent variable in the ACSM (Reichheld & Sasser, 1990). The other outcome, customer complaints, indicates dissatisfaction. Customers have the option of switching to a competitor or voicing complaints (Reichheld & Sasser, 1990). Word-of-mouth from satisfied customers reduces the expense of attracting new customers and improves the organization's reputation. Word-of-mouth from dissatisfied customers has the opposite effect (Anderson, 1998; Fornell, 1992). Therefore, organizations providing excellent quality enjoy economic returns related to their customers' satisfaction. A visual representation of the ACSM can be seen in figure one below.

FIGURE 1
AMERICAN CUSTOMER SATISFACTION MODEL (ACSM) AND ITS LOADINGS



Although the ACSM measures satisfaction, customer satisfaction is not directly observable. Therefore, ACSM constructs are latent variables that cannot be measured directly. The ACSM is measured through a 19-item survey that includes a series of five-point Likert-type scales. The survey items form seven subscales, and these subscales generate an overall satisfaction measure (Serenko, 2011).

Personality and Customer Satisfaction

Satisfaction is often measured based on survey responses to questionnaires that compile data about customer demographics and satisfaction with a product or service. However, this approach to evaluating satisfaction assumes that all respondents will answer items in the same way. While this approach is very common, it is highly plausible that individuals with certain personality traits might be more inclined to report being highly satisfied than others introducing bias into the measurement of satisfaction. This tendency can either be because people with certain personality traits experience higher/lower levels of satisfaction than others or because personality traits fundamentally influence the way individuals report their satisfaction (Jackson, Crawford & Pritchard, 2017).

An individual's satisfaction with a given decision is shaped by many factors. Successful marketing strategy ultimately depends upon satisfying customer wants and needs and thereby generating customer utility. Marketers recognize that consumer behavior and satisfaction is driven by a variety of personal and contextual factors. Marketers segment audiences according to these factors. The purpose of such segmentation is to identify and serve individual customers with similar needs and behaviors (Wedel & Kamakura, 1998). The opportunity to market to groups of individuals rather than a mass market leads to a more customized message and potentially to more profitability. Academic research has shown that tailoring marketing messages by individual personality traits is more effective than using basic demographics (age, income, sex, etc.) alone (Hirsh, Kang, & Bodenhausen, 2012). Consumer products attract different markets and those markets might report satisfaction differently based on their personality. For instance, people buying a Dell laptop might be much easier to please than MacBook laptop users. MacBook users might be looking for more than a product that functions well. Being a MacBook user might be part of their common identity. And, many Macintosh users may share common personality traits that might predispose them to evaluate their laptop differently than a Dell laptop user. Therefore, organizational evaluation of customer satisfaction data might be enhanced by including information about consumers' personality traits in the data.

This study focuses on the often-overlooked influence of personality traits on customer satisfaction. Personality is defined as a person's stable personal dispositions that determine consistent patterns of behavior across contexts (Widhiarso, 2011). Traits are the building blocks of personality (McCrae & Costa, 1987). In the 1980s John, Donahue, and Kentle developed the Big Five Inventory (BFI) measuring the five-factor model of personality in an abbreviated form (John, Naumann, and Soto, 2008). The five-factor model is measured by the BFI-44, a forty-four item Likert-type questionnaire that measures the personality constructs of **O***penness to experience,* ***C****onscientiousness,* ***E****xtraversion,* ***A****greeableness,* and ***N****euroticism*. The first letters of the five traits spell the acronym OCEAN. *Openness to experience* is characterized by imagination, intellect, and independent thought. *Conscientiousness* relates to orderliness, responsibility, and dependability. *Agreeableness* is demonstrated through cooperativeness and by being good-natured and trusting. Agreeable people are motivated to maintain positive relationships with others (Jessen-Campbell & Graziano, 2001). *Extraversion* is manifested in being talkative, assertive, and energetic. The extravert prioritizes social behavior and the impact of social behavior (Jessen-Campbell & Graziano, 2001). Emotional stability (versus *Neuroticism*) is described as being calm, not neurotic, and not easily upset (John & Strivastava, 1999). All personalities can be described through these five traits that are enduring and consistent over time and across situations.

Scholarly research utilizing the BFI-44 yields adequate to excellent internal consistency reliabilities, with alpha reliability coefficients from .75 to .90. Both content and factor analyses of differential measurements of the BFI-44 replicate the underlying five-factor model (John & Strivastava, 1999). When completing the BFI-44, research participants rated 44 statements about themselves on a five-point Likert scale ranging from "disagree strongly" to "agree strongly." In about five minutes, research participants can complete the entire BFI-44.

Individual personality traits can influence affect or emotion. And affective experiences can have an influence on satisfaction (Mooradian & Olver, 1997). Temperamental differences in Extraversion (Argyle & Lu, 1990) and emotional stability can have an effect on positive affect and provide the psychological basis of happiness. Agreeableness provides the social and Conscientiousness provides the achievement components of happiness (Furnham, & Cheng, 1997; Hayes & Joseph, 2003). Combined, these four traits constitute the happy personality. The BFI traits also influence purchasing behavior. Mooradian and Olver's (1997) model connecting personality, consumption-based emotions, satisfaction, and post-purchase outcomes was mostly affirmed. Extraversion predicted positive consumption-based emotions. Neuroticism had a relationship with negative consumption-based emotions. These findings supported previous research suggesting that product satisfaction is increased by both positive product-based emotions and affirmation of expectations related to the product and decreased by negative product-based emotions (Mooradian & Olver, 1997).

Including personality traits as defined by the BFI-44 in the ACSM allows satisfaction to be measured in a manner that accounts for individual bias related to individual differences manifested in personality traits. Therefore, including personality into an adjusted ACSM could allow the ACSM to reveal a more true satisfaction score. Previous research has not explored the influence of personality on the ACSM.

RESEARCH QUESTIONS AND HYPOTHESES

Drawing from the literature, we developed the following research questions and hypotheses related to incorporating personality traits into the ACSM.

RQ1: Can the BFI personality traits be reliably incorporated into the ACSM?

H1: Individuals possessing the happy personality traits of Extraversion, Emotional stability, Conscientiousness, and Agreeableness will report higher satisfaction levels.

H2: The inclusion of the BFI personality traits will increase the goodness of fit relative to the ACSM.

RQ2: Does the inclusion of BFI personality traits substantially alter satisfaction rankings and comparisons?

Sample Description

A student sample was used to measure satisfaction and personality within the context of the students' experiences with their undergraduate majors, a high-involvement product. Although satisfaction with a student's major is not the primary research question for this study, it provides a context through which personality and satisfaction can be studied. Responses to an instrument including the ACSM and the BFI-44 were solicited through an anonymous online survey administered to students at various public and private institutions of higher education. Surveys were collected from two different regions of the United States. No students were required to complete the survey as part of required course activities but some students were offered a small amount of course credit for participation.

Upon IRB protocol approval, we obtained online survey responses from 11 universities located in nine US states. Both private and public universities were included. The institutions ranged in size from small liberal arts colleges to larger public universities. We did not solicit any responses from elite colleges and universities. The majority of the student sample population was comprised of undergraduates enrolled in principles of microeconomics classes with the remaining students enrolled in mass communication or human communication classes. Although the student sample was gathered from communication and economics classes, the sample represented a range of majors due to these classes satisfying general education requirements.

A total of 849 students participated in the survey. Tables 11 and 12 provide count data on the number of students in the sample by college and major respectively. After narrowing the data set to students listing a major who fully responded to the

BFI-44 question and the full set of ACSM question, 710 students remained in the sample. The data set was 50.4% female (N = 358) and 48.2% male (N = 342), approximately matching the current sex ratio in undergraduate education, which skews female. The students represented public higher education institutions (87.5%, N = 621) more than private institutions (10.4%, N = 74).

RESULTS

Estimating the ACSM

SMART-PLS was used to estimate the ACSM model given in Figure 1. The outer loadings from the PLS estimation are given in Table 1 with the path coefficients given in Table 2. Standard errors reported in all tables were generated from bootstrapping the sample 1000 times; highly statistically significant as is expected.

All outer loading coefficients are of the appropriate sign and Path coefficients are also of the expected signs, but there is not significance along all paths in the model. The pathways from Complaints to Loyalty and from Perceived Expectations to Satisfaction are not significant at any level. Perceived Expectations have an indirect impact on Satisfaction in the model though the effects on Perceived Quality and Perceived Value which both have a significant effect on Satisfaction. The lack of statistical significance for the path from Complaints to Loyalty, however, is reflective of the poor reliability scores of the Complaints construct. The students in the sample rarely complain, limiting the usefulness of the measure. The reliability scores of each latent variable are reported in Table 3.

TABLE 1
ACSM OUTER LOADINGS

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
PE1 <- PE	0.911	0.911	0.009	105.491	0.000
PE2 <- PE	0.904	0.904	0.010	92.084	0.000
PE3 <- PE	0.932	0.932	0.007	142.278	0.000
PL1 <- L	0.939	0.939	0.008	111.103	0.000
PL2 <- L	0.944	0.944	0.006	166.688	0.000
PQ1 <- PQ	0.921	0.921	0.008	108.920	0.000
PQ2 <- PQ	0.929	0.929	0.009	108.180	0.000
PQ3 <- PQ	0.924	0.924	0.009	101.923	0.000
PV1 <- PV	0.926	0.926	0.007	131.339	0.000
PV2 <- PV	0.838	0.838	0.025	34.132	0.000
SC <- C	0.968	0.929	0.243	3.988	0.000
SCX <- C	-0.552	-0.575	0.239	2.310	0.021
SS1 <- SAT	0.907	0.907	0.006	146.935	0.000
SS2 <- SAT	0.798	0.797	0.024	32.912	0.000
SS3 <- SAT	0.900	0.900	0.008	117.825	0.000
WOM1 <- WOM	0.914	0.914	0.011	83.129	0.000
WOM2 <- WOM	0.958	0.958	0.005	197.736	0.000
WOM3 <- WOM	0.949	0.949	0.006	160.217	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

TABLE 2
ACSM PATH COEFFICIENTS

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
C -> L	-0.017	-0.017	0.030	0.566	0.571
PE -> PQ	0.416	0.416	0.041	10.258	0.000
PE -> PV	0.124	0.124	0.038	3.246	0.001
PE -> SAT	0.043	0.043	0.027	1.558	0.120
PQ -> PV	0.522	0.523	0.033	15.837	0.000
PQ -> SAT	0.642	0.641	0.030	21.470	0.000
PV -> SAT	0.212	0.213	0.030	7.132	0.000
SAT -> C	0.262	0.256	0.078	3.350	0.001
SAT -> L	0.298	0.296	0.047	6.403	0.000
SAT -> WOM	0.698	0.699	0.024	29.193	0.000
WOM -> L	0.460	0.462	0.045	10.177	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

TABLE 3
ACSM EVALUATION

	CRONBACH'S ALPHA	COMPOSITE RELIABILITY	AVE	R SQUARE
C	-0.957	0.185	0.620	0.069
PE	0.904	0.940	0.839	
L	0.872	0.940	0.887	0.486
PQ	0.915	0.947	0.855	0.173
PV	0.726	0.876	0.780	0.342
SAT	0.839	0.902	0.756	0.644
WOM	0.935	0.958	0.885	0.488

Every measure, except for Complaints, gets satisfactory [1] reliability scores on AVE, Composite Reliability, and Cronbach's alpha statistics. That discriminant validity is satisfied for the ACSM is demonstrated by examination of tables A1 and A2 in the appendix, which display the Fornell-Larker Criterion[2] and Cross Loadings[3], respectively. The ACSM model explains 64% of the

[1] We apply the commonly accepted thresholds in the literature for reliability statics. Specifically we require: Cronbachs alpha ≥ .7, Average Variance Extracted (AVE) ≥ .5, and Composite Reliability ≥ .7. These threshold's are applied throughout the study.

[2] The Fornell-Larker criterion accesses discriminant validity by requiring the square root of AVE of any construct should be greater than the correlation coefficient with all other constructs.

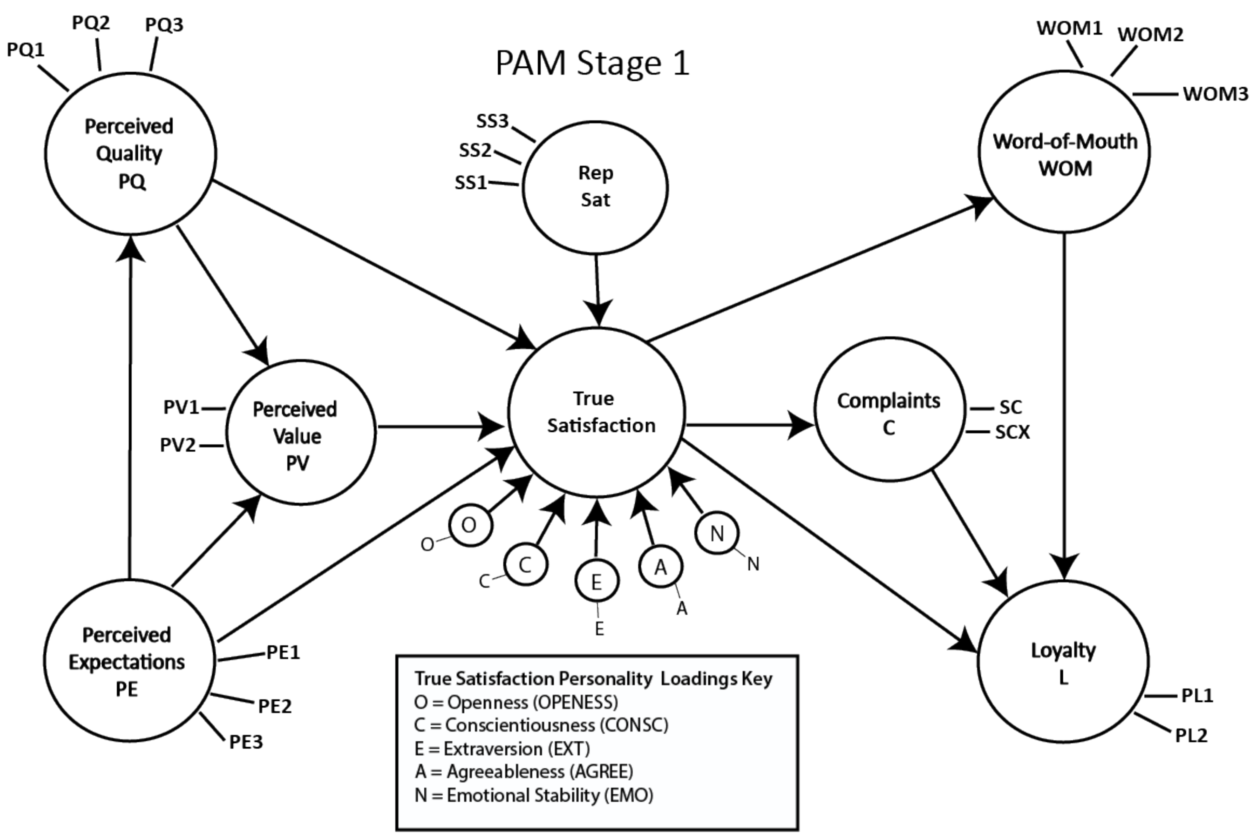
[3] Cross Loadings demonstrate discriminant validity when a constructs highest loadings come from the items used to measure it.

variation in Satisfaction and 49% of the variation in Loyalty as shown by R Squared statistics reported in Table 3.

The Personality Adjusted Model (PAM): Incorporating PAM Into the ACSM

This study does not merely replicate the already established ACSM model. Rather, the robustness of the ACSM to the inclusion of personality traits is tested. To do so, a modification of the ACSM that we refer to simply as the Personality Adjusted Model (PAM) is proposed. The Big-five personality dimensions are utilized as the personality measures in the PAM. This study uses the BFI-44 but practitioners could easily include the Big-five dimensions by using the shorter 10-question inventory (Gosling, Rentfrow, & Swann, 2003).

FIGURE 2
PAM STAGE 1



Large bodies of work have shown that personality is a significant source and cause of satisfaction yet the ACSM completely ignores it. This new model makes a distinction between a consumer's Reported Satisfaction (which is what the ACSM measures) and a consumer's "true" Satisfaction, which may deviate from what is reported due in part to the influence of personality. Satisfaction is surely partially composed of Reported Satisfaction. However, the PAM model also incorporates the fact that people with different personality traits experience and report satisfaction differently. Personality is added to the ACSM, which results in a Reflective-Formative Type (Becker et al., 2012) Hierarchical Component Model (HCM) in which the latent variable Satisfaction is formatively constructed from six latent structures: Reported Satisfaction (Rep Sat), Agreeableness (AGREE), Conscientiousness (CONSC), Extraversion (EXT), Emotional stability (EMO), and Openness (OPENESS). Reported Satisfaction is measured reflectively by the three standard ACSM questions regarding satisfaction. Each of the personality trait latent variables are single item reflective measures derived from the personality score in the BFI-44.[4] The structure of the PAM model is presented in Figure 2.

The PAM model is a HCM that can be estimated in two stages. In the first stage, estimates are generated for the latent constructs of Rep Sat and each of the personality traits. When using this two-step procedure, it is important that all constructs satisfy the appropriate validity measures. The validity statistics for the stage 1 of PAM constructs are given in Table 4. Note that Reported Satisfaction satisfies minimum thresholds with a Cronbach's alpha of .839, an AVE of .757 and a Composite Reliability of .903. The personality latent constructs are one item measures whose validity can't be assessed. Although True Satisfaction is technically measured reflectively in the Stage 1 process, the latent score for True Satisfaction is estimated formatively in the second stage. Discriminant validity is displayed in Tables A3 and A4 which give the Fornell-Larker Criterion and Cross Loadings, respectively. The first stage outer loadings, see Table A5, confirm that personality scores have a significant relationship with satisfaction as each has a statistically significant effect on True Satisfaction.

The second stage of the PAM model (see figure 3) uses latent variable scores for Rep Sat along with personality traits to formatively measure True Satisfaction. The outer loadings from the second stage of the PAM are given in Table 5. Reported Satisfaction is the main driver of True Satisfaction yet each of the Big Five personality traits is significant in its measure as well. All other coefficients are very similar to those in the standard ACSM

[4] It is possible to reflectively measure each personality trait by each question in the BFI-44 rather than as a single item. We chose to use single item measures to minimize the impact of personality traits on Satisfaction in the model. Because Reported Satisfaction is a three-item measure, its influence receives higher weight in the two-stage HCM procedure.

FIGURE 3
PAM STAGE 2

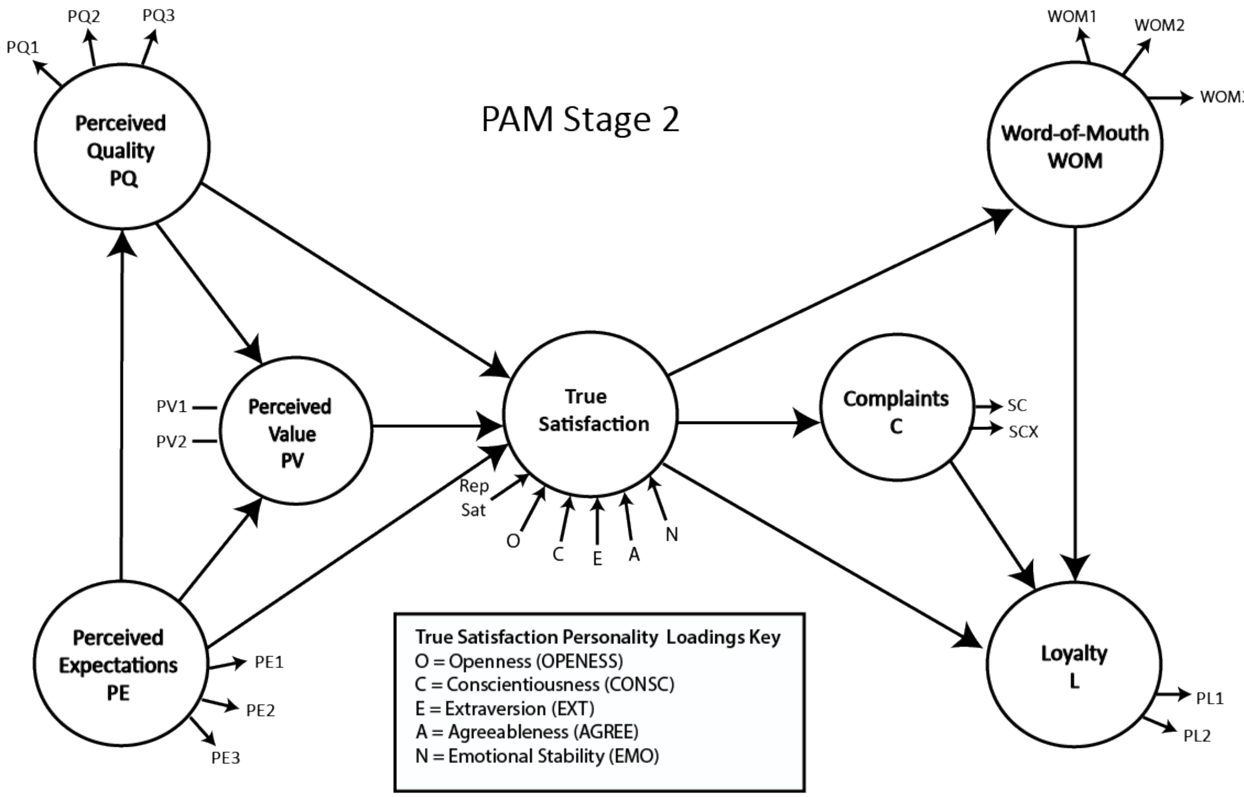


TABLE 4
PAM STAGE 1: EVALUATION

	CRONBACH'S ALPHA	COMPOSITE RELIABILITY	AVE	R SQUARE
AGREE	1.000	1.000	1.000	
C	-0.957	0.198	0.616	0.059
CONSC	1.000	1.000	1.000	
EXT	1.000	1.000	1.000	
EMO	1.000	1.000	1.000	
OPENESS	1.000	1.000	1.000	
PE	0.904	0.940	0.839	
L	0.872	0.940	0.887	0.484
PQ	0.915	0.947	0.855	0.173
PV	0.726	0.876	0.780	0.341
REPORTED SAT	0.839	0.903	0.757	
TRUE SAT	0.660	0.744	0.318	1.00
WOM	0.935	0.958	0.885	0.506

TABLE 5
PAM STAGE 2: OUTER LOADINGS

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
AGREE -> TRUE SAT	0.335	0.335	0.044	7.700	0.000
CONSC -> TRUE SAT	0.253	0.253	0.047	5.408	0.000
EXT -> TRUE SAT	0.139	0.137	0.049	2.820	0.005
EMO -> TRUE SAT	0.232	0.230	0.049	4.760	0.000
OPENESS -> TRUE SAT	0.088	0.086	0.051	1.725	0.085
PE1 <- PE	0.911	0.911	0.008	110.780	0.000
PE2 <- PE	0.904	0.904	0.010	91.227	0.000
PE3 <- PE	0.932	0.932	0.006	145.897	0.000
PL1 <- L	0.939	0.939	0.009	106.849	0.000
PL2 <- L	0.945	0.945	0.006	162.991	0.000
PQ1 <- PQ	0.921	0.921	0.008	113.380	0.000
PQ2 <- PQ	0.929	0.929	0.008	109.526	0.000
PQ3 <- PQ	0.925	0.925	0.008	111.867	0.000
PV1 <- PV	0.924	0.925	0.007	129.909	0.000
PV2 <- PV	0.840	0.839	0.025	33.932	0.000
REPORTED SAT -> TRUE SAT	0.985	0.984	0.005	185.761	0.000
SC <- C	0.967	0.946	0.169	5.729	0.000
SCX <- C	-0.553	-0.586	0.189	2.927	0.004
WOM1 <- WOM	0.914	0.914	0.011	82.980	0.000
WOM2 <- WOM	0.958	0.958	0.005	199.545	0.000
WOM3 <- WOM	0.949	0.949	0.006	158.810	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

TABLE 6
PAM STAGE 2: PATH COEFFICIENTS

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
C -> L	-0.015	-0.015	0.030	0.483	0.629
PE -> PQ	0.416	0.418	0.041	10.075	0.000
PE -> PV	0.124	0.123	0.038	3.254	0.001
PE -> TRUE SAT	0.070	0.068	0.027	2.564	0.010
PQ -> PV	0.522	0.522	0.034	15.387	0.000
PQ -> TRUE SAT	0.625	0.626	0.030	20.601	0.000
PV -> TRUE SAT	0.213	0.214	0.033	6.473	0.000
TRUE SAT -> C	0.255	0.255	0.059	4.301	0.000
TRUE SAT -> L	0.308	0.312	0.045	6.893	0.000
TRUE SAT -> WOM	0.712	0.714	0.022	31.997	0.000
WOM -> L	0.449	0.446	0.046	9.780	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

The path coefficients for the PAM are given in Table 6. All paths have the expected sign. The only path that is not significant is the path from True Satisfaction to Complaints (C). The path from Perceived Expectations to Satisfaction was not significant in the ACSM, but the path from Perceived Expectations to True Satisfaction is significant in the PAM model.

Reliabilities for the latent constructs are found in Table 7 and meet minimum thresholds again with the exception of Complaints, which also failed in the ACSM. True Satisfaction, as a formative measure, doesn't have Cronbach's alpha, AVE, or Composite Reliability scores. The outer weights, Table 8, do inform us on the contribution that each formative indicator makes to the measurement of True Satisfaction. All personality traits with the exception of Extraversion and Emotional Stability have significant outer weight values. The R squared value for True Satisfaction is .641 indicating that 64% of the variance in True Satisfaction is explained by the model. This is slightly lower than the R-squared value of .6442 of Satisfaction in the ACSM model. Discriminant validity is displayed in Tables A6 and A7, which give the Fornell-Larker Criterion and Cross Loadings, respectively.

This research has demonstrated that the PAM model and its constructs are valid just as those of the ACSM have been shown to be valid in the existent literature. Thus, the researchers can answer RQ1 with an affirmative yes.

As stated in our first hypothesis (H1), we predicted that individuals possessing the happy personality traits of Extraversion (EXT), Emotional stability (EMO), Conscientiousness (CONSC), and Agreeableness (AGREE) would report higher levels of satisfaction. Consistent with this hypothesis, each of the personality traits receive positive outer loading and weights. Each of the personality traits except for Extraversion (EXT) and Emotional stability (EMO) generate statistically significant outer weights. The happy personality traits of Agreeableness (AGREE) and Conscientiousness (CONSC) both contribute positively to satisfaction at a statistically significant level. Therefore, the research supported H1. Interestingly, although Openness (OPENESS) is not a part of the happy personality, it contributes positively to customer satisfaction at the 10% level of confidence.

TABLE 7
PAM STAGE 2: EVALUATION

	CRONBACH'S ALPHA	COMPOSITE RELIABILITY	AVE	R SQUARE
C	-0.957	0.184	0.621	0.065
PE	0.904	0.940	0.839	
L	0.872	0.940	0.887	0.488
PQ	0.915	0.947	0.855	0.173
PV	0.726	0.876	0.780	0.341
TRUE SAT				0.641
WOM	0.935	0.958	0.885	0.507

TABLE 8
PAM STAGE 2: OUTER WEIGHTS

	ORIGINAL SAMPLE	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUES
AGREE -> TRUE SAT	0.108	0.108	0.031	3.464	0.001
CONSC -> TRUE SAT	0.069	0.067	0.028	2.482	0.013
EXT -> TRUE SAT	0.022	0.021	0.029	0.746	0.456
EMO -> TRUE SAT	0.011	0.011	0.032	0.353	0.724
OPENESS -> TRUE SAT	0.049	0.047	0.029	1.706	0.088
PE1 <- PE	0.355	0.354	0.013	27.314	0.000
PE2 <- PE	0.361	0.362	0.014	25.480	0.000
PE3 <- PE	0.376	0.375	0.012	30.247	0.000
PL1 <- L	0.518	0.518	0.009	55.273	0.000
PL2 <- L	0.544	0.544	0.013	42.075	0.000
PQ1 <- PQ	0.368	0.368	0.007	54.995	0.000
PQ2 <- PQ	0.360	0.360	0.006	63.732	0.000
PQ3 <- PQ	0.354	0.354	0.006	57.998	0.000
PV1 <- PV	0.660	0.660	0.026	25.132	0.000
PV2 <- PV	0.464	0.463	0.020	23.228	0.000
REPORTED SAT-> TRUE SAT	0.951	0.949	0.013	70.564	0.000
SC <- C	0.880	0.830	0.158	5.573	0.000
SCX <- C	-0.269	-0.291	0.123	2.186	0.029
WOM1 <- WOM	0.360	0.360	0.007	53.700	0.000
WOM2 <- WOM	0.356	0.356	0.005	72.569	0.000
WOM3 <- WOM	0.348	0.348	0.005	72.638	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

Next, we tested hypothesis two (H2), or whether the inclusion of personality traits increased the goodness of fit relative to the ACSM. Although there is no consensus in the PLS methods literature on an overall measure of goodness of fit, we give the results of several competing measures for both the ACSM and PAM models in Table 9. The standardized root mean square residual (SRMR) value for ACSM is .054 and .047 for the PAM. This indicates a good fit for both models with a slight favoritism to the PAM model. Likewise, the Normed Fit Index (NFI), Bentler and Bonett (1980), values of .840 and .842 for the ACSM and PAM models, respectively, also slightly favors the fit of the PAM model over the ACSM. The answer to RQ2 is another yes. Inclusion of the Big Five personality traits in the ACSM to create the PAM does increase model fit supporting H2. This is of no consequence, however, if the PAM and the ACSM ultimately give identical output. The research now shows that choice of model does influence satisfaction ranking.

TABLE 9
MODEL COMPARISON: GOODNESS OF FIT

	ACSM	PAM
SRMR	0.054	0.047
NFI	0.840	0.842

TABLE 10
RANKING OF MAJOR CATEGORY

Major Area	ACSM	PAM	Count
Communication and Media	1	1	113
Sciences (STEM and Agriculture)	2	2	233
Pre-professional, Health, and Education	3	4	117
Arts, Letters, and Social Sciences	4	3	69
Business	5	5	136

Personality's Influence On Rankings and Comparisons

To answer the second research question (RQ2), we further compared the customer satisfaction output of the two models as they rank the various colleges of the university by satisfaction. To compute a satisfaction score for a college we identify the academic home of each major in the sample and then compute the average of the satisfaction latent variable for each of the two models (SAT for the ACSM and TRUE SAT for the PAM). We provide the ranking of each college under the two models in Table 10. While rankings are similar, if you are the Dean of Arts, Letters, and Social Sciences you would much prefer the output under the PAM rather than ACSM model as the ranking of that college jumps from 4th using the ACSM to 3rd using PAM. While it is relatively mild at this level, the rankings do change depending on the underlying model.

Similar rankings are also computed for individual college majors. As there are many majors in the sample, and many have such a small number, only those majors that have 15 or more students in the sample are ranked. Table 11 shows the ranking using each of the two models. Again, while the rankings are similar, there are a number of jumps up and down. Advertising/PR moves from a third ranking all the way to first when personality is included in the measurement of satisfaction. Crop and Weed Science moves from second to third and Sports Communication drops from first to second. There is less switching in the middle and lower ranks. Engineering and Agribusiness flip their rankings with Agribusiness moving from 8th to 7th place when personality is taken into account. Accounting and Marketing have a similar flipping of rankings as Marketing moves up to take Accountings 12th place ranking in the PAM vs ACSM. Therefore, it is concluded that personality inclusion does substantially alter satisfaction rankings and comparisons. The answer to RQ2 is another yes. Personality traits do appear to influence students' reported satisfaction with their majors and their rankings.

TABLE 11
RANKING OF MAJOR

Major	ACSM	PAM	Count
Sports Communication	1	2	18
Crop & Weed Science	2	3	18
Advertising & PR	3	1	38
Architecture & Landscape Architecture	4	4	17
Animal Science & Veterinary	5	5	29
Pharmacy	6	6	41
Engineering/Civil Engineering/Industrial	7	8	46
Agribusiness	8	7	34
Criminal Justice	9	9	15
Journalism (all other)	10	10	31
Human/Family Development/Social Work	11	11	15
Accounting & Finance	12	13	48
Marketing	13	12	21
Business/Administration/Management	14	14	54

Distribution Of Personality Traits

Figures A1-A5 show 90% confidence intervals about the sample mean of each of the Big Five personality traits broken down by college. Communication students have the highest average Extraversion scores which are statistically distinguishable from the lower averages for Arts and Letters, Sciences, and Pre-Professional students. None of the colleges have a distinguishable mean score in Agreeableness. The students with the highest Consciousness scores are those in Arts and Letters and the Sciences. While lowest average scores are had by students in Business the confidence intervals do slightly overall. The most Emotionally Stable students are in the Sciences and the average there is statistically greater than the mean for both Communication and Pre-Professional students.

Figures A6-A10 show 90% confidence intervals about the sample mean of each of the Big Five personality traits broken down by major for each major with 15 or more observations in our sample. These figures demonstrate that there are systematic differences in the distribution of personality traits by students in different college majors in the sample. This is consistent with previous literature (Crawford, Fudge, Hubbard, & Filak, 2013; Pringle, DuBose, & Yankey, 2010) which has demonstrated that personality traits are correlated with student choice of major. Marketing and Sports Communication students report the most extraversion. Engineering students are the least agreeable. Advertising, Crop and Weed Science, and Criminal Justice report the highest scores in Conscientiousness. Journalism and Human Development students are the least emotionally stable. Journalism and Architecture students report high Openness while Agribusiness, Crop and Weed Science, and Human Development students report low scores.

Personality is closely linked to student satisfaction because personality is closely linked with affect. Previous research demonstrated that customer satisfaction has emotion-based antecedents (Mooradian & Olver, 1997). Communication students had the highest average level of Extraversion and scored relatively high on Agreeableness. Personality literature would state that this combination of traits fosters positive emotion and this emotion would enhance students' satisfaction levels (Mooradian & Olver, 1997). Likewise, the majors that reported the highest levels of satisfaction (Marketing, Sports Management, and Advertising and PR) also tended to score high on Extraversion and Agreeableness. Therefore, our findings are consistent with previous literature linking Extraversion, positive affect, and satisfaction (Mooradian & Olver, 1997, Larsen & Ketelaar, 1989; Larsen & Ketelaar, 1991).

DISCUSSION AND LIMITATIONS

According to the latest ACSM information, customer satisfaction in the United States is at a nine year low (Klie, 2015). Although declining customer satisfaction scores are not a new phenomenon, researchers suggest the low scores are taking a toll on the U.S. national gross domestic product averages, economy, and employment market (Klie, 2015). Because many sectors of the U.S. economy depend on reliable analysis from the ACSM, it is imperative that the information that is collected be as accurate as possible. This is especially true for high-involvement products. Without accurate information, organizations cannot make the appropriate adjustments to products and messaging to see improvement in satisfaction.

The results of the study demonstrate that including personality in the ACSM measures is imperative to gathering accurate information about satisfaction levels. Significant differences were found between the scores and rankings using the standard ACSM and the PAM. The bias exists to the extent that customers' personality traits are influential in their choice to consume a product, in this case a college major. As advertising and other marketing efforts often target customers with particular traits such bias is likely to be prevalent among consumer groups. The personality of Chevrolet customers is likely to be systematically different from that of Lexus customers. Therefore, one could expect that differences in reported satisfaction scores could be related to both personality and satisfaction levels. In fact, advertising and marketing trends encouraging product messages to become increasingly personalized might perpetuate and amplify such distinctions. By accounting for the influence of personality in the model, we are able to more accurately measure customer's true satisfaction levels.

By understanding the influence that personality has on satisfaction one can better interpret the meaning of the customer satisfaction data that one obtains through the ACSM. Without the PAM model, firms might be overestimating or underestimating customer satisfaction levels. Some of what marketers might interpret as satisfaction or dissatisfaction from data analysis from the ACSM could relate to customer personality traits instead of actual customer experiences with a service or the performance of a product. By including personality in the model, the influence of personal differences is removed from satisfaction and, through this process, the ACSM's focus on the actual customer experience is increased. By including personality as part of the customer information included in the ACSM through the new PAM model, the ACSM performance and accuracy is improved.

Although this research has shown that personality plays an important role in reported customer satisfaction levels, there are some limitations to the research.

Customers report various involvement levels for different kinds of products and services (Vaughn, 1980; Vaughn, 1986; Taylor, 1999). A college major is considered a high-involvement product or service because students put a great deal of time and effort into selecting the right major for their individual needs and strengths. A choice of college major reflects strongly on the student. Other examples of high-involvement products could include health care, automobiles, real estate, and travel and tourism. These high-involvement products tend to personalize their messages to resonate with their chosen consumer groups. However, other products typically involve less consideration from the consumer. These products would be considered low involvement. Examples of products that are typically low involvement would include paper products, personal care items, groceries, and cleaning supplies. Because consumers do not involve themselves as much in these more routine purchases, it is not clear that personality or personalized marketing would have the same level of influence. In addition, hyper-personalized marketing and relationship marketing techniques are less prevalent in goods that are marketed to mass audiences (Gordon, McKeage, & Fox, 1998).

Another research limitation involves the bias that personality traits can introduce into survey-driven metrics. For instance, individuals rating higher on Extraversion and Openness are more likely to volunteer to fill out surveys (Marcus & Schütz, 1999). Research has also found that individuals scoring higher on Openness are generally more likely to engage in information sharing (Cabrera, Collins & Salgado, 2006). Although not one of the two traits that is the most predictive of happy personality, Emotional Stability, Conscientiousness, and Extraversion (Hayes & Joseph, 2003), some research has linked Openness to emotional intelligence and happiness (Furnham, & Petrides, 2003). Those unwilling to volunteer to complete surveys reported lower Conscientiousness ratings. However, student participants were rewarded with extra credit for completing the survey. This type of incentive tends to reduce this type of bias (Marcus & Schütz, 1999).

A further potential limitation of our research is that our sample is not perfectly representative of the population of the United States. People from different regional and cultural groups have different norms which may lead them to cope with and/or experience emotions differently. For instance, Roesch, Wee and Vaughn (2006) found differences between how an Asian American co-culture (Korean Americans) and Caucasian Americans dealt with acculturative stress. However, this study found that personality traits were more predictive of coping styles than acculturation. Our sample was comprised primarily of students attending Midwestern universities. The population of university students typically skews female and Caucasian (Pew Research, 2014). Our research did not explore potential intergroup differences in the experience of satisfaction and dissatisfaction. Future research could study the role of culture in the experience of satisfaction and dissatisfaction in more depth. Although there may be some degree of difference across national cultures related to how individuals experience satisfaction dissatisfaction (De Mooij, 2010), the five-factor personality model is fairly robust across cultures (Schmitt, Allik, McCrae, & Benet-Martínez, 2007).

Although the BFI-44 is one of the best survey tools for measuring personality traits and is robust across various cultural groups and populations, the five-factor model also has some limitations. This study did not uncover significant results relating to complaining behavior. However, the literature has found other traits not included in the five-factor model to be correlated with complaining behavior. For instance, self-monitoring has been found to reduce individuals' willingness to complain (Bodey & Grace, 2006). On the other hand, perceived control and internal locus of control increases complaining behavior (Bodey & Grace, 2006; Gursoy, McCleary, & Lepsito, 2007). Future research could explore the influence of some other individual differences on customer satisfaction and dissatisfaction and complaining behavior as included in the ACSI.

Our research supported previous research suggesting that individuals with the happy personality traits of Conscientiousness, and Agreeableness, Emotional Stability, and Extraversion would report higher levels of satisfaction. Openness to experience, Conscientiousness, and Agreeableness were the traits that we found to have a positive statistically significant effect on customer satisfaction. Extraversion and Emotional Stability also had positive effects; however, the effects were not statistically significant. Openness to experience is not one of the four happy personality traits yet it affected satisfaction positively in our research. This research also was consistent with previous research that found that those scoring high Agreeableness typically provide higher satisfaction ratings on student satisfaction surveys (Patrick, 2011). Future research could explore how individuals with low scores on Agreeableness, Emotional Stability, Openness and Extraversion experience satisfaction with a product or service and how they would rate their satisfaction level. The PAM model is a first step towards this understanding.

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Dr. Elizabeth Crisp Crawford, Ph.D.
Associate Professor, North Dakota State University
Department #2310 • P.O. Box 6050
Fargo, ND 58108
Elizabeth.c.crawford@ndsu.edu
701-866-1398

Dr. Jeremy Jackson, Ph.D.
Associate Professor, North Dakota State University
Department #7610 • PO Box 6050 • Fargo, ND 58108-6050
Jeremy.jackson@ndsu.edu
701-231-7832

Dr. Andrew Pritchard, Ph.D.
Assistant Professor, Iowa State University
213 Hamilton Hall
613 Wallace Road
Ames, IA 50011-4010
apritch@iastate.edu
541-350-8622

APPENDIX

TABLE A1
ACSM: FORNELL-LARCKER CRITERION

	C	PE	L	PQ	PV	SAT	WOM
C	0.788						
PE	0.077	0.916					
L	0.165	0.340	0.942				
PQ	0.265	0.416	0.562	0.925			
PV	0.170	0.341	0.399	0.574	0.883		
SAT	0.262	0.382	0.615	0.781	0.595	0.869	
WOM	0.225	0.376	0.664	0.678	0.462	0.698	0.941

The square root of AVE is on the diagonal with correlation coefficients appearing off diagonal.

TABLE A2
ACSM: CROSS LOADINGS

	C	PE	L	PQ	PV	SAT	WOM
PE1	0.034	0.911	0.254	0.355	0.337	0.332	0.307
PE2	0.114	0.904	0.350	0.395	0.293	0.345	0.351
PE3	0.062	0.932	0.328	0.393	0.308	0.371	0.374
PL1	0.146	0.286	0.939	0.509	0.387	0.576	0.606
PL2	0.163	0.353	0.944	0.549	0.366	0.582	0.645
PQ1	0.178	0.423	0.511	0.921	0.530	0.732	0.633
PQ2	0.262	0.373	0.574	0.929	0.511	0.739	0.635
PQ3	0.297	0.356	0.473	0.924	0.551	0.696	0.614
PV1	0.189	0.338	0.378	0.590	0.926	0.602	0.466
PV2	0.097	0.254	0.323	0.396	0.838	0.425	0.333
SC	0.968	0.080	0.182	0.267	0.174	0.266	0.241
SCX	-0.552	-0.021	-0.017	-0.110	-0.064	-0.104	-0.046
SS1	0.218	0.396	0.593	0.753	0.609	0.907	0.686
SS2	0.215	0.235	0.396	0.561	0.425	0.798	0.453
SS3	0.252	0.344	0.586	0.703	0.499	0.900	0.649
WOM1	0.219	0.375	0.657	0.638	0.430	0.642	0.914
WOM2	0.197	0.360	0.613	0.643	0.436	0.674	0.958
WOM3	0.219	0.326	0.604	0.633	0.438	0.654	0.949

TABLE A3
PAM STAGE 1: FORNELL-LARCKER CRITERION

	Agree	C	Consc	Ext	NNeur	Openess	PE	L	PQ	PV	Reported Sat	SAT	WOM
Agree	1.000												
C	0.061	0.785											
Consc	0.374	0.034	1.000										
Ext	0.156	-0.015	0.176	1.000									
Emo	0.373	0.056	0.242	0.248	1.000								
Openess	0.130	-0.083	0.162	0.169	0.022	1.000							
PE	0.189	0.077	0.238	0.101	0.161	0.058	0.916						
L	0.215	0.166	0.172	0.095	0.159	0.110	0.340	0.942					
PQ	0.212	0.266	0.142	0.081	0.145	0.037	0.416	0.562	0.925				
PV	0.192	0.171	0.143	0.010	0.130	0.036	0.341	0.399	0.573	0.883			
Reported Sat	0.197	0.263	0.136	0.081	0.166	0.010	0.378	0.609	0.777	0.591	0.870		
SAT	0.446	0.243	0.357	0.239	0.383	0.111	0.420	0.617	0.751	0.578	0.939	0.564	
WOM	0.281	0.227	0.215	0.150	0.183	0.082	0.376	0.665	0.678	0.462	0.692	0.711	0.941

The square root of AVE is on the diagonal with correlation coefficients appearing off diagonal.

TABLE A4
PAM STAGE 1: CROSS LOADINGS

	Agree	*C*	*Consc*	*Ext*	*NNeur*	*Openess*	*PE*	*L*	*PQ*	*PV*	*Reported Sat*	*SAT*	*WOM*
Agreeableness	1.000	0.061	0.374	0.156	0.373	0.130	0.189	0.215	0.212	0.192	0.197	0.446	0.281
Conscientiousness	0.374	0.034	1.000	0.176	0.242	0.162	0.238	0.172	0.142	0.143	0.136	0.357	0.215
Extraversion	0.156	-0.015	0.176	1.000	0.248	0.169	0.101	0.095	0.081	0.010	0.081	0.239	0.150
Nneoroticism	0.373	0.056	0.242	0.248	1.000	0.022	0.161	0.159	0.145	0.130	0.166	0.383	0.183
Openness	0.130	-0.083	0.162	0.169	0.022	1.000	0.058	0.110	0.037	0.036	0.010	0.111	0.082
PE1	0.158	0.034	0.220	0.084	0.155	0.029	0.911	0.254	0.355	0.337	0.328	0.366	0.308
PE2	0.178	0.115	0.194	0.098	0.116	0.050	0.904	0.351	0.395	0.293	0.341	0.374	0.351
PE3	0.184	0.062	0.239	0.095	0.169	0.079	0.933	0.329	0.393	0.307	0.368	0.412	0.374
PL1	0.195	0.148	0.129	0.052	0.132	0.065	0.286	0.938	0.509	0.386	0.571	0.566	0.606
PL2	0.211	0.165	0.193	0.126	0.167	0.140	0.353	0.945	0.549	0.366	0.577	0.596	0.645
PQ1	0.161	0.179	0.139	0.097	0.136	0.044	0.423	0.511	0.921	0.530	0.728	0.700	0.633
PQ2	0.225	0.262	0.118	0.072	0.132	0.027	0.373	0.574	0.929	0.510	0.736	0.711	0.635
PQ3	0.202	0.298	0.138	0.054	0.133	0.030	0.356	0.473	0.925	0.550	0.693	0.671	0.614
PV1	0.168	0.190	0.128	0.004	0.129	0.009	0.338	0.378	0.590	0.924	0.598	0.578	0.466
PV2	0.175	0.097	0.126	0.017	0.096	0.065	0.254	0.323	0.396	0.841	0.422	0.425	0.333
SC	0.044	0.972	0.051	-0.019	0.073	-0.069	0.080	0.182	0.268	0.174	0.266	0.247	0.241
SCX	-0.089	-0.536	0.047	-0.009	0.037	0.086	-0.021	-0.017	-0.110	-0.064	-0.107	-0.092	-0.046
SS1	0.230	0.219	0.147	0.093	0.184	0.031	0.396	0.593	0.753	0.608	0.897	0.865	0.686
SS1	0.230	0.219	0.147	0.093	0.184	0.031	0.396	0.593	0.753	0.608	0.897	0.865	0.686
SS2	0.097	0.215	0.077	0.016	0.097	-0.012	0.235	0.396	0.561	0.424	0.817	0.733	0.453
SS2	0.097	0.215	0.077	0.016	0.097	-0.012	0.235	0.396	0.561	0.424	0.817	0.733	0.453
SS3	0.177	0.253	0.125	0.094	0.146	0.003	0.344	0.586	0.703	0.498	0.894	0.845	0.649
SS3	0.177	0.253	0.125	0.094	0.146	0.003	0.344	0.586	0.703	0.498	0.894	0.845	0.649
WOM1	0.269	0.221	0.231	0.151	0.155	0.099	0.375	0.657	0.638	0.430	0.635	0.660	0.915
WOM2	0.263	0.199	0.192	0.125	0.191	0.077	0.360	0.613	0.643	0.436	0.669	0.683	0.958
WOM3	0.261	0.220	0.182	0.146	0.170	0.055	0.326	0.604	0.633	0.438	0.649	0.663	0.949

TABLE A5
PAM STAGE 1: OUTER LOADINGS

	ORIGINAL	SAMPLE MEAN	STANDARD DEVIATION	T STATISTICS	P VALUE
AGREEABLENESS <- AGREE	1.000	1.000	0.000		
AGREEABLENESS <- SAT	0.446	0.444	0.050	8.895	0.000
CONSCIENTIOUSNESS <- CONSC	1.000	1.000	0.000		
CONSCIENTIOUSNESS <- SAT	0.357	0.357	0.057	6.309	0.000
EXTRAVERSION <- EXT	1.000	1.000	0.000		
EXTRAVERSION <- SAT	0.239	0.236	0.059	4.066	0.000
EMOTIONAL STABILITY <- EMO	1.000	1.000	0.000		
EMOTIONAL STABILITY <- SAT	0.383	0.380	0.058	6.582	0.000
OPENNESS <- OPENESS	1.000	1.000	0.000		
OPENNESS <- SAT	0.111	0.108	0.063	1.771	0.077
PE1 <- PE	0.911	0.912	0.008	109.933	0.000
PE2 <- PE	0.904	0.903	0.010	89.876	0.000
PE3 <- PE	0.933	0.932	0.006	144.058	0.000
PL1 <- L	0.938	0.938	0.009	108.058	0.000
PL2 <- L	0.945	0.945	0.006	169.913	0.000
PQ1 <- PQ	0.921	0.921	0.008	114.770	0.000
PQ2 <- PQ	0.929	0.928	0.009	108.323	0.000
PQ3 <- PQ	0.925	0.924	0.008	110.461	0.000
PV1 <- PV	0.924	0.924	0.007	123.819	0.000
PV2 <- PV	0.841	0.840	0.025	34.133	0.000
SC <- C	0.972	0.941	0.213	4.572	0.000
SCX <- C	-0.536	-0.562	0.224	2.397	0.017
SS1 <- SAT	0.865	0.865	0.012	72.671	0.000
SS1 <- REPORTED SAT	0.897	0.897	0.007	124.181	0.000
SS2 <- SAT	0.733	0.732	0.030	24.727	0.000
SS2 <- REPORTED SAT	0.817	0.816	0.020	41.251	0.000
SS3 <- SAT	0.845	0.844	0.016	54.180	0.000
SS3 <- REPORTED SAT	0.894	0.894	0.008	113.497	0.000
WOM1 <- WOM	0.915	0.914	0.011	83.912	0.000
WOM2 <- WOM	0.958	0.958	0.005	199.796	0.000
WOM3 <- WOM	0.949	0.949	0.006	160.865	0.000

Sample Mean, Standard Deviation, t-statistics, and p-values from bootstrapping (1000 draws).

TABLE A6
PAM STAGE 2: FORNELL-LARCKER CRITERION

	C	PE	L	PQ	PV	TRUE SAT	WOM
C	0.788						
PE	0.076	0.916					
L	0.165	0.340	0.942				
PQ	0.265	0.416	0.562	0.925			
PV	0.170	0.341	0.399	0.573	0.883		
TRUE SAT	0.255	0.403	0.623	0.777	0.596		
WOM	0.225	0.376	0.665	0.678	0.462	0.712	0.941

The square root of AVE is on the diagonal with correlation coefficients appearing off diagonal.

TABLE A7
PAM STAGE 2: CROSS LOADINGS

	C	PE	L	PQ	PV	TRUE SAT	WOM
AGREE	0.062	0.189	0.215	0.212	0.192	0.335	0.281
CONSC	0.032	0.238	0.172	0.142	0.143	0.253	0.215
EXT	-0.015	0.101	0.095	0.081	0.010	0.139	0.150
EMO	0.054	0.160	0.159	0.145	0.130	0.232	0.183
OPENESS	-0.084	0.058	0.110	0.037	0.036	0.088	0.082
PE1	0.034	0.911	0.254	0.355	0.337	0.349	0.308
PE2	0.114	0.904	0.350	0.395	0.293	0.363	0.351
PE3	0.062	0.932	0.329	0.393	0.307	0.394	0.374
PL1	0.146	0.286	0.939	0.509	0.386	0.578	0.606
PL2	0.163	0.353	0.945	0.549	0.366	0.596	0.645
PQ1	0.178	0.423	0.511	0.921	0.530	0.725	0.633
PQ2	0.262	0.373	0.574	0.929	0.510	0.736	0.635
PQ3	0.297	0.356	0.473	0.925	0.551	0.694	0.614
PV1	0.189	0.338	0.378	0.590	0.924	0.598	0.466
PV2	0.097	0.254	0.323	0.396	0.840	0.433	0.333
REPORTED SAT	0.263	0.378	0.609	0.777	0.591	0.985	0.692
SC	0.967	0.080	0.182	0.268	0.174	0.258	0.241
SCX	-0.553	-0.021	-0.017	-0.110	-0.064	-0.104	-0.046
WOM1	0.218	0.375	0.657	0.638	0.430	0.658	0.914
WOM2	0.197	0.360	0.613	0.643	0.436	0.686	0.958
WOM3	0.219	0.326	0.604	0.633	0.438	0.665	0.949

Figure A1

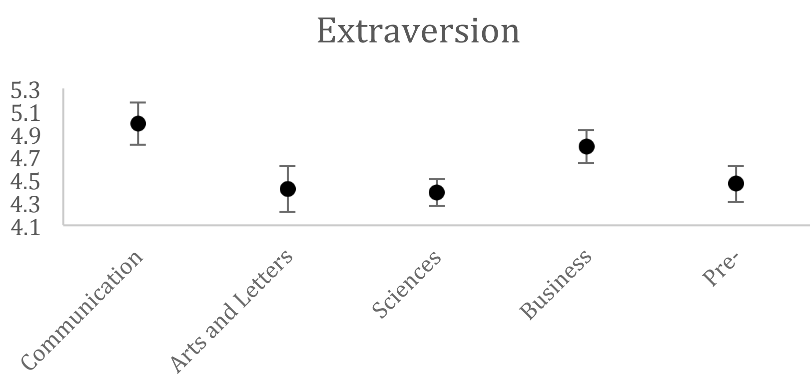


Figure A2

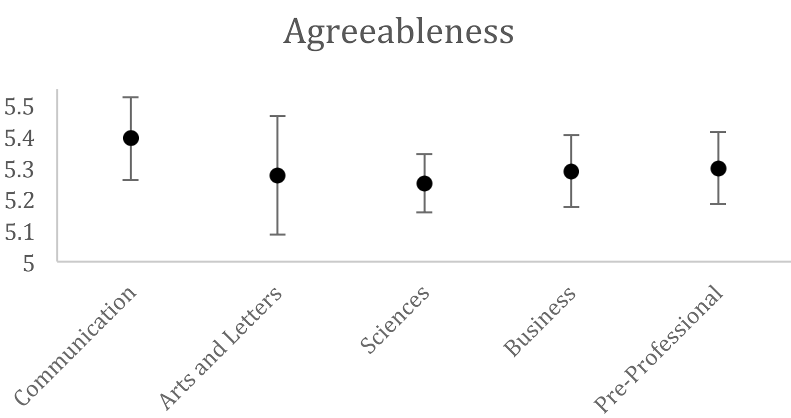


Figure A3

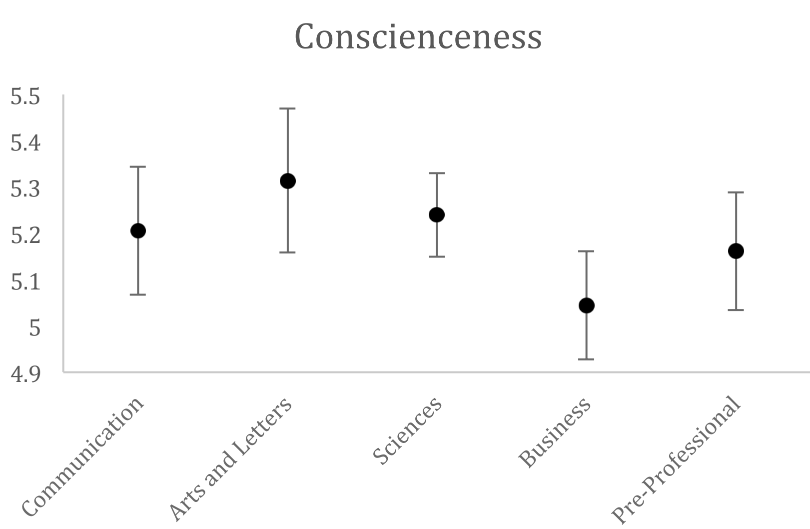


Figure A4

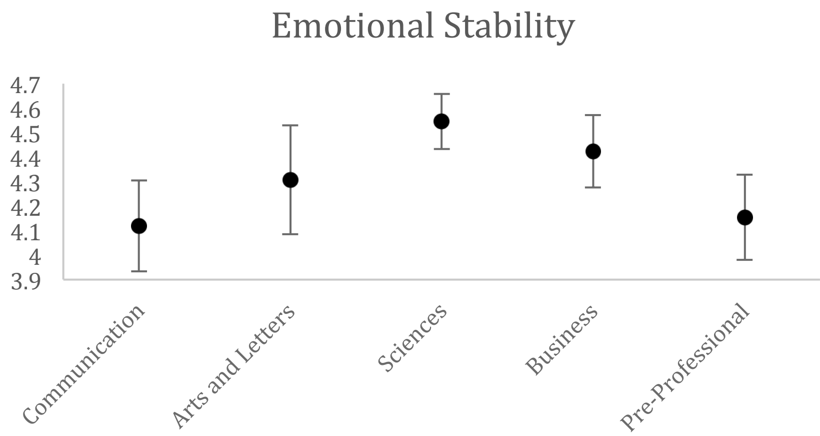


Figure A5

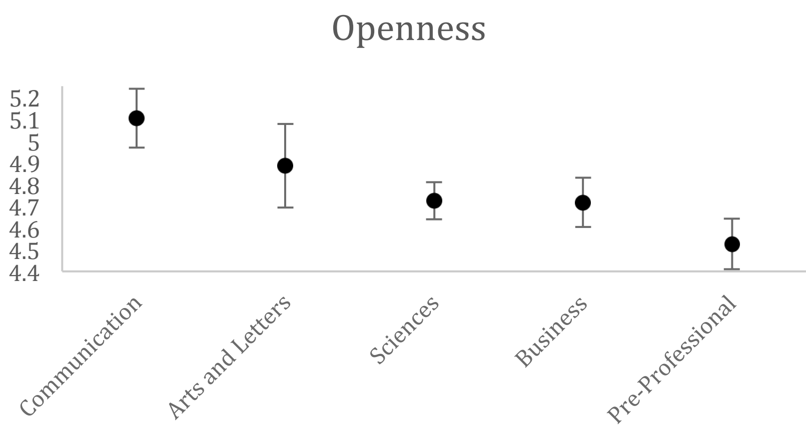


Figure A6

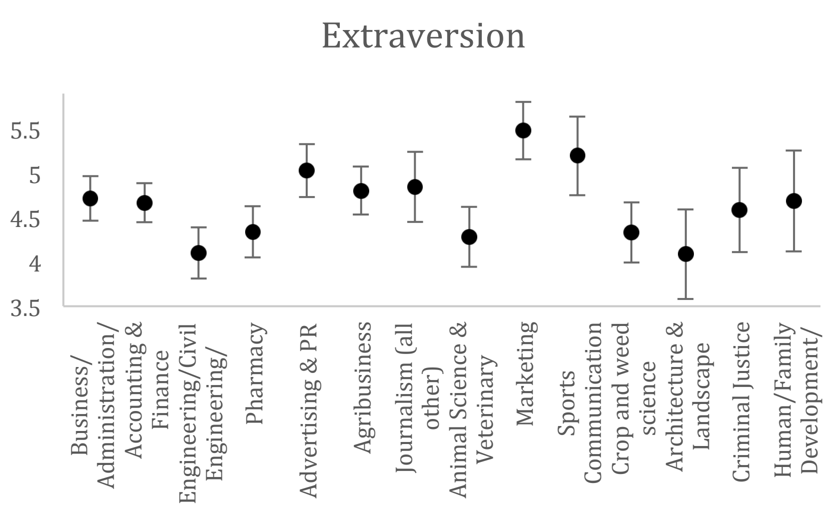


Figure A7

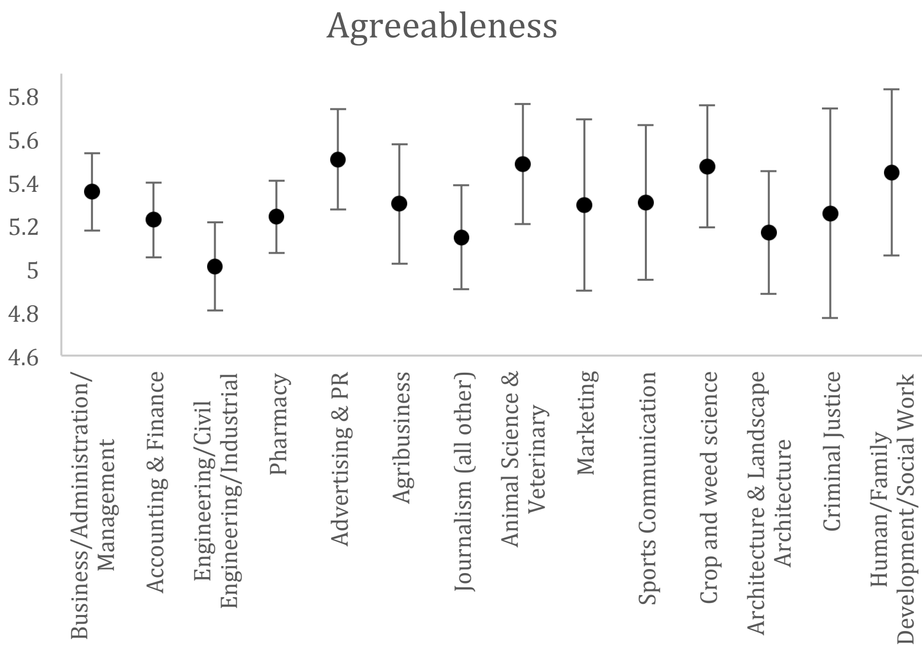


Figure A8

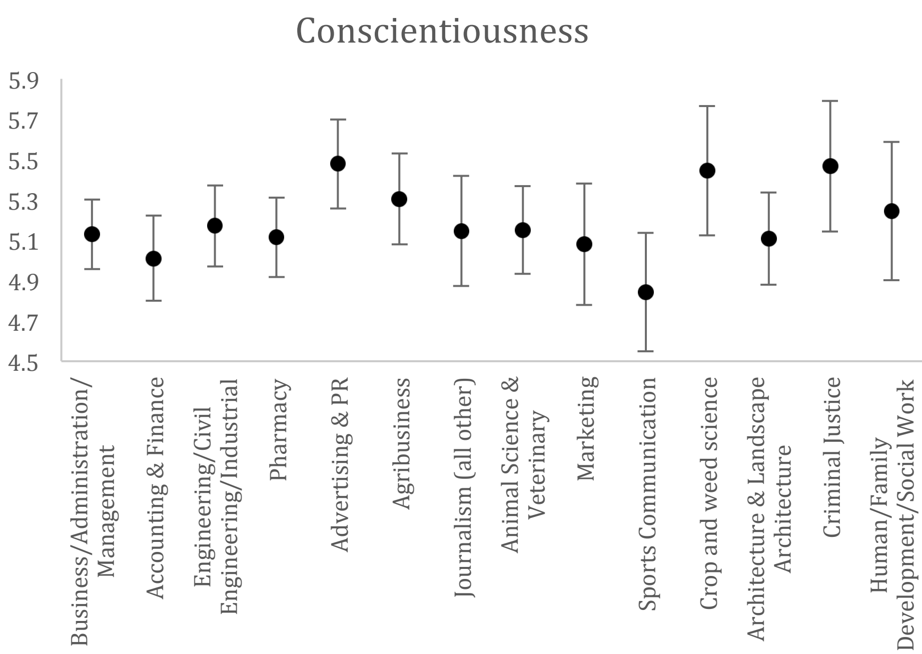


Figure A9

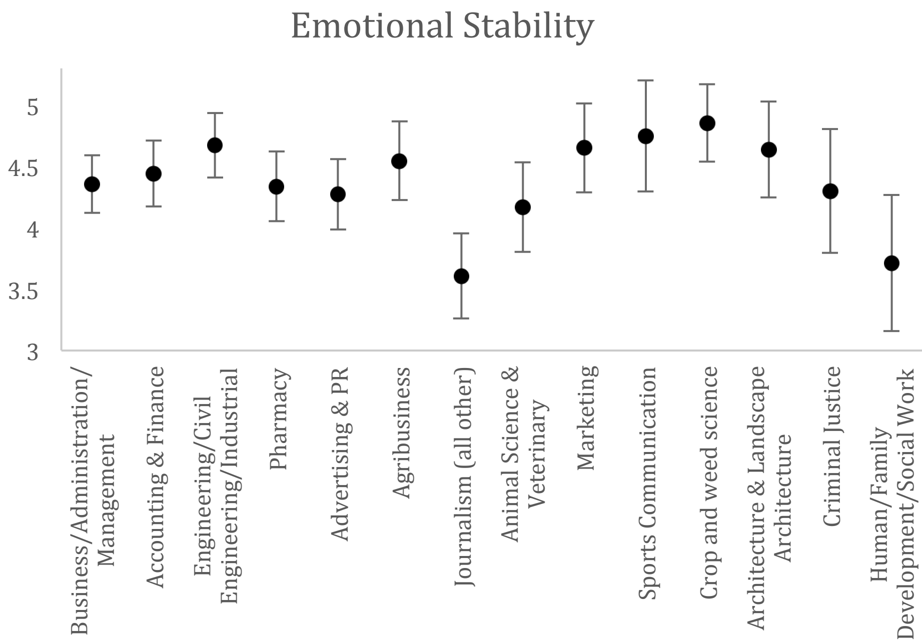
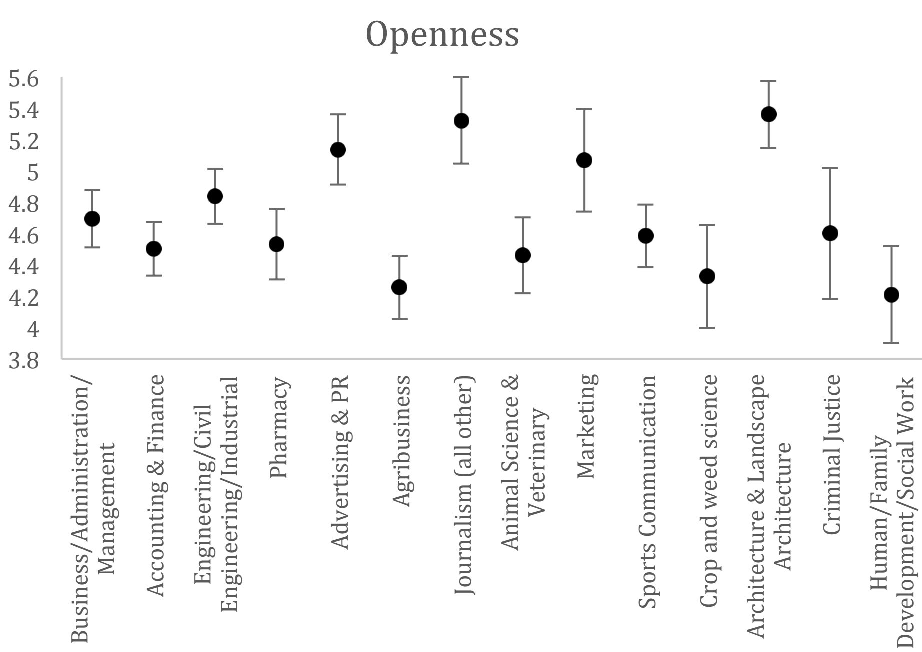


Figure A10



TRANSFORMATIVE SERVICE PRACTICE IN HIGHER EDUCATION: A CAUTIONARY NOTE

Steven A. Taylor, Illinois State University
Chiharu Ishida, Illinois State University
Joon Ho Lim, Illinois State University
Duleep Delpechitre, Illinois State University

ABSTRACT

The following study calls for introducing transformative service research (TSR) into higher education marketing practices and theory by (1) incorporating eudaimonic well-being into constitutive and operational definitions of value co-creation and marketing "success," and (2) theoretically embracing a service dominant logic underlying the marketing of higher education. A study of 232 undergraduate students in the United States is presented that investigates the linkages between students' perceptions of the perceived value and measures of eudaimonic well-being associated with course offerings. Results reveal that: (1) the purported unidimensional nature of Waterman et al.'s (2010) QEWB scale of eudaimonic well-being is not apparent in an educational context; (2) students' perceptions of the perceived value are positively related to measures of student engagement but poorly related to measures of eudaimonic well-being; (3) the centrality dimension of materialism moderates the relationship between perceived value and eudaimonic well-being (as purposeful personal responsiveness); and (4) students' perceptions of perceived value indirectly contribute to various forms of eudaimonic well-being through different forms of student engagement. The results suggest support for efforts to incorporate TSR into academic practices related to business education. However, for this to occur, the marketing emphasis in higher education will have to take care with marketization emphases (student satisfaction, training, etc.), instead focusing on marketing appeals that encourage higher education stakeholder groups to more greatly value eudaimonic goal achievement.

Keywords: *eudaimonic well-being, higher education, marketing, transformative service research*

INTRODUCTION

Transformative service research (TSR) generally supports the inclusion of outcomes related to stakeholder well-being (Anderson et al. 2013; Ostrom et al. 2015). The research presented herein (1) advocates the TSR perspective vis-à-vis higher education and (2) empirically informs how institutions of higher education might pursue TSR by relating well-being to perceived value perceptions. Sonnentag (2015) asserts that well-being is a broad concept that refers to people's evaluations of their lives and to their optimal psychological functioning and experience. There are two distinct philosophical perspectives of well-being: (1) subjective well-being, a view that adopts a hedonic view and focuses on well-being as pleasure or happiness – its core components are the experience of positive affect, the absence of the experience of negative affect, and high levels of life satisfaction; or (2) a eudaimonic view that regards well-being as

(a) personal growth and self-realization, (b) authenticity and personal expressiveness, and (c) the pursuit of meaning in life. Sonnentag (2015) characterizes hedonic well-being as conceptualized mainly as a subjective experience of feeling good, whereas eudaimonic well-being refers mainly to living a good and meaningful life.

Deci and Ryan (2008) assert that initial inquiries into well-being assumed that the concept was subjective in nature based on the idea that people evaluate for themselves, in a general way, the degree to which they experience a sense of wellness. Thus, operationally, subjective well-being emerged as a frequent operational definition of well-being, and frequently used interchangeably with "happiness." Maximizing well-being consequently became viewed as maximizing one's feelings of happiness, resulting in a largely hedonistic initial tradition of well-being. However, Deci and Ryan (2008) argue that the eudaimonic perspective considers well-being to not be an outcome or end state but rather a process of fulfilling or realizing one's daimon (or true nature) as reflected through the fulfillment of one's virtuous potentials and living as one was inherently intended to live.

EUDAIMONIC WELL-BEING

Ryan et al. (2008) propose a theory of eudaimonic well-being based upon self-determination theory (SDT), which relates well-being to goal achievement. Reeve (2012) focuses on student engagement from an SDT perspective and identifies three important functions of student engagement: (1) student engagement fully mediates and explains the motivation-to-achievement relation; (2) changes in engagement produce changes in the learning environment; and (3) changes in engagement produce changes in motivation, as students' behavioral, emotional, cognitive, and agentic engagements represent actions taken not only to learn but also to meet psychological needs. We suggest that this argument is particularly germane to marketing and higher education and its general focus on student flourishing (Howell & Buro, 2015).

Ryan et al. (2008) report results suggesting that eudaimonia gradually enhances a person's baseline level of well-being, whereas hedonia has more temporary effects. Walker et al. (2012) report results that (1) students' perceptions of hedonism and eudaimonia were negatively and poorly correlated ($p = -.014$), and (2) correlation and regression analyses suggest that hedonistic outcomes are more likely than those related to eudaimonia. We suspect that students typically employ short-term classroom-specific goals that will be generally poorly related to eudaimonic goal-seeking because business students' course-related educational goals tend to focus on (hedonistic) utilitarian, attribute level considerations mainly related to credentialing for purposes of employment rather than eudaimonic well-being (Taylor et al., 2011). This led Taylor et al. (2014) to call for an emphasis on higher-order (prudential) forms of student satisfaction measurement and that the true challenge in the marketing of higher education is how to reconcile the credentialing goals of students with the eudaimonic goals so frequently advocated in the mission statements of universities.

Operationalizing Eudaimonic Well-being

Deci and Ryan (2008) assert that while the hedonistic and eudaimonic traditions are based upon fundamentally different views of human nature, they are nonetheless operationally close as reflected by high levels of statistical covariance. Disabato et al. (2016) present empirical evidence from a large international study demonstrating that a single overarching construct more accurately reflects hedonia and eudaimonia when measured as self-report subjective and psychological well-being.

Waterman et al. (2010) propose the Questionnaire for Eudaimonic Well-being (QEWB) as a 21-item self-report unidimensional operationalization designed to measure well-being consistent with a eudaimonic philosophy. Huta and Waterman (2014) characterize Waterman's research stream as at both the trait and state levels of analysis. However, Schutte et al. (2013) argue that Waterman et al. (2010) only briefly attended to the structural validity of the QEWB in scale development and provided little theoretical justification of the scales' hypothesized unidimensionality. Schutte et al. (2013) further question Waterman et al.'s (2010) (unjustified) use of item parcels to test for scale unidimensionality. Schutte et al. (2013) present evidence that a one-dimensional structure for the QEWB could be supported; however, the necessary assumption of unidimensional parcels could not.

The current research explores the potential unidimensionality of the QEWB scale for purposes of use in TSR research in higher educational contexts. While recognizing that alternative perspectives exist (Little et al., 2013), we generally embrace the arguments of Marsh et al. (2013) to use exploratory structural equation (SEFA) models as an alternative to traditional independent clusters confirmatory factor analysis using item parcels. Marsh et al. (2013) conclude from their analyses that the use of parcels is really only justified when the fit of both the traditional independent clusters confirmatory factor analysis and the exploratory structural equation model are acceptable and equally good and when the substantively important interpretations are similar.

H1: The factor structure of the QEWB in higher education contexts is best described as unidimensional in nature.

Eudaimonic Well-being and Dispositional Materialism

In today's society millennials typically express high levels of materialism (Thompson & Gregory, 2012). Substantial evidence shows that people high on materialism report lower personal and physical well-being (Kasser, 2016; also see Kashdan & Breen, 2007). This observation appears consistent with Kasser et al.'s (2014) longitudinal studies demonstrating that well-being changes as people change their relative focus on materialistic goals. Kasser (2016) states that the most widely used operational definition of materialism as a set of values at the dispositional level is the Material Values Scale by Richins (2004), which purports three dimensions, including success, centrality, and happiness. We also contribute to the literature by assessing the validity of Richins's purported factor structure within the context of the education using SEFA:

H2: The three dimensional factor structure of the Material Values Scale will be supported within the context of higher education.

Kasser (2016) further surmises that the weight of the evidence to date supports expectations that a materialistic focus will be negatively associated with both (1) personal well-being and (2) motivation in work and educational domains. This expectation is strengthened by the observation that millennials do not want to work for their goals when high on materialism (Twenge & Kasser, 2013). Consequently, we expect the following correlational relationships to be expressed with the student data:

H3: Materialism will be positively correlated with students' perceived value in a classroom experience.

H4: Materialism will be negatively correlated with students' perceived eudaimonic well-being from a classroom experience.

Twenge and Kasser (2013) assert that youth materialism has increased over the generations, and that materialism is associated with decreased well-being and when materialistic values increase work centrality steadily declines. This decline suggests a growing discrepancy between the desire for material rewards and the willingness to do the work usually required to earn them. We suggest that this discrepancy may have implications within the context of eudaimonic well-being and education:

H5: Materialism values moderate the relationship between eudaimonia and perceptions of perceived value in education.

WELL-BEING AND THE MARKETING OF HIGHER EDUCATION

Thorburn (2015) notes that education policy making since the early 2000's has tried to tease out the relationship between thriving personally and showing moral integrity toward others via a number of superficial and dissimilar curriculum statements. This has created a significant challenge for educators concerning how to maximize the benefits of pedagogical practices in holistic learning environments where there are clear connections between well-being values, subject knowledge, and students' previous learning experiences. However, Thorburn (2015) notes that most academic institutions appear to consider personal well-being as a supportive addition to curriculum/teaching rather than part of a more radical repositioning of educational aims. These educational challenges have direct linkages to both marketing and TSR. The first challenge involves whether eudaimonic well-being should best be considered (1) exogenous to overall measures of marketing "success" in educational contexts (i.e., a contributing factor) or (2) a more radical repositioning of educational aims. The second challenge involves the appropriate underlying marketing framework to guide the marketing objectives of higher education.

Challenge 1: The Appropriate Role of Well-being in Marketing Education

Katsikeas et al. (2016) propose a theory-based marketing performance evaluation framework that views marketing performance outcomes (i.e., "marketing success") in line with conceptualizations of operational and organizational performance concepts from strategic management. In this perspective, marketing "success" is typically measured by financially-related measures related to costs/revenues (Edeling and Fischer 2016, Kumar and Shah 2015). However, Miller et al. (2014) argue that university business models have changed significantly over the last three decades and encourage moving away from traditional cost/revenue models and toward models emphasizing a stakeholder perspective that recognizes the relationship between values and norms of an organization and how they interact with the various stakeholder groups. It is this concept of organizational values and norms that provides an opportunity to more fully consider well-being in education-based models of marketing performance.

Hillebrand et al. (2015) identify a number of key differences between a stakeholder perspective of marketing and traditional marketing thought that well coincides with Lusch and Webster's (2011) arguments for SDL and the view that marketing should be considered not only simply a business function but also a general management responsibility within a broad network enterprise where the interests of many stakeholders need to be unified with the customer and the enterprise. Thus, we view well-being within the context of a stakeholder perspective to potentially be considered as either/both an exogenous influence on traditional financial measures of customer equity and marketing "success" and/or a potential more radical repositioning of educational aims that reconciles with AACSB assurance of learning standards (AACSB, 2013). The next section argues that SDL favors the latter.

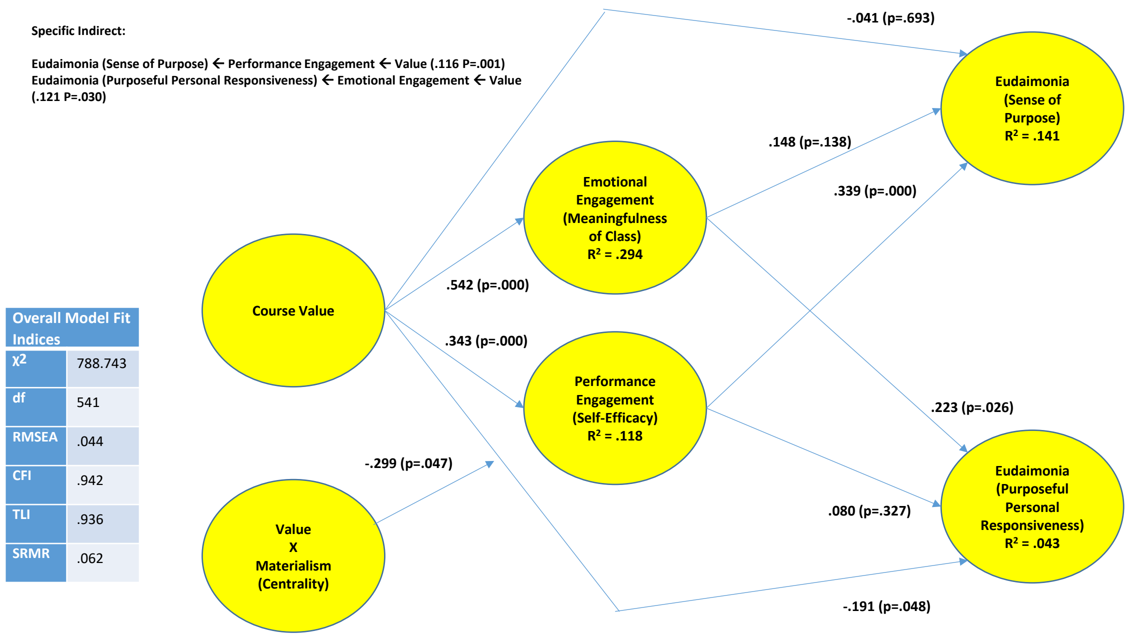
Challenge 2: The Appropriate Underlying Framework for the Marketing of Education

The growing emphasis on TSR and well-being appears germane to the general disciplinary tension between traditional goods-dominant logic (GDL) and the recently proposed SDL as underlying logics for marketing thought and activities, particularly within the domain of education. Taylor et al. (2011) report results suggesting that undergraduate students' academic goals tend to focus on utilitarian, attribute-level considerations mainly related to credentialing for purposes of employment. The results underscore an argument for moving toward models of education delivery focusing on value co-creation (SDL) instead of the current emphasis on "delivering value" to students (GDL). The authors ultimately argue for targeting moral and motivational maturity in addition to intellectual maturity, which appears more congruent with eudaimonic well-being than hedonic well-being.

Judson and Taylor (2014) present a detailed differentiation between marketization (as an emphasis on value delivery and other GDL-based principles and practices) and marketing (based on value co-creation through higher-order learning and consistent with SDL). Judson and Taylor (2014) propose a framework for marketing "success" in universities that focuses on enhancing human capabilities instead of the growing emphasis on student satisfaction and employment. Taylor and Judson (2014) continue by considering the nature of the concept of satisfaction with marketing education and support for calls for moving beyond typical (short-term, hedonistic) measures of consumer satisfaction toward satisfaction judgments based on higher-order forms of happiness (i.e., prudential and perfectionist forms of happiness such as eudaimonia). This suggests that the nature of long-term value co-creation associated with higher education should focus on quality of life and well-being. However, doing so requires convincing stakeholders to value long-term, eudaimonic forms of happiness and satisfaction over the current psychological, short-term, hedonistic satisfaction forms assessing today's marketization practices. Our results further validate this perspective.

Taylor et al. (2014) provide empirical evidence supporting the possibility that universities can affect the social well-being of students as stakeholders by focusing on eudaimonic- and flourishing-related goal achievement. Taylor et al. (2015) demonstrate that it is the congruence of social activities and behaviors with their flourishing-related goals as the most efficacious path to increasing student well-being in higher education. Thus, they are able to show that an emphasis on flourishing in higher education instead of the current and traditional method of focusing on value delivery and sales (i.e., marketization) appear reasonably achievable with the millennial cohort.

FIGURE 1:
Research Model with Results (all paths standardized)



The research model is presented as Figure 1. This study defines student's perception of course value as how valuable a student feels about a given course as it stimulates the student's interests in the subject matter and whether the course has real-life application (Jurow, 2005). Course value and engagement are considered to be integral parts of creating effective learning experiences for students (Floyd et al., 2009). When students believe that the course content stimulates their interests in the subject domain and has application to the real-world, it motivates students' engagement and involvement in the classroom, hence the study hypothesizes that:

H6: Students' perceived value of a course offering is positively related to their engagement with the course.

SDL, coupled with self-determination theory and with its emphasis on goal achievement vis-à-vis well-being (Ryan et al., 2008), suggests that course engagement should be positively related to student self-perceived eudaimonic well-being. This leads to the final general research hypothesis:

H7: Students' level of engagement with a course offering is positively related to their state of eudaimonic well-being.

METHODS & RESULTS

The data derives from students from a variety of academic majors taking introduction to marketing courses at a medium-sized university in the Midwest of the United States. A total of 232 respondents participated in the study to receive extra course credit. Recognizing issues related to mediation analyses and cross sectional data (Maxwell et al., 2011), a two-part online survey was used to collect the data over a thirty to forty-five-day period. All scales of the relevant constructs were derived from the literature: Eudaimonia (Waterman et al. 2010), Materialism (Richins 2004), Engagement (Handelsman et al. (2005), and Course Perceived Value (Floyd et al. (2009). All analyses were conducted using Mplus 7.4 or Amos.

Exploratory Factor Analysis with Structural Equation Modeling (SEFA)

The first two research hypotheses refer to the stability of the factor structure of two reported scales, including the QEWB and Richins (2004) scale for materialism. One contribution of the current research is the use of structural equation-based exploratory factor analysis (SEFA, Asparouhov & Muthén, 2009) to assess the performance of these two scales in the specific context of higher education. Schutte et al. (2013) unsuccessfully attempted to validate the QEWB using exploratory factor analysis and confirmatory factor analysis (CFA), resulting in a three-dimensional factor structure. Taylor et al. (2014) similarly defended a three-factor solution for the QEWB vis-à-vis student data (not using SEFA). The current research employs SEFA to identify potential multidimensionality inherent in the set of scale items, subsequently confirmed by CFA. WLSMV estimation was used as this estimator is more suited to the ordered-categorical nature of Likert scales than traditional maximum likelihood estimation; oblique Geomin rotation with an epsilon value of 0.5 was also employed (Guay et al., 2000).

Tables 1 and 2 present the results of the SEFA results related to the QEWB. The overall model fit results in Table 1 clearly reveal that the purported unidimensional structure of the QEWB is not supported in the current data set. Table 2 presents the individual loadings by one to three dimensional conceptualizations. These results arguably best support a two-dimensional interpretation when balancing acceptable model fit indices and construct reliability and validity concerns, as well as the latent construct inter-correlation of $\rho = .292$. The research model as Figure 1 therefore employs the two dimensions identified in Table 2 as unique endogenous variables. Thus, the results do not support H1 in the current research.

TABLE 1

Overall Model Fit Indices for CFA and SEFA of QEWB

Model Fit Indices	1 Dimension CFA	2 Dimensions SEFA	3 Dimensions SEFA	4 Dimensions SEFA
χ^2	713.586	345.656	247.219	177.990
df	189	169	150	132
RMSEA	.110	.067	.053	.039
CFI	.645	.880	.934	.969
TLI	.605	.850	.908	.950
SRMR	.095	.056	.043	.033

TABLE 2
SEFA Results for Two and Three Dimension Models of QEWB

Item	One-Factor Solution	Two-Factor Solution		Three-Factor Solution		
	F1	F1	F2	F1	F2	F3
It is important to me that I feel fulfilled by the activities that I engage in.	.650	.776		.796		
When engaged in activities that involve my best potentials, I have this sense of really being alive.	.714	.704		.447		.458
I believe that it is important to know how what I'm doing fits with purposes worth pursuing.	.590	.666		.636		
I can say that I found my purpose in life.	.475		.909		.923	
I feel best when I am doing something worth investing a great deal of effort in.	.587	.608		.581		
I believe that I know what I was meant to do in life.	.556		.794		.772	
As yet, I've not figured out what to do with my life.	.406		.648		.588	
I believe that I have discovered who I really am.	.498		.639		.556	.310
Other people usually know better what would be good for me to do than I know myself.	.362	.335			.322	.601
I am confused about what my talents really are.	.404		.441		.322	.509
I find it hard to get really invested in the things that I do.						.482
I find I get intensely involved in many of the things I do each day.	.473	.341				.322
I think it would be ideal if things came easily to me in life.						
My life is centered is around a set of core beliefs that give meaning to my life.	.612	.396		.324	.322	
It is more important that I really enjoy what I do than that other people are impressed by it.	.342	.415		.332		
I believe I know what my best potentials are, and I try to develop them whenever possible.	.704	.469	.402	.363	.346	
If I did not find what I was doing rewarding for me, I do not think I could continue doing it.	.340	.345		.446		
I can NOT understand why some people want to work hard on the things that they do.	.387	.414				
I usually know what I should do because some actions just feel right to me.	.656	.532		.413		
I find that a lot of things I do are personally expressive for me.	.473	.407		.384		
If something is really difficult, it probably is NOT worth doing.	.412	.519				.429
Latent Factor Intercorrelation F1 with F2			.282		.177	
Latent Factor Intercorrelation F1 with F3						.292
Latent Factor Intercorrelation F2 with F3						.374

However, analyses using SEFA does generally support the three-dimensional conceptualization proposed by Richins (2004; see Table 3). Interestingly, the latent factor intercorrelations are modest, therefore (per H5) the decision was made to also treat the three dimensions of Richins's (2004) scale as unique latent moderating variables in the moderator analyses assessed herein per Muthén and Asparouhov (2015) using the Interactive function of Mplus 7.4.

The Predictive Measurement Model

The measurement model was assessed using confirmatory factor analysis using Mplus 7.4. The model fit was good: χ^2 = 765.394, df = 524, RMSEA = .045, CFI = .943, TLI = .935, SRMR = .054. Table 4 presents the latent factor inter-correlation matrix with construct reliability and variance extracted scores as well as evidence of discriminant validity. Fornell and Larcker (1981) recommend another discriminant validity assessment requiring that the squared correlation be smaller than the average variance extracted (AVE) for each construct.

TABLE 3
SEFA Results for Two and Three Dimension Models of Richins's (2004) Scale of Materialism

Item	One-Factor Solution	Two-Factor Solution		Three-Factor Solution		
	F1	F1	F2	F1	F2	F3
Success						
I admire people who own expensive homes, cars, and clothes.	.725	.432	.437	.534	.164	.238
Some of the most important achievements in life include acquiring material possessions.	.494	.169	.483	.517	-.125	.252
I don't place much emphasis on the amount of material objects people own as a sign of success. (R)	.606	.431	.296	.504	.150	.100
The things I own say a lot about how well I'm doing in life.	.513	.287	.391	.486	.027	.183
I like to own things that impress people.	.695	.478	.355	.627	.119	.109
I don't pay much attention to the material objects other people own. (R)	.635	.623	.110	.381	.402	.007
Centrality						
I usually buy only the things I need. (R)	.503	.704	-.145	-.082	.829	-.021
I try to keep my life simple, as far as possessions are concerned. (R)	.602	.734	-.044	.065	.754	.025
The things I own aren't all that important to me. (R)	.411	.380	.140	.269	.230	.063
I enjoy spending money on things that aren't practical.	.487	.417	.134	.077	.435	.176
Buying things gives me a lot of pleasure.	.631	.595	.140	.305	.420	.084
I like a lot of luxury in my life.	.735	.631	.227	.543	.317	.044
I put less emphasis on material things than most people I know. (R)	.469	.458	.066	.332	.264	-.034
Happiness						
I have all the things I really need to enjoy life. (R)	-.294	-.064	-.340	-.046	-.093	-.333
My life would be better if I owned certain things I don't have.	.335	-.106	.678	.001	-.006	.692
I wouldn't be any happier if I owned nicer things. (R)	.432	-.086	.747	.189	-.103	.647
I'd be happier if I could afford to buy more things.	.424	-.014	.644	-.015	-.086	.697
It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like.	.139	-.090	.351	-.074	.073	.459
Overall Model Fit Indices						
χ2	466.182	249.573			164.212	
Df	135	118			102	
RMSEA	.101	.069			.051	
CFI	.747	.897			.951	
TLI	.714	.866			.927	
SRMR	.084	.048			.035	
Latent Factor Intercorrelation F1 with F2		.329		.425		
Latent Factor Intercorrelation F1 with F3						.343
Latent Factor Intercorrelation F2 with F3						.157

Table 4
Latent Variable Correlation Matrix

	Eudaimonia (Sense of Purpose)	Eudaimonia (Purposeful Personal Expressiveness)	Materialism (Centrality)	Course Perceived Value	Emotional Engagement	Performance Engagement	Marker
Eudaimonia (Sense of Purpose)	*.808* *.514*						
Eudaimonia (Purposeful Personal Expressiveness)	.294 .086	*.833* *.560*					
Materialism (Centrality)	-.080 .064	-.100 .010	*.743* *.502*				
Course Perceived Value	.156 .024	-.042 .002	-.055 .003	*.922* *.665*			
Emotional Engagement	.195 .038	.137 .019	-.066 .004	.542 .294	*.884* *.720*		
Performance Engagement	.354 .125	.057 .003	-.058 .003	.343 .118	.199 .040	*.891* *.733*	
Marker	.145 .021	.157 .025	.064 .004	.035 .001	-.069 .005	.010 .000	*.909* *.720*

The scores on the diagonal refer to the construct reliability and variance extracted scores respectively.
The scores on the off diagonals refer to the inter-construct correlation and the inter-construct correlation squared respectively.

We further used Williams et al.'s (2010) Comprehensive CFA Marker Technique (CCMT) to account for possible biases related to respondents' consistency motifs, transient mood states, illusionary correlations, item similarity, and social desirability (Podsakoff et al., 2003). We used a four-item scale we constructed about ease of textbook purchase to ensure that the marker variable was unrelated to the substantive concepts. The results in Table 5 demonstrate that common method variance does not appear to be a threat to the results reported in the current research. Tables 6 and 7 present additional tests for potential measurement invariance. Overall, the results support the conclusion that at least the minimum level of measurement invariance is achieved.

TABLE 5

Common Method Variance Test Results across Three Studies

Model		$\chi2$	df	CFI	TLI	RMSEA
CFA		446.69	303	.961	.950	.045
Baseline Model		458.94	316	.960	.952	.044
Method-C Model		457.31	315	.960	.952	.045
	Baseline vs Model-C	$\Delta\chi2$=1.63	Δdf=1	Standard at p=.05 is 3.84		
Method-U Model		431.06	293	.961	.950	.067
	Model-C vs Model-U	$\Delta\chi2$=26.25	Δdf=22	Standard at p=.05 is 33.92		
Method-R Model		431.348	308	.965	.958	.042
	Model-U vs Model-R	$\Delta\chi2$=.25	Δdf=15	Standard at p=.05 is 24.99		

TABLE 6

Measurement Invariance Test Results between Low-High Satisfaction Groups

Model	$\chi2$	df	Critical $\chi2$	CFI	TLI	RMSEA
Omnibus Test of the Equality of the Covariance Matrices	969.88	681		.909	.890	.046
Omnibus vs Baseline	$\Delta\chi2$=148.61	Δdf=75	96.22			
Baseline (configural invariance) Model	821.27	606		.932	.915	.040
Metric Invariance ("weak" invariance)	839.03	626		.933	.919	.046
Metric vs Baseline	$\Delta\chi2$=17.76	Δdf=20	31.41			
Scalar Invariance ("strong" invariance)	931.32	653		.912	.898	.050
Scalar vs Metric	$\Delta\chi2$=92.29	Δdf=27	40.11			

TABLE 7

Measurement Invariance Test Results between Low-High Perceived Value Groups

Model	$\chi2$	df	Critical $\chi2$	CFI	TLI	RMSEA
Omnibus Test of the Equality of the Covariance Matrices	1069.82	681		.861	.845	.050
Omnibus vs Baseline	$\Delta\ \chi2$=219.18	Δdf=75	96.22			
Baseline (configural invariance) Model	850.64	606		.912	.914	.042
Metric Invariance (“weak” invariance)	865.44	626		.914	.896	.041
Metric vs Baseline	$\Delta\ \chi2$=14.80	Δdf=20	31.41			
Scalar Invariance (“strong” invariance)	1036.25	653		.863	.841	.051
Scalar vs Metric	$\Delta\ \chi2$=170.81	Δdf=27	40.11			

Returning to the results of our hypotheses tests, there are a number of interesting insights from Table 4. First, the intercorrelation between the two dimensions of Eudaimonia in this educational context are correlated at only ρ = .294. This suggests that student eudaimonia has a multidimensional nature in an educational context. Second, Eudaimonia as a Sense of Purpose is only modestly correlated with perceived course value, while Eudaimonia (as purposeful Personal Expressiveness) is *negatively* (barely) correlated with perceived course value. These findings seem congruent with the arguments of Taylor et al. (2011) who identify credentialing goals (as opposed to learning goals) as predominant with course/program evaluations as a business student cohort. That is, if goal achievement is importantly related to motivation as conceptualized in SDT-based models of well-being (Ryan et al., 2008) and Eudaimonia-related goals are not very important to students, then it is not at all surprising that students’ perceptions of course-related perceived value would be poorly related to eudaimonia. Worse, it is unclear how achievement of eudaimona-related goal achievement with business education can contribute to perceptions of perceived value. This conclusion is supported by Hoover’s (2011) conclusion that Millennials possess a preference for complexity avoidance that manifests itself as a preference for simplicity and economy in data/information processing as opposed to the requisite willingness to address systematic complexity – often hindering experiential learning processes. Third, and again consistent with the preceding argument, engagement is better correlated with perceived course value and Eudaimonia as Sense of Purpose than with Eudaimonia as Purposeful Personal Expressiveness. Specifically, the results reported in Table 4 demonstrate performance engagement (perceived self-efficacy) is significantly correlated to Eudaimonia as Sense of Purpose (ρ = .354) but essentially unrelated to eudaimonia as Purposeful Personal Expressiveness (ρ = .057). Emotional engagement is more modestly related to Eudaimonia as Sense of Purpose (ρ = .195) and Eudaimonia as Purposeful Personal Expressiveness (ρ = .137). These results are not particularly surprising given the narcissistic and entitled nature of millennials, and the correlation between narcissism, entitlement, and higher levels of self-efficacy (Credo et al., 2016). Finally, given Taylor et al.’s (2011) finding of typically utilitarian student goals, the observation that emotional engagement (self-interest) and performance engagement (self-efficacy) are strongly correlated with perceptions of course perceived value. These results support H6 and H7.

Materialism as Moderator between Perceived Course Value and Eudaimonia

Materialistic values are conceived in the current research as a potential moderator presented in Figure 1 (see H3-H5). This derives from Deckop et al.'s (2010): (1) identification of a negative relationship between materialism and both nonwork- and work-related indicators of well-being and (2) the importance of the centrality dimension of materialism in this study of well-being. Twenge and Kasser (2013) provide empirical support for the conclusion that materialism moderates perceptions of value and engagement. Specifically, when materialistic values increase, work centrality steadily declines, suggesting a growing discrepancy between the desire for material rewards and the willingness to do the work usually required to earn the material rewards. We generalize this moderating observation to the educational context of the current research.

The intercorrelations in Table 4 contain only the centrality dimension of Richins's (2004) Materialistic Values scale because the predictive analyses in the next section identified that only this dimension provided a statistically significant result. We consequently limited our analyses of the intercorrelations to the centrality dimension of materialism. First, as previously predicted, the centrality of materialistic values is negatively related (although not strongly) to both Eudaimonia as Sense of Purpose (ρ = -.080) and Eudaimonia as Purposeful Personal Expressiveness (ρ = -.100). Second, the centrality of materialistic values is also negatively related (although not strongly) to course perceived value (ρ = -.055) and to both Emotional Engagement (ρ = -.066) and Performance Engagement (ρ = -.058). Thus, H3 is not supported by the relational evidence in Table 4, while H4 is supported. Finally, as predicted by H5, the centrality of materialistic values is identified in Figure 1 as moderating the relationship between course value and Eudaimonia as Purposeful Personal Expressiveness (β = -.299, ρ = .047).

Testing the Predictive Model Presented as Figure 1

Models estimation results are presented in Figure 1. The model was estimated using Mplus 7.4, including the INDIRECT module to calculate the indirect effect between perceived value and the two forms of Eudaimonia. Kenny (2016) asserts that in contemporary mediation analyses the indirect effect is the measure of the amount of mediation. Muthén and Asparouhov (2015) argue that the use of multi-item moderator variables is often desirable because the consequences of measurement error can be severe. Specifically, measurement error in the mediator in mediation analyses causes an underestimated indirect effect and an overestimated direct effect. The result indicate the overall model fit was good: χ^2 = 788.743, df = 541, RMSEA = .044, CFI = .942, TLI = .936, SRMR = .062.

A number of observations are apparent in the Figure 1 results. First, in the current data set Perceived Course Value, independent of mediation, is negatively related to both Eudaimonia as Sense of Purpose (β = -.041, p = .693) and as Purposeful Personal Responsiveness (β = -.191, p = .048). This finding may raise suspicions concerning potential confounding. MacKinnon et al. (2000, p. 2) define confounding as, "A confounder is a variable related to two factors of interest that falsely obscures or accentuates the relationship between them…" In the case of the current research, there appears to be variable confounding in the form of suppression in the relationships between Perceived Value and both Eudaimonia as Sense of Purpose and as Purposeful Personal Responsiveness. MacKinnon et al. (2000) argue that the most commonly used method to test for mediation effects assumes a consistent mediation model and does not allow suppression or inconsistent mediation. MacKinnon et al. (2000, p. 3) argue that this method involves three criteria for determining mediation:

1. There must be a significant relationship between the independent variable and the dependent variable.
2. There must be a significant relationship between the independent variable and the mediating variable
3. The mediator must be a significant predictor of the outcome variable in an equation including both the mediator and the independent variable.

In the current research, Perceived Value is the independent variable, the two dimensions of Engagement are the mediating variables, and the two dimensions of Eudaimonia are the outcome variables. The research model presented herein as Figure 1 was estimated to conform to steps 1-3 above. For step 1, the two forms of Eudaimonia were regressed on Perceived Value with results suggesting that Perceived Value is positively statistically related to Eudaimonia as Sense of Purpose ($\beta = .169$, $p = .022$) and negatively not statistically related to Eudaimonia as Purposeful Personal Responsiveness ($\beta = -.031$, $p = .668$). For step 2, the results in Figure 1 demonstrate that Perceived Value is positively statistically related to both Emotional Engagement ($\beta = .542$, $p = .000$) and Performance Engagement ($\beta = .343$, $p = .000$). For step 3, Eudaimonia as Sense of Purpose was first regressed on the Emotional Engagement ($\beta = .150$, $p = .092$), Performance Engagement ($\beta = .340$, $p = .000$), and Perceived Value ($\beta = -.043$, $p = .643$). Then, Eudaimonia as Purposeful Personal Responsiveness was regressed on the Emotional Engagement ($\beta = .222$, $p = .013$), Performance Engagement ($\beta = .081$, $p = .304$), and Perceived Value ($\beta = -.190$, $p = .042$). These results support the conclusion that Emotional Engagement mediates the relationship between Perceived Value and Eudaimonia as Sense of Purpose, while Performance Engagement potentially mediates the relationship between Perceived Value and Eudaimonia as Purposeful Personal Responsiveness. This interpretation is supported by the Specific Indirect test results: (a) Eudaimonia (Sense of Purpose) ← Performance Engagement ← Value (.116 $p = .001$); and (b) Eudaimonia (Purposeful Personal Responsiveness) ← Emotional Engagement ← Value (.121 $p = .030$). Thus, the results support the conclusions that: (1) Performance Engagement mediates the relationship between Perceived Value of a class and Eudaimonia as a Sense of Purpose; and (2) Emotional Engagement mediates the relationship between Perceived Value of a class and Eudaimonia as Purposeful Personal Responsiveness. This second relationship is further complicated by an observed moderating effect of the centrality dimension of Materialism (see Figure 1).

In addition, there is clear evidence that student Engagement operates as a suppressing influence on the relationship between Perceived Value and Eudaimonia. In terms of the relationship between Perceived Value and Eudaimonia as Sense of Purpose, the observation that Perceived Value is positively statistically related to Eudaimonia as Sense of Purpose ($\beta = .169$, p

= .022), but negatively not statistically related under mediation conditions, presented in Figure 1 (β = -.041, p = .693) demonstrates a clear suppression effect (MacKinnon et al., 2000; Kenny, 2016). A similar effect is observed in Perceived Value and Eudaimonia as Sense of Purpose, the observation that Perceived Value is negatively statistically related to Eudaimonia as Purposeful Personal Responsiveness (β = -.031, p = .668) in step 1 and negatively statistically related under the mediation conditions presented in Figure 1 (β = -.191, p = .048). Together, the mediation test results suggest that the role of student Engagement as a mediating variable between Perceived Value and Eudaimonia is much more complex and multidimensional than anticipated.

DISCUSSION & IMPLICATIONS

Khurana (2010, p. 101) refers to business education as a form of *paideia* in the sense that its distinctive feature was originally "expertise, autonomy, and an ethos of service to society." This form of *paideia* is more closely related to Eudaimonia than hedonia. Instead, Murcia et al. (2016) argue that business schools have been increasingly influenced by political and market pressures and have moved away from these principles (i.e., marketization). Marketization of business education comes with a risk of compromising quality and rigor in exchange for marketability. Past research studies have found that instructors who provide unusually high grades benefit from notably high instructor ratings (Ellis, Burke, Lomire, & McCormack, 2003). In doing so, it leads to poor education quality and students move away from an investment in self though knowledge acquisition toward future material affluence (Judson & Taylor, 2014; Delucchi & Korgen, 2002).

Interestingly, the mission statements of most universities reflect eudaimonic goals more consistent with business education as a form of *paideia*. However, the results reported herein support the conclusion that eudaimonic goal achievement is not positively related to students' perceived value with course offerings. If eudaimonic goal achievement is not related to stakeholder perceptions of perceived value, then it will likely prove difficult to incorporate (eudaimonic) well-being into models of marketing "success" as presented herein. If it is unlikely that (eudaimonic) well-being measures will be included in measures of marketing success, then it appears difficult to envision how TSR can be meaningfully introduced in higher education practices from a marketing perspective.

We agree with Murcia et al. (2016) that business education generally, and we would add marketing education specifically, are at a crossroads, and we advocate efforts to incorporate TSR into academic practices related to business education. However, for this to occur, the marketing emphasis will have to shift away from traditional marketization emphases (student satisfaction, training, etc.,) and move toward a marketing appeal directed to encourage higher education stakeholder groups to more greatly value eudaimonic goal achievement.

This could be achieved by implementing a balanced outcome-based assessment with greater emphasis on evidence that students meet required course learning objectives. In other words, less emphasis should be given to instructor teaching evaluations while more weight should be allocated toward students meeting course learning objectives and outcomes that are related to the eudaimonic-related emphases of so many university mission statements. Another potential solution would be to empower students to take ownership for their education and to facilitate a student-centric teaching philosophy where students learn to be autonomous and lifelong learners (Doyle, 2012). It is worth noting that such an emphasis would most likely detract from efforts to diminish liberal education (Zakaria, 2015).

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Steven A. Taylor, Ph.D.
(Corresponding Author)
Orcid Number: 0000-0003-1503-6682
Dept. of Marketing, Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: staylor@ilstu.edu

Chiharu Ishida, Ph.D.
Orcid Number: 0000-0002-2843-1959
Dept. of Marketing, Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: cishida@ilstu.edu

Joon Ho Lim, Ph.D.
Orcid Number: 0000-0001-7704-1829
Dept. of Marketing, Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: jlim12@ilstu.edu

Duleep Delpechitre, Ph.D.
Orcid Number: 0000-0002-5419-3317
Dept. of Marketing, Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: dsdelpe@ilstu.edu

CUSTOMER DISSATISFACTION AND SATISFACTION WITH AUGMENTED REALITY IN SHOPPING AND ENTERTAINMENT

Atieh Poushneh, University of Texas Rio Grande Valley
Arturo Z. Vasquez-Parraga, University of Texas Rio Grande Valley

ABSTRACT

Over the past decade or so, technology and marketing have become increasingly integrated, and consumers are reaping an increasing number of benefits as a result. One of these technologies, augmented reality (AR), is designed to enhance consumers' experiences when shopping and seeking entertainment. If this technology is to produce the desired effect on consumers, the enhancement it creates needs to be top quality. Should this enhancement be poor or non-existent, however, the low quality may not be due to faulty augmented reality (AR); rather, it may be due to AR's failure to provide the attributes necessary to satisfy consumers. This study, based on seven AR groups in the contexts of shopping and entertainment service with adult consumers, applied statistical and qualitative analyses to investigate the major causes of consumer satisfaction and dissatisfaction with AR across the seven groups. Statistical analysis was employed to examine the relationship between consumer experience and satisfaction or dissatisfaction resulting from this experience, and this analysis guided the research that uncovered which of the AR groups demonstrated higher levels of consumer satisfaction. The higher the discrepancy between consumers' actual experience and expected experience, the lower the level of satisfaction and the higher the level of dissatisfaction. Content analysis was also utilized to locate the gaps between consumers' actual and expected experience and thereby identify the specific AR attributes that created consumer satisfaction or dissatisfaction. The main AR attributes that produce satisfaction are rich quality of augmentation (realistic view and telepresence), elevated level of informativeness and interactivity, the availability of crucial utilities (search features, narration, quick response, and need for touch), connectivity (social features), and entertaining attributes. The more consumers interact with these AR attributes, the more satisfied they are; conversely, the less consumers are able to interact with these features, the more dissatisfied they are. Important implications for researchers and managers are drawn from the discrepancy and its consequences for consumer satisfaction.

Keywords: *Augmented reality, actual consumer experience with AR, expected consumer experience with AR, augmentation, interactivity, informativeness*.

INTRODUCTION

Let us start with this observation. Imagine consumers who want to know about stars and planets and be entertained while learning, but they lack a celestial telescope. An advanced interactive technology called Augmented Reality (AR) can help them educate themselves and have fun at the same time. Augmented reality superimposes computer generated images and virtual information onto the real world and enhances consumers' perceptions with this integration of real and digital information. In other words, AR is a type of informative media that enhances reality by presenting such virtual information (Lu and Smith, 2007) as three-dimensional product images in different shapes, colors, and styles (Kim and Forsythe, 2008a,2008b).

Many companies—e.g., Application, Zugara, Oculus, Vuzix, Google, and Blippar, to name a few—have started developing and implementing AR technology as mobile applications and smart glasses (Vuzix Smart glass). The life of specific AR technology has ups and downs. Pokémon Go, for instance, was launched in 2016, and it attracted the attention of so many game players around the world so rapidly that in the first month of its release, Pokémon Go earned about $200 million. This game application can be installed on consumers' smart devices so that they can walk around, find, and catch the hidden Pokémon character in the real environment. Nonetheless, since August 2016, Pokémon Go has lost one third of its daily players, and its daily revenue dropped from $16 million daily to $ 2 million (Humphery-Jenner, 2016). The reason for such dramatic losses? Pokémon Go's application was unable to authenticate players and login failures occurred. This is an example of how AR technology can draw people's attention and then platau or die.

More importantly, there is a lack of research helping marketers understand what consumers expect using AR and what causes them to be satisfied or dissatisfied with it. Marketers seem to have little understanding of the AR attributes that may provide satisfactory consumer feedback as a result of consumer positive experience with AR. The literature emphasizes the technological aspects of AR, but it neglects the role of AR in meeting consumers' needs and solving their problems (Swan and Gabbard, 2005). On the one side, AR is increasingly employed in the design and delivery of products (Kozick and Gettliffe, 2010). On the other side, products are often not developed with customers in mind (Swan and Gabbard, 2005).

Thus, this study set out to learn:

R1: What do consumers experience when interacting with AR in shopping and entertainment contexts?

R2: What do consumers expect to be offered when interacting with AR in shopping and entertainment contexts?

R3: What are the gaps between consumers' actual experiences with AR and the benefits they expect to accrue by using it?

R4: Which AR attributes are the major causes of consumer satisfaction and which are the major culprits for consumer dissatisfaction in shopping and entertainment contexts?

The remainder of this paper is organized as follows: First, the relevant literature on augmented reality, consumer experience, and consumer satisfaction is briefly reviewed. Next, the research methodology, analysis, and results are presented. Finally, the study's conclusions, managerial implications (how AR designers should develop AR applications that can enhance consumer satisfaction), limitations of the study, and suggestions for future research are discussed.

LITERATURE REVIEW

Augmented Reality (AR)

Augmented reality integrates digital information into consumers' real-world information in ways that help them perform tasks. The physical reality becomes enriched with virtual information, thus consumers perceive a mediated reality created by the interaction between physical and virtual information. As a consequence of this interaction, consumers perceive experiential consumption. In a retail context, for instance, some customers do not purchase online because they lack product information, which in their mind makes purchase decisions risky (Kim and Forsythe, 2008a). Here is where AR can help. By providing additional product information (Lu and Smith, 2007), AR can create meaningful experiences for online shoppers (MacIntyre et al., 2001). The additional information enables customers to evaluate products more fully (Kim and Forsythe, 2008a) so they can make decisions with more certainty (Oh, Yoon, and Shyu, 2008).

Augmented reality has been introduced into a variety of industries such as medical services, repair and maintenance, retailing, and entertainment because it can be applied to both shopping and service use. In addition to helping shoppers make purchase decisions, it also provides them with enjoyable experiences (Li, Daugherty, and Biocca, 2001) as they interact with three-dimensional pictures of products (Fiore, Kim, and Lee, 2005).

User Experience (UX)

User experience (UX) is defined as, "All the aspects of how people use an interactive product: the way it feels in their hands, how well they understand how it works, how they feel about it while they are using it, how well it serves their purposes, and how well it fits into the entire context in which they are using it" (Alben, 1996, p. 5). The concept of user experience is holistic, subjective (McCarthy and Wright, 2004), and varies across time (Law et al., 2009).

Because the concept of user experience may be too broad, ambiguous, and abstract for a precise definition (Park et al., 2013), it is difficult to determine how it should be evaluated. Traditional methods have evaluated UX in terms of usability (Butler, 1996; ISO 9241, 1998), instrumental, and pragmatic quality (Hassenzahl et al., 2003). Usability involves efficiency, effectiveness, and satisfaction (Hoehle and Venkatesh, 2015; Butler, 1996), and, additionally, time of execution, performance, and learning abilities (Abran, Khelifi, Suryn, and Seffah, 2003). Instrumental quality is related to the achievement of behavioral goals. Non-instrumental quality dispenses with human needs and incorporates aesthetic, symbolic, and motivational characteristics of human behavior (Mahlke, 2008).

According to some authors, user experience is not just pragmatic or instrumental; it also carries affective and socio-cognitive qualities (Hassenzahl and Tractinsky, 2006) and intermixes various aspects of interaction between product and consumer (Alben, 1996; Arhippainen and Tahti, 2003; Forlizzi and Ford, 2000). Previous studies have emphasized both instrumental or pragmatic qualities, and such non-instrumental qualities such as hedonism and emotions (Hassenzahl et al., 2003), pleasure (Jordan, 1998), fun (Draper, 1999), and aesthetic expressions (Tractinsky et al., 2000). Thus the concept of user experience is multidimensional and must reflect pragmatic, hedonic, and aesthetic qualities (e.g., Hassenzahl et al., 2003; Laugwitz et al., 2008).

Consumer Satisfaction and Dissatisfaction with Augmented Reality

Satisfaction refers to the difference between consumer's prediction of what should occur and what actually occurs (Parasuraman et al., 1988). The smaller the difference, the more satisfied a consumer is. Satisfaction is both cognitive and affective (Mano and Oliver, 1993; Westbrook and Oliver, 1991). Satisfaction is, "not [only] the pleasurableness of the [consumption] experience, it is the evaluation rendered that the experience was at least as good as it was supposed to be" (Hunt, 1977, p. 459).

This study pays particular attention to consumer satisfaction because it is the main driver of behavioral intention (e.g., Oliver, 1999). Consumer satisfaction influences customer loyalty (Oliver, 1999; Anderson and Sullivan, 1993; Bearden and Teel, 1983; Boulding et al., 1993; Fornell, 1992; Oliver and Swan, 1989), consumers willingness to buy (e.g., Bearden and Teel, 1983), and consumers' after-purchase attitudes (Howard, 1974).

Augmented reality can foster positive customer-brand relationships (Owyang, 2010) and thus produce consumer satisfaction through the creation of perceived experiential value (Chou, 2009; Yuan and Wu, 2008). This technology can even create consumer satisfaction before the purchase (Bulearca and Tamarjan, 2010), at the time customers evaluate a product (Woodsa, 2009), and just before customers make their purchase decisions (Fill, 2009). Because AR can enhance the whole consumer experience and not just the product or service (Yuan and Wu, 2008; Schmitt, 1999), this study evaluates the linkage between actual consumer experience with AR (or expected consumer experience with AR) and consumer satisfaction or dissatisfaction with AR.

METHODOLOGY

Quasi-experimental Design to Examine User Experience with Augmented Reality

The study used five conditions from star mobile applications related to entertainment services and two conditions from Ray Ban's website related to shopping experiences. The participants were randomly assigned to one of the seven conditions, regardless of their previous experience with AR devices.

A sample of seventy young adults was selected in a Southwestern metropolitan area of the U.S., and it was comprised of a balanced demographic profile: 28 males and 42 females, with ages ranging from 19 to 43 years: 25 females and 13 males (19 to 24 years); 11 females and 8 males (25 to 30 years); two females and five males (31 to 36 years); and four females and two males (37 to 43 years). All participants were asked prescreening questions to assess their familiarity with Internet usage and knowledge of the products used in the applications (mobile star applications and the Ray Ban website). Six items per product were included, as shown in Table 1.

Participants were asked to use their own smart phones, and then they were randomly assigned to one of the seven groups. Each group was exposed to one AR treatment. The first group was exposed to Night Sky Lite; the second group was exposed to Sky View Free; the third group was exposed to Star Tracker; the fourth group was exposed to Star Chart; the fifth group was exposed to Space Journey; the sixth group was exposed to the AR feature of the Ray Ban website; and the last group was exposed to a version of the Ray Ban website called Virtual Model, which lacked AR features. After five minutes of exposure to one AR treatment, all participants answered survey questions and two-open questions, and narrated their actual and expected experience with AR.

Measurement of Consumer Satisfaction with Experience of Augmented Reality

To measure consumer satisfaction, three items were borrowed from Taylor and Baker (1994). Both prescreening answers and consumer satisfaction were measured using a 7-point Likert scale anchored at 1 = strongly disagree and 7 = strongly agree. The resulting means varied from 5.12 to 6.70 for the group exposed to the mobile star applications and from 5.42 to 6.71 for the group exposed to the Ray Ban website, thus ensuring the inclusion of participants familiar with the Internet who also had knowledge of the target product.

TABLE 1: PRESCREENING AND CONSUMER SATISFACTION QUESTIONS

Prescreening Questions for Mobile Star Applications	Mean*
I frequently use the Internet to search.	6.23
I think that technology is necessary for my daily works.	5.79
I visit the Internet websites to collect information.	6.70
I visit the Internet to collect more information about stars and planets.	5.12
I would like to know more about celestial bodies in the sky.	5.55
I like to watch stars and other celestial bodies in the sky.	6.21
Prescreening Questions for Ray Ban Websites	**Mean***
I am familiar with using the Internet.	6.32
I frequently use the Internet to shop online.	6.60
I think that technology is necessary for my daily works.	5.67
I visit the Internet retail websites to collect product information.	5.42
I visit the Internet retail websites for purchasing products	5.91
I am a user of eyeglasses or sunglasses.	6.71
I would like to wear eyeglasses or sunglasses.	6.40
Consumer Satisfaction Measurement	
Overall, I am satisfied with this application.	5.74
Being a user of this application has been a satisfying experience.	5.76
Having experienced this application was pleasurable.	6.01

* Of a Likert Scale from 1 = Strongly Disagree to 7 = Strongly Agree.

SPSS software was applied to obtain descriptive statistics and perform reliability analyses. Cronbach's Alpha of consumer satisfaction was .951, thus demonstrating construct internal consistency (Nunnally and Bernstein, 1994). Exploratory factor analysis (EFA) was performed using Principal Component Method and Varimax rotation to check for the uni-dimensionality of the construct (KMO = .774, $\chi^2 =$ 247.736 df = 3, sig = .000). The results showed that consumer satisfaction was uni-dimensional with all factor loadings ranging from .950 to .959, which is higher than the required minimum score of .6 (Hair et al., 2006).

The following two-open questions were asked to obtain feedback on consumer experience: 1) What did you experience? 2) What did you expect to experience that you have not experienced by interacting with this mobile application? (in context 1) or What did you expect to experience that you have not experienced by interacting with the Ray Ban website? (in context 2).

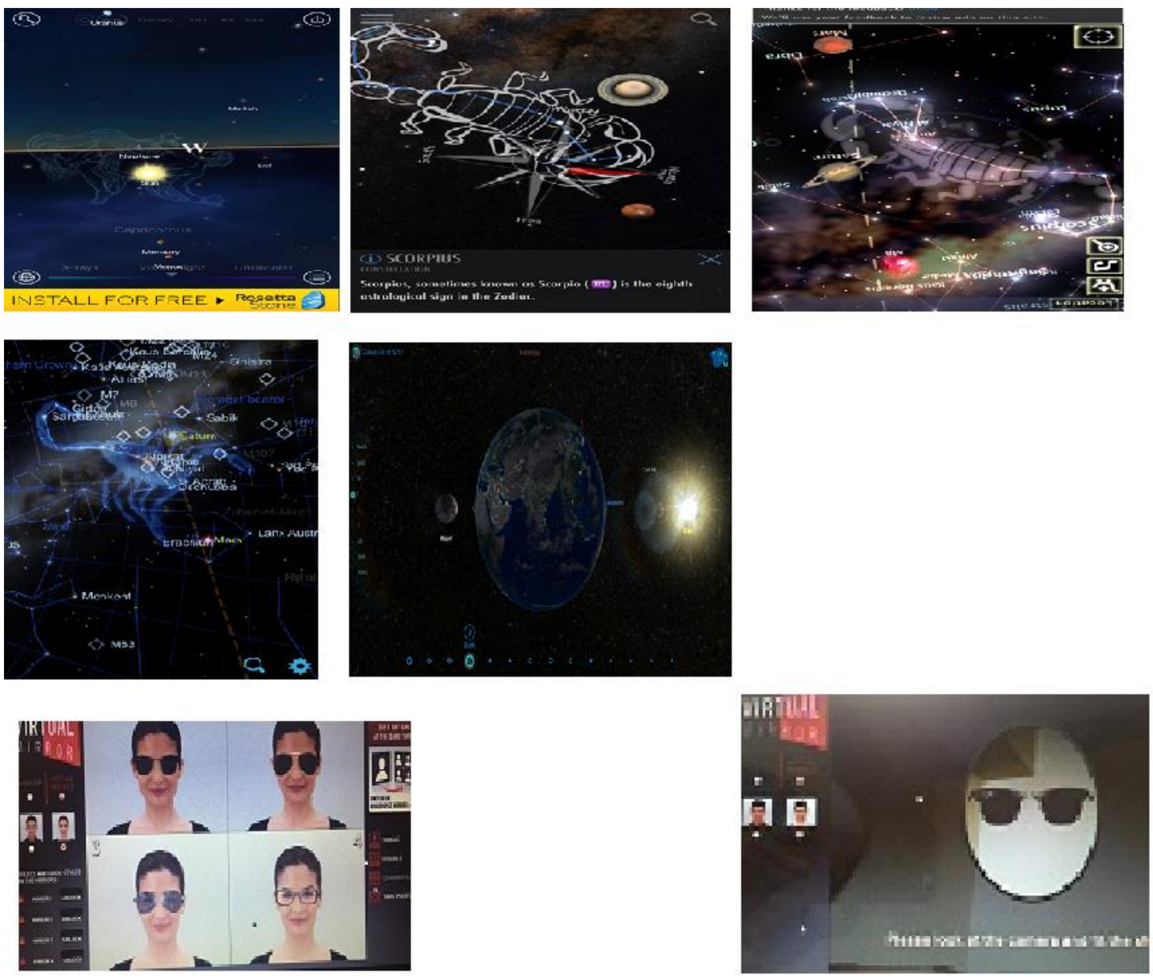
What follows summarizes key details in the procedures utilized for each of the seven groups in both contexts.

Context 1: Consumer Experience with AR Applied to Entertainment Services

Participants in each group were asked to download the relevant star mobile application on their smart phones. They interacted with the mobile application for five minutes, and then they were asked to close the application and answer the questions.

Each mobile application utilized for each of the five groups follows. Figure 1 shows screen shots of the five AR star mobile applications.

Figure 1
Screen Shots Of AR Star Mobile Applications (Night Sky, Sky View Free, Star Tracker, Star Chart, And Space Journey) And Webcam (AR) Ray Ban Website (Webcam And Virtual Model)



First Group: Consumer Experience with AR Applied to Night Sky

The application used was fully interactive and allowed participants to interact with virtual objects (e.g., stars and planets), listen to background music, and modify the content of the augmented reality shown on the screen. Participants could activate commands to produce sound effects, notifications, news, sky information, and/or satellites. They could also change the color of the screen, zoom in on or out of an image, and they could request more information about the virtual objects they were seeing. Moreover, the application enabled participants to stay connected with others by allowing them to take photos of the virtual objects and share them on social networks. Although Night Sky provided many novel features, the application also displayed many advertisments at the bottom of the screen (e.g., Google application), which annoyed some participants.

Second Group: Consumer Experience with AR Applied to Sky View

This application was somewhat interactive and informative, and it also provided novel features such as background music, sound effects, social features, and an augmented reality camera. Participants could modify the content of the augmentation shown on the screen, and they were able to take a picture or video of a virtual object and post it on social networks. But the application had a few drawbacks: it did not provide an elevated level of interactivity, and participants were unable to zoom in on or out from the virtual objects, thus reducing the fun of using it.

Third Group: Consumer Experience with AR Applied to Star Tracker

This application was fully interactive and provided such personalized maneuvering as calibrating a location. Participants could zoom in on and out from virtual objects shown on the screen, and they could also stay connected with others. This application also had some drawbacks: it was not informative enough, it did not provide much information about the virtual objects, and it did not allow participants to take pictures of virtual objects.

Fourth Group: Consumer Experience with AR Applied to Star Chart

This application also provided personalized maneuvering such as calibrating a location, and it enabled participants to zoom in on and out from virtual objects. The application has social features that enable participants to take pictures of virtual objects and post them on social networks. But the application was not easy to use, as some participants experienced difficulties in learning how to use it. Moreover, it was only slightly interactive; it did not provide background music; it loaded too much information onto the virtual objects as shown in lines, images, and text. Some participants felt overloaded with information and had an unpleasant experience as a result.

Fifth Group: Consumer Experience with AR Applied to Space Journey

This application was only slightly interactive and informative. It did enable participants to zoom in on and out from the virtual objects shown on the screen, but it provided little information about them.

Context 2: Consumer Experience with Shopping in AR

The second context involved two groups using a website to shop. The study asked each participant to log in to a Ray Ban website, which has two versions, one with AR features and one without. The sixth group was exposed to the web cam feature of the Ray Ban website, the one that provided AR features

TABLE 2
Actual Consumer Experience Versus Expected Consumer Experience Of Augmented Reality (AR) By Treatment Group

AR Treatments	Actual User Experience of AR	Expected Consumer Experience of AR
First Group:	High quality of augmentation	No advertisement
Night Sky	Highly interactive	Voice narration
	Highly informative	Search feature
	Connectivity	
Second Group:	High quality of augmentation	Highly interactive
SkyView	Middle level of interactivity	Highly informative
	Middle level of informativeness	More fun
	Novel features (music)	
	Search feature	
	Little fun and pleasure	
Third Group:	High quality of augmentation	Highly informative
Star Tracker	Highly interactive	Novel features (e.g., taking pictures of stars)
	Slightly informative	Search feature
	Connectivity	No advertisement
	No novel features except background music	
	Advertisement	
	Nice aesthetic user interface	
Fourth Group:	High quality of augmentation	Highly interactive
Star Chart	Slightly interactive	Sufficient information
	Overloaded information	Easy to use
	Social feature	Easy to learn
	Search features	Pleasant experience
	Background music	Voice narration)
	Unpleasant experience	
Fifth Group:	Slightly interactive	Highly interactivite
Space Journey	Slightly informative	Highly informative
	No social feature	Social features
	No background music	Novel features
Sixth Group:	Highly interactive	High quality of augmentation or realistic view
Augmented Reality	Personalized experience	Highly informative (e.g., inventory, customer reviews, popular products, and so on)
Ray Ban	Middle level of informativeness	Quick response
	Social features	Touch
	Moderate quality of augmentation or realistic view	Virtual salesperson like stores
Seventh Group:	Slightly interactive	Personalized experience
Virtual Model	Slightly informative	More models
Ray Ban	Not personalized experience	Highly interactive
	Social features	Highly informative

http://www.rayban.com/international/virtual-mirror. The seventh group was exposed to the Virtual Model version, which lacked AR features. After participants interacted with the websites for five minutes, they were asked to close the application and answer the questions.

Sixth Group: Consumer Experience with AR Applied to Web Cam Ray Ban (Augmented-Self)

The AR version of the website was fully informative and interactive, and it provided a personalized experience. Participants could select favorite sunglasses or eyeglasses from the Ray Ban catalogue and see how the virtual glasses looked on their facial image. This feature enabled participants to modify their images, zoom in on and out from the virtual glasses, take pictures of themselves wearing the virtual glasses and email them to friends or post them on social networks.

Seventh Group: Consumer Experience with AR Applied to Virtual Model Ray Ban

This version of the website was slightly interactive and did not provide a personalized experience, but it did offer two models, one for men and one for women. Like the application used by the sixth group, participants could select favorite sunglasses or eyeglasses from the Ray Ban catalogue and see how the virtual glasses looked on their faceial images. Even though it did not enable participants to have personalized experiences, it did allow users to compare up to four pairs of glasses.

Figure 1 shows screen shots of the features offered by both versions of the Ray Ban website, Web Cam and Virtual Model. Table 2 shows a detailed summary of comparisons between actual consumer experiences and their expected experiences for the seven participating groups.

RESULTS AND DISCUSSION

Qualitative and quantitative methods were used to ascertain and compare the level of consumer satisfaction reached by each group. Content analysis revealed gaps between consumers' actual experience and their expected experience with AR, and this analysis of the gaps helped determine which AR attributes created satisfaction and which ones led to dissatisfaction. Statistical analysis accounted for the level of consumer satisfaction reached by each group and compared the means obtained.

Consumers' Actual Experience and Consumers' Expected Experience with AR

Table 3 uses the responses to the two-open questions to compare the actual consumer experience with the expected experience for all groups exposed to AR mobile star applications (context 1) and the AR Ray Ban website (context 2). The results showed a significant discrepancy between what consumers expected to be offered when using augmented reality in shopping or entertainment contexts and what they actually experienced. Participants expected high quality augmentation (realistic view and telepresence), elevated level of informativeness, high level of interactivity, and the availability of crucial utilities (search features, narration, quick response, and need for touch). They experienced fun, pleasure, control, and connectivity, but they also experienced low levels of interactivity, of received information, and a quality of augmentation that was low or mediocre.

Level of Consumer Satisfaction with Augmented Reality Across the Seven Groups

Table 4 displays the number of participants, the results of t-tests, p-values, and the means of consumer satisfaction for each group. The level of satisfaction is reported from the highest level to the lowest level, from Night Sky, Sky View Free, and Web Cam Ray Ban

TABLE 3:
Summary Of Findings: Comparison Of Actual Consumer Experience And Expected Consumer Experience For All Groups Exposed To AR Mobile Star Applications And Ray Ban Websites

A)Actual consumer experience of AR star mobile applications	**A)Expected consumer experience of AR star mobile applications**
Low quality augmentation: The participants reported that some applications offered low quality AR.	High quality augmentation: The participants reported that some AR applications did not offer high quality AR.
Low level of interactivity: Participants experienced a low level of interactivity with the virtual objects. At best, they could zoom in on or out from the augmented objects.	High level of interactivity: The participants expected to have extensive interaction with the virtual objects.
Control: The participants had control over the application. They could choose background music, colors, location, and so on.	Utilities (Search, narrative, and quick response): The applications lacked search and narration. Some participants expected the AR applications to educate them on use using the applications. *She expected to hear Morgan Freeman's voice (Female, 21).*
Connectivity: Participants could take a picture of the virtual objects and post it on social networks.	Realistic view of augmented objects: Applications did not provide vivid images of virtual objects. *The application was so artificial (Male, 24)*
Low level of informativeness: The AR applications provided little information about the virtual objects.	High level of informativenss: Applications did not provide enough information on the virtual objects. Sometimes, it provided either too much or insufficient information.
Fun and pleasure experience: Participants had a fun and pleasurable experience using the applications.	Ease of learn (Learnability): Participants expected that applications would educate the users on using the AR applications.

TABLE 3 Continued

A)Actual consumer experience of AR Ray Ban Websites	**A)Expected consumer experience of AR Ray Ban Websites**
Low quality augmentation: Participants could see the virtual products on the model or their face. The quality of augmentation was rather poor.	High quality augmentation: Website did not provide high quality augmentation. *It was not me, the website did not augment well (Female, 23).* *I do not like avatar-ish or animated view of the self (Female, 22).*
Easy to navigate and easy to use	Utilities (Quick response): participants expected quick output by the AR website.
Low level of informativeness: Participants received little information about the products.	High level of informativeness: participants expected the website to show the inventory level of local stores. *I expected to see the level of inventory (Male, 35).* *I wanted to see more information about bestselling products, new arrivals, most popular and most tried-on products (Female, 25).* *It was expected to see more variety of products (Female, 20).*
Control: Participants could easily select their favorite products.	
Connectivity: Website allowed them to stay connected with others.	

at the top to Star Tracker, Star Chart, Space Journey, and Virtual Model at the lower levels.

To ascertain which groups experienced the highest levels of satisfaction, a post-hoc test with Bonforroni in ANOVA was applied. The results showed that in Context 1, the level of consumer satisfaction was significantly different across the Space Journey and Sky View Free applications ($p = .06$), and the level of satisfaction experienced from interacting with Space Journey was significantly different from that of Night Sky ($p = .05$). In Context 2, the level of satisfaction was significantly different between the two groups ($p = .03$).

TABLE 4
Statistical Analysis By Group: Number Of Participants, T-Test, P-Value, And Means Of Consumer Satisfaction

Groups	Number of Participants	T-test	p-value	Means of Consumer Satisfaction
Night Sky	9	46.60	.000	6.74
Sky View	10	30.76	.000	6.61
Star Tracker	16	12.13	.000	6.16
Star Chart	10	16.56	.000	5.18
Space Journey	10	6.97	.000	4.86
Web Cam Ray Ban	9	26.31	.000	6.59
Virtual Model	8	6.61	.000	4.54

Overall, the higher the discrepancy between actual consumer experience and expected experience, the lower the level of satisfaction and the higher the level of dissatisfaction.

AR Attributes Linked to Consumer Satisfaction

To identify the AR attributes linked to consumer satisfaction, a narrative analysis was used. The results showed that a significant difference in consumer satisfaction existed between consumers' expectations and the actual experiences in most of the AR groups. In general, high quality of augmentation, highly informative, and novel, interactive AR applications that have high connectivity are linked to higher levels of satisfaction. Lower levels of satisfaction are linked to lower levels of augmentation quality, informativeness, and interactivity, as well as the lack of utilities and fun features.

Specifically, in Context 1, Night Sky offered the highest level of satisfaction because of its high interactivity, informativeness, and connectivity. Sky View provided the second highest level of satisfaction. Though it featured novelty and utilities, it had a middle level of interactivity and informativeness. Star Chart ranked third in the level of satisfaction, as it was only slightly interactive, though it did offer social and utility features. It also overloaded participants with information, which made it unpleasant for some. Star Tracker ranked fourth. It produced some satisfaction because it was highly interactive, but it was only slightly informative and lacked novelty features. Space Journey earned the lowest level of satisfaction not only because it was only slightly interactive and informative, it also lacked social and novel features.

In Context 2, the quality of augmentation, level of informativeness, interactivity and utilities were essential to user satisfaction. Web Cam Ray Ban earned the higher level of satisfaction because of its high interactivity, connectivity, and personalized shopping experience, though it had only a moderate quality of augmentation and a middle level of informativeness. Virtual Model received the lowest rating of satisfaction because it was only slightly interactive and informative, it lacked entertaining features, and it did not offer a personalized experience.

Table 5 summarizes the main AR attributes that contribute to consumer satisfaction and the absence or poor attributes that create dissatisfaction. Highly interactive and informative AR applications that generate high quality augmentation are linked to consumer satisfaction. Night Sky, for example, achieved the highest level of satisfaction because it possessed these attributes, whereas Space Journey earned the lowest level of satisfaction because of its low levels of augmentation quality, informativeness, interactivity, connectivity, and utilities. Overall, the main attributes that contribute to consumer satisfaction are: 1) quality of augmentation, 2) level of informativeness, 3) level of interactivity, 4) utilities, 5) connectivity, 6) fun and entertaining features.

Table 6 condenses the AR attributes expected by consumers and corresponding descriptions based on results from the studies of the two contexts. This wish list emphasizes the main AR attributes consumers expect: high quality augmentation, an elevated level of informativeness, a high level of interactivity, utilities, and learning ease. Such desires coincide with the AR attributes that contribute to consumer satisfaction, and they are listed in Table 5. Additional descriptions and illustrations of these and other AR attributes are presented in Appendix A.

TABLE 5
Summary Of Augmented Reality Attributes That Contribute To
Consumer Satisfaction Or Dissatisfaction

Contribute to Consumer satisfaction	Contribute to Consumer dissatisfaction
Fun and enjoyment	Lack of fun and enjoyment
High quality of augmentation	Poor quality of augmentation
High level of interactivity	Low level of interactivity
High level of informativeness	Low level of informativeness
Connectivity or social features	Lack of connectivity or social features
Utilities	Lack of utilities

TABLE 6
Summary Of AR Expected Consumer AR Attributes In Entertainment And Shopping Contetxs

Expected consumer AR attributes	**Description**
Quality of augmentation: Realistic view of virtual objects	Feeling of receiving realistic view of the augmented objects (size and dimensions) so that the virtual objects are inserted into the place where they belong.
High level of informativeness	Receiving sufficient amount of information regarding the virtual objects.
High level of interactivity	Being able to interact with virtual objects provided by AR (e.g., zoom in and out, change the content of augmentation).
Utilities: Search features	Being able to search for information about the objects within AR application
Ease of learning	Requirement of the AR application to educate consumers on using the AR application
Narrative	Receiving audio instruction (narrator) on using the AR application.
Quick response	Receiving output (virtual objects) in a quickly manner.
Need for touch	Being able to virtually touch the virtual objects.
Control	Feeling of having control over the virtual objects
Connectivity	Felling of being connected with other consumers
Fun and pleasure	Feeling of having fun and being entertained while using AR
Telepresence	Feeling of being immersed in the environment

MANAGERIAL IMPLICATIONS

Consumers expect to interact with AR applications possessing high quality augmentation (realistic view and telepresence), an elevated level of informativeness and interactivity, and crucial utilities (search features, narration, quick response, and need for touch). While some AR applications offer fun, pleasure, and social features that keep consumers entertained and connected, many applications fail to provide a high level of interactivity and informativeness. This failure can easily frustrate consumers and create dissatisfaction.

These results have important implications for companies designing AR applications. Augmented reality should be developed as usable, practical, fun, and pleasant media that effectively enhances consumers' ability to perform tasks and their awareness of reality. Although some AR applications have been designed to entertain consumers, consumers' expectations go beyond entertainment benefits. They expect AR applications to offer a rich quality of augmentation and elevated levels of informativeness and interactivity, thus if applications are to satisfy consumers, designers must incorporate these qualities. They should also focus on designing applications that are highly interactive and informative in addition to being fun and pleasurable.

Some AR applications and websites currently available do not meet consumer expectations in terms of interactivity, informativeness, quality of augmentation, and utilities. Make-Up Genius, for example, is an AR application that applies virtual make up to a customer's facial image. Although the application provides superior quality augmentation, it does not allow customers to modify or interact with the augmented-self-image, nor is it interactive enough to allow customers to zoom in on or out from the augmented-self-image.

The results of this study emphasize the role of quality augmentation, informativeness, interactivity, utilities, telepresence, and control as major contributors to consumer satisfaction with AR. Developers should pay attention to the quality of augmentation by considering size and dimensions. For instance, Cimagine is an AR application that enables-customers to see how virtual furniture looks in their homes. Yet the application does not take into account the size and dimensions of the space allotted for the furniture, thus denying customers the ability to virtually see how well the furniture will fit where they want it. Interactive AR with high quality augmentation needs to realistically overaly virtual objects onto the real world. Practical and entertaining AR relies on highly interactive attributes that enable consumers to feel in control when interacting with virtual objects.

Augmented reality applications supplement reality by mapping virtual information onto real world experience. This mapping is likely to be important to consumers when purchasing clothing, glasses, furniture, so it must be considered seriously. The lack of mapping or its poor use may well contribute to consumer dissatisfaction. Because mapping virtual content onto the real world can be complicated, it is essential that developers consider the proper attributes that make AR satisfactory for consumers and thus an effective selling tool. A well-designed AR supplement should be able to generate rich quality of augmentation with high levels of informativeness and interactivity plus utilities that enable consumers to have personalized and realistic experiences.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study has some limitations. First, the sample was limited, so a larger sample may be required to reach definitive conclusions that enable us to fully understand both what consumers actually experience when interacting with AR in shopping or entertainment and what they expect to be offered. It is particularly important to identify specifically the AR attributes that enhance customer satisfaction.

Future research might apply AR applications in other contexts such as health care service or the automobile industry. It may also employ further quantitative methods to evaluate the impact of AR on consumer experience and other consumer outcomes. Another interesting avenue for future research might be measuring consumers' personality traits and their role in consumers' willingness to purchase.

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Atieh Poushneh
College of Business and Entrepreneurship
University of Texas Rio Grande Valley
Atieh.poushneh01@utrgv.edu

Arturo Z. Vasquez-Parraga*
Professor of Marketing and International Business
College of Business and Entrepreneurship
University of Texas Rio Grande Valley
1201 W. University Drive
Edinburg, TX, 78539, USA
arturo.vasquez@utrgv.edu

APPENDIX A
AR Attributes and Expected Consumer Experiences of Augmented Reality

Quality of augmentation (Realistic view of augmentation): Quality of augmentation (output quality) refers to the quality of output overlayed by AR. Augmented reality is designed to insert the virtual objects into the reality in which they belong. This is one of the most desirable experiences AR offers.

Less than desirable AR applications and websites do not deliver good quality augmentation. Some applications, for instance, do not deliver precise three-dimensional images of products, which may disappoint consumers. Poor AR usage occurs when virtual information is not inserted in the appropriate places or when a balance between the size and placement of the digital information and the real information is lacking. Some Virtual Try-on applications deliver poor quality and unrealistic output by placing the virtual sunglasses in the wrong place on the consumers' facial images.

Quality of augmentation and output quality are crucial to AR usage because they influence consumer's behavioral intention to use it (Olsson et al., 2012). Consumers want a rich quality of augmentation regardless of the context in which AR is being used (Olsson et al., 2012; 2013). Consumers may be easy to satisfy when they receive high quality augmentation (Wang and Chen, 2011; Chen, 2013) and be willing to recommend the AR application to others (Jung et al. 2015), unlike consumers who fail to receive high quality augmentation. These consumers may become dissatisfied and unwilling to recommend AR as a result.

Informativeness: Informativeness refers to the extent to which AR offers relevant and useful information about virtual objects. The level of information about the virtual objects, however, needs to be an appropriate amount, i.e., neither too much nor too little. Star Chart, for example, overlays so much information about constellations that consumers find it unpleasant. The Ray Ban Website was slightly informative, but it lacked information about new arrivals and the most popular products. Informativness and interactivity are linked. Poor levels of interactivity may also add less useful virtual information about a real product. Augmented reality technology with poor levels of interactivity are not intuitive enough to estimate how much virtual information consumers expect. Thus the level of informativeness is crucial in producing satisfaction or dissatisfaction. A low level of informativeness leads to dissatisfaction and affects future consumer expectations.

Interactivity: Perceived interactivity is the second desirable feature of AR requested by participants. Perceived interactivity refers to the "extent to which users can participate in modifying the form and content of a mediated environment in real time" (Steuer, 1992, p. 84), and it has been found to be a multi-dimensional construct, one that includes playfulness, choice, connectivity, information collection, and reciprocal communication (Ha and James, 1998). The participants' expectations coincided with Lee's (2005) four components of website consumer interactivity: control, responsibility, personalization, and perceived connectedness. Consumer control refers to the ability of a consumer to control the application's information. Responsiveness refers to the ability of the website to respond to the consumer. Personalization enables consumers to customize products. Perceived connectness focuses on consumers' desire to share with others their experiences with products.

Moreover, interactivity enables consumers to customize and personalize information in three-dimensional images (Fiore et al., 2005). These images can significantly help consumers who request information. Some AR applications such as Virtual Try-on offer some degree of image interactivity. The interactivity featured by apparel retailers such as Virtual Model, for instance, enables consumers to visualize customized product images (Fiore et al., 2005) and provides a considerable amount of information (Fiore and Jin, 2003). Thsese features of interactivity may influence online shoppers' attitudes by presenting product information in three-dimensional images (Fiore et al., 2005) that reflect real products in the store. A high level of interactivity between consumer and AR has the potential to provide telepresence and informativeness.

Interactivity can also entertain shoppers and thereby enhance their satisfaction with online shopping (e.g., Koufaris et al., 2001). For example, participants considered Night Sky Lite entertaining because they could interact with virtual objects. They could zoom in on or out from them and receive more information about the objects. Space Journey and Star Tracker were only slightly entertaining because they offered a low degree of interactivity.

The role of interactivity cannot be overemphasized. Previous studies have shown that interactivity provides both utilitarian and hedonic value to shoppers (Klein, 1998; Fiore et al., 2005), can save them time and effort, reduce their risk (Klein, 1998), and offer personalized output, all of which can lead to shoppers' willingness to purchase online (Fiore et al., 2005).

Utilities (search features, narration, learning ease, and quick response): Utilities refer to functional qualities of AR such as search capability, ease of learning (learnability), quick response, and need for touch. Search features refer to functions that enable users to search effectively and efficiently for proucts and information. Narration refers to the integration of narrative components that educate consumers about using AR. Ease of learning refers to consumers' conviction that using AR technology will be easy to learn. Quick response refers to the speed of overlaying virtual information on reality. Need for touch refers to the extent to which AR allows consumers to virtually touch virtual objects on the screen in order to learn about texture, material and/or the temperature of such virtual objects as clothing. As consumers access more functionalities of technology, such features as search, quick response, learnability and narration become available to AR consumers.

Participants in the study expected AR to allow them to seek information effectively and efficiently and to receive instructions that clearly explained the steps required to best use AR. One of the participants said that she expected the application to "have commentators like Morgan Freeman narrating." Even though some AR applications and websites are novel, advanced, and free of bugs (e.g., Star Chart), users can lose interest when the application lacks clearn instructions that explain explaining how to use them, or the application is slow in generating output.

Connectivity or Social Features: Connectivity refers to the consumers' desire to stay connected with other people. Augmented reality applications and websites often enable consumers to connect and stay connected with others. Night Sky, for example, allows consumers to take photos of virtual objects and post them on social networks or email them to others. Connectivity features produce satisfaction, and the lack of these features leads to unsatisfactory consumer experiences.

Control: Consumer control refers to the ability of consumers to control information such as product selection and choice of available products and features within the application. Having control over information is one of the major factors affecting consumers' willingness to use technology (Polatoglu and Ekin, 2001). Consumers expect to control virtual objects, personal information, and the content of AR. Therefore, a high level of control contributes to consumer satisfaction, and the lack of it produces dissatisfaction.

Telepresence: Telepresence refers to consumers' presence in an environment by means of a communication medium rather than being present in the immediate physical environment (Steuer, 1993). This study's results showed that consumers want to have their experience mediated by AR just as if they were in a physical store. Consumers expect to experience a more realistic view of a retail outlet, i.e, they would like to see store racks, virtual salespersons, or virtual employees walking through the store and showing customers the products or even allowing them to physically touch the products. Telepresence creates satisfactory experiences because consumers feel they have realistic experiences and that they can trust the technology. Therefore, telepresence increases satisfaction and the lack of telepresence produces dissatisfaction with AR.

Fun and Pleasure: AR can generate fun and enjoyable experiences for shoppers by providing simulated experiences with three-dimensional images (Tang et al., 2004). Shoppers interacting with virtual objects enjoy the products (Li et al., 2001) and have positive attitudes when shopping online (Kim and Forsythe, 2008a). Shiseido, for instance, contributes to women's fun and pleasure by providing an AR technology called "Cosmetic Mirror," which facilitates women's decision-making when purchasing cosmetics by enabling them to add virtual makeup to their facial images. Fun and pleasant interaction with AR creates pleasurable experiences and leads to satisfaction with the technology, whereas the lack of fun and pleasurable interactions with AR diminishes the satisfaction of the experience.

CUSTOMER JOURNEYS THROUGH THE EYES OF UNDERGRADUATE COLLEGE STUDENTS

Steven A. Taylor, Illinois State University
Nathan S. Hartman, Illinois State University
Joon Ho Lim, Illinois State University

ABSTRACT

Communicating the value associated with an undergraduate degree is one of the most vexing problems facing universities' administrators. Universities are at an important crossroads, one that arguably confronts the soul of the academy. One fork in the road is to "stay the course" of traditional liberal education seeking well-roundedness and lifelong learning. The other fork is to acquiesce to growing marketization pressures that emphasize practitioner-related knowledge and skills in support of employment opportunities and efficacy. The current study uses the lens of service dominant logic (SDL) to view this dilemma, because SDL is the emerging general marketing logic based on a standard of achieved value and a stakeholder orientation (which may or may not be perceived equally across stakeholder groups). This exploratory descriptive study evaluates the preferences for perceived value based on marketization versus liberal education approaches using both descriptive and predictive techniques. The results suggest that the marketization versus liberal education choice may prove in the end to be a false choice! This suggests the possibility that the current controversy between advocates of marketization versus marketing may both be placated (to a degree) by creative solutions that merge liberal education with marketization pedagogical goals and measures of success. We believe that our findings provide useful insights for better higher education at this controversial time, particularly vis-à-vis student satisfaction. We also hope our study spurs further examination of the issues related to the marketization and marketing perspectives in higher education.

Keywords: customer journey, higher education, service dominant logic, marketization, perceived value

INTRODUCTION

One of the most vexing problems facing universities' administrators in the 21st century concerns how to communicate the value of an undergraduate degree to key stakeholders. New America's (Fishman et al. 2017) inaugural annual poll about perceptions of higher education in the United States reveals a gap between what higher education is currently providing to students, and what must be done to help students attain their desired level of post-graduation success. That is, Americans believe in the tremendous potential of higher education, but they also feel that higher education is falling short of that promise. We view these mixed feelings among university stakeholders as both a potential opportunity and a potential threat.

Two general perspectives appear to dominate the marketing logic underlying on what and who creates the perceived value in United States based institutions of higher education. First, the literature is replete with opinions related to the "value" of a bachelor’s degree in terms of financial returns on investment (e.g., Ma, Pender, and Welch 2016 report a study suggesting that it takes an average of 12 years to recoup the cost of getting your Bachelor's degree–but that it indeed does pay off financially). Such arguments appear to focus on the economic return on investment is what over the lifetime of individual degree seekers creates value. This perspective can be loosely grouped under the term “marketization.” A second alternative argument concerns valuing undergraduate degrees by why it is important to get such a degree (e.g., Stahl 2015 articulates six reasons why any undergraduate degree is work seeking). This second perspective can be loosely categorized under the value inherent in a liberal education argument, where value is created through the degree seeker’s attainment of a broad general knowledge and the develop general intellectual capacities, in contrast to a professional, vocational, or technical curriculum (Judson and Taylor 2014). Taylor (2016) reports evidence suggesting that a significant challenge exists for those educators trying to embrace a marketing (i.e., value cocreation) approach based on the latter.

What is clear from these alternative perspectives is that a full understanding of how “value” is perceived vis-à-vis higher education remains a conundrum for marketers associated with higher education. The following study helps address this conundrum by considering the gap in our understanding of value by encouraging discussion concerning the possibilities of value (co)creation within the context of higher education. Tomlinson (2017) presents evidence of the growing trend of student identification with a consumer-orientated approach (i.e., marketization), however, there is also a degree of skepticism in the minds of administrators and faculty about the amount of variability in students’ attitudes and preferences for approaches emphasizing consumerism in higher education. In other words, these groups wonder if a majority of students still perceive the value of higher education in ways that do not conform to the ideal student-consumer approach. Tomlinson (2017) implies that some ambivalence may exist within student preferences for higher education delivery. Runté and Runté (2017) consider four separate discourses for higher education including for enlightenment, to develop human capital, as manpower management, and as consumerism. The dominant discourse on the purpose of higher education is shown to have changed from the traditional learning for enlightenment (i.e., an emphasis on liberal education) to an emphasis on manpower planning and consumerism (i.e., marketization). The separate implications of these distinct discourses are often ill considered as many participants lack awareness of the contradictory nature of rhetoric drawn from more than one discourse at a time. Fishman et al. (2017) report evidence that Americans believe in the tremendous potential of higher education—but they also feel that higher education is falling short of that promise. In short, there appears to be a stark expectations gap between what higher education could—and should—be and what currently exists. Thus, the impact on stakeholders (such as students) resulting from the movement toward students seeing themselves as consumers remains unclear. Specifically, are students’ perceptions of the value received from a higher education connected with the value university administrators and faculty strive to create for stakeholders?

We posit that this lack of clarity in discourse has implications vis-à-vis perceived value in higher education. Specifically, the purpose of the following study is to begin to help clarify the current state of how students perceive value and potentially value (co)creation in higher education. We accomplish this end by first considering the most recent logic generally underlying marketing theory and practice. This logic points toward considering customer experiences (and students' education experiences by extension) as "marketing journeys." Second, we reconcile the literature on customer journeys with the growing debate between "marketization" versus "marketing" perspectives on higher education. Third, we empirically test which perspective of perceived value perceptions is the most consistent with student data from a large sample of US undergraduate students. These analyses utilize a mix of descriptive and predictive analyses involving a number of methodological techniques. Finally, we discuss the implications of our findings for service marketing theory in practice, particularly in terms of stakeholder satisfaction, both generally and specific to the marketing of higher education.

Emerging Marketing Theory and Practice

Marketing theory and practice are generally evolving toward a greater focus on service-dominant logic (SDL) rather than goods-dominant logic (GDL: Vargo and Lusch 2016), marketing relationships rather than transactions (Zhang et al. 2016), and customer journeys based on customer's experiences (Lemon and Verhoef 2016). Key emphases in this evolution of marketing theory and practice include (1) a stronger emphasis on value co-creation as opposed to value delivery (Vargo and Lusch 2016), (2) greater emphasis on customer's perception of value-in-use rather than traditional emphasis on value-in-exchange (Ranjan and Read 2016), and (3) multiple touch points among exchange partners associated with customers' experiences along the customer and firm journeys (Homburg et al. 2017). In this view, firms can only offer value propositions for exchange. Payne et al. (2017, p. 472) further argue that the customer value proposition has a critical role in communicating how a company aims to provide value to customers, defined as "A customer value proposition (CVP) is a strategic tool facilitating communication of an organization's ability to share resources and offer a superior value package to targeted customers."

A student's educational experience, in this view, can be conceptualized as a customer journey. Jain et al. (2017) conduct a literature review and conclude that the concept of customer experience has been approached as both a process and an outcome, and both as a formative and reflective construct. They conclude the following definition based on their review of the evidence (which appears largely congruent with that of Lemon and Verhoef 2016):

> *Customer experience is the aggregate of feelings, perceptions, and attitudes formed during the entire process of decision making and consumption chain involving an integrated series of interaction with people, objects, processes and environment, leading to cognitive, emotional, sensorial and behavioral responses.*

The concept of a "customer journey" originally derives from marketing practice (McKinsey & Co.). Lemon and Verhoef (2016) conceptualize customer experience as a customer's journey with the firm over time during the purchase cycle across multiple touch points; it is the total customer experience as a dynamic process.

Unfortunately, the next section makes clear that higher education is increasingly embracing the arguably dated GDL perspective to guide students' journeys through higher education via marketization.

That is, contrary to the general trend in marketing theory and practice away from GDL toward SDL, moving toward marketization in the delivery of higher education arguably represents a theoretical movement in the opposite direction (i.e., from SDL-consistent liberal education toward GDL-consistent marketization–see Taylor and Judson 2011, 2014; Judson and Taylor 2014). This has led to recent calls for higher education to embrace an SDL perspective as a framework to underlie their marketing practices (Díaz-Méndez et al. 2012; Dziewanowska 2017; Judson and Taylor 2011, 2014; Dean et al. 2016). These calls are strengthened by Bunce et al. (2016) who report evidence that a higher consumer orientation was associated with lower academic performance, and Naidoo et al. (2011) who show how consumerism also promotes passive learning, threatens academic standards, and entrenches academic privilege.

Marketing Versus Marketization, Marketing Logic, and Perceived Value

Tradition has dictated that universities emphasized a higher-order of learning in the form of a liberal education (Zakaria 2015). However, contemporary decisions by university administrators and faculty suggest a trend of moving away from the tradition-based learning objective of universities toward a credentialing/training perspective known as "marketization" (Judson and Taylor 2014). In short, Taylor and Judson (2011) consider marketization, with its emphasis on "relevance" to stakeholders (e.g., job-related training) and student satisfaction, as more akin to a sales orientation than a marketing orientation. We argue that a key difference between the marketization and a marketing perspective involves the nature of perceived value as a stakeholder goal in that marketization typically seeks shorter-term value-in-exchange (based on value embedded in a resource and as an output of a labor process) whereas marketing seeks longer-term value-in-use (the extent to which a customer feels "better off" through experiences related to consumption).[1]

Specifically, the general trend toward marketization in higher education can be likened to academic capitalism (Schulze-Cleven et al., 2017), suggesting linkages to an underlying economic/business logic. Marketization versus marketing represent the two general marketing logics struggling to become the preeminent tactic used to governed higher educational development and delivery, (Taylor and Judson 2011, 2014; Judson and Taylor 2014). One problem associated with allowing marketization to become the default approach is that it implicitly promotes exchange-value scenarios involving rapidly changing short term customer goals. This strong emphasis on customer centricity would appear on its face to be consistent with the arguments of Gaurav and Shainesh (2017) who generally encourage embracing customer centricity. However, Gummesson (2008) argues that customer-centricity (and the marketing concept itself) are too limited and cannot be fully implemented in marketing practice. Rather, Gummesson (2008) calls for marketing scholars and educators to develop and teach a network-based stakeholder approach that he calls balanced centricity, which envisions all stakeholders as having the right to satisfaction of wants and needs. However, Baporikar (2016) calls for a

[1] Payne et al. (2017, p. 471) suggests three broad perspectives on the CVP: CVPs that are principally supplier-determined, reflecting a value-in-exchange emphasis; CVPs that are transitional with recognition of the customer experience; and CVP that are mutually determined reflecting a value-in-use emphasis.

stakeholder approach to higher education that focuses on "quality" as the core issue of higher education. Baporikar (2016) further argues that there are five dimensions of quality in this context, including quality as (1) exceptional (higher standards), (2) consistency (e.g., zero defects), (3) fitness for purpose (fitting customer specifications), (4) value for money (as efficiency and effectiveness), and (5) transformative (an ongoing process that includes empowerment and enhancement of customer satisfaction). These differences in emphasis have profound implications in terms of the value propositions offered by universities today, which influence perceived value by stakeholders such as students.

Woodall et al. (2014) argue that the concept of value within the context of education has proven to be difficult to define both conceptually and operationally. That said, the general concept of perceived value in customer decision making is becoming better understood. Yang and Peterson (2004) state that perceived value has its roots in equity theory, which considers the ratio of consumers' outcome/input to that of a service provider's outcome/input. Yang and Peterson (2004) argued that customer value generally has both a direct relationship to customer loyalty, as well as an indirect influence through perceived satisfaction. Kumar and Reinartz (2016) more recently argue that creating and communicating value is one of the most important tasks in marketing. In their view based upon a summative review, customer value is a dual concept in that (1) the perception of perceived value, defined as the customer's net valuation of the perceived benefits, result from marketer's manipulation of the marketing mix elements, so that (2) customers can return value through multiple forms of engagement (customer lifetime value, in the widest sense) for the organization.

Emerging service theory further identifies several forms/types of the perceived value construct, including value-in-exchange versus value-in-use (among other forms). Vargo et al. (2008, p. 145) differentiated between these perspectives on value creation as follows: "We argue that value is fundamentally derived and determined in *use* (italics not added) – the integration and application of resources in a specific context – rather than in *exchange* (italics not added) – embedded in firm output and captured by price." Vargo et al. (2008) further associate value-in-exchange with the GDL perspective, whereas the SDL perspective emphasizes value-in-use. This perspective appears congruent with the argument of Judson and Taylor (2014) who argue that specific to higher education: (1) in marketization, perceived value is determined by the producer (e.g., the student or other organizational stakeholders), with the emphasis on meeting stakeholders' more most immediate goals; whereas (2) in marketing, value is perceived and determined by the consumer on the basis of "value in use," which further emphasizes meeting, over a long period of time, a broadly defined view of stakeholders' (including students and society's) normative development goals.

In summary, we posit that short-term value-in-exchange is more closely related to the GDL perspective, whereas longer-term value-in-use is more closely related to the SDL perspective. This difference matters because congruence between the type of perceived value that underlies stakeholder and university perceptions of value is needed to generate the most efficacious marketing outcomes for higher education (e.g., stakeholder satisfaction). Specifically, if universities emphasize (long term) value-in-use as the basis for their value propositions (i.e., a longer term marketing perspective consistent with traditional liberal education goals), and students seek value-in-exchange related to the immediate attainment of employment objectives as the basis for their perceptions of value (i.e., a marketization perspective), then this incongruence will culminate in a poor perceived (satisfaction and) value rating from students. This would be independent of the quality of educational delivery provided by the university through a parallel value building strategy.

The current research begins to test whether value perceptions can be attained through incongruent value creating approaches. The following exploratory study is conducted using mixed methods (i.e., qualitative and quantitative techniques), where scenarios first explore whether short-term value-in-exchange (associated with GDL) or longer-term value-in-use (associated with SDL) drives perceptions of value in higher education from students' perspective. The study also assesses whether common method bias obscures the interpretation of the obtained results. Finally, a predictive model is assessed based on group analyses (by gender) to help further clarify obtained results.

THE STUDY

We expect that students valuing a marketization emphases from their universities would also prefer value delivery in the form of highly structured (often lecture) courses that essentially package knowledge and deliver it for the tuition price of the course (i.e., value *delivery* consistent with the GDL perspective). GDL in higher education typically has the effect of minimizing risk in evaluative outcomes for students, but often at the expense of emphasizing lower levels of knowledge (Lujan and DiCarlo 2006). We would further expect students attracted to marketization practices to more highly value job-related training and knowledge (easier to perceive the short-term value) to general knowledge designed to make students more well-rounded (a longer-term value consideration). Students embracing the alternative (SDL-based) marketing perspective, predicated on the concept of value co-creation, would likely tolerate or even desire higher-risk, less structured course delivery (consistent with critical thinking practices) and an emphasis on long-term (life-long) learning contributing to well-roundedness instead short-term, entry level job skills training. This leads to the first research hypothesis:

H1: Given a choice, today's Millennial students will generally prefer higher education structured in ways consistent with marketization practices.

H1 is predicated on an expectation that students will likely perceive more value associated with scenarios framed with a marketization educational delivery perspective than those framed with a traditional marketing perspective (i.e., higher order learning through critical thinking, less class structure, etc.). This second hypothesis is strengthened by the qualitative results reported by Taylor et al. (2011) who demonstrate the predominance of marketization-related goals underlying business students' undergraduate educational pursuits. However, we recognize Tomlinson's (2017) conclusion that today's students' consumer-oriented approach is not necessarily consistent with traditional consumerism expectations (i.e., may be ambivalent in this regard). That is, if students tend to favor marketized classes, then we would expect that this is because they typically perceive more value from such classes. This leads to the second research hypothesis:

H2: Millennial students will generally perceive greater value from courses constructed consistent with a marketization perspective over one constructed based on the traditional marketing perspective.

Finally, social desirability responding from students might provide a possible alternate explanation for the descriptive results reported in Table 1 and the conjoint results. That is, when students are asked if they value marketized or marking perspectives on education, they respond affirmative to both. However, when forced to choose, they most often choose marketized education as potentially the more socially accepted practice. Boateng et al. (2016) investigate socially desirable responding (SDR) in responses to survey questions about financial behavior among college students. Their results identify greater differences between direct and indirect reports of saving and spending behaviors were significantly related to higher scores on the measure of socially desirable responding. They suggest the use of indirect questioning can highlight and may be used to statistically account for and reduce biased responses in future measures of financial behavior. In this convention responders attempt to appear more normal to the direct questioning become identifiable as a different type of respondents that threaten the reliability of research in all fields.

Omitting or failing to control for social desirability in education research could result in harm understanding derived from quantitative results in this literature stream, because there is not a lack of appropriate measurement tools. In the current research, we assess the possibility of social desirability bias in our results as an alternative to Tomlinson's (2017) potential explanation. With this aim it may be possible to narrow the measurement gap using it as a control during more advanced statistical analysis, leading to the third and final hypothesis:

H3: Social desirability bias is not in operation in Millennial's survey-based responses to questions about the perceived value of a marketized versus marketing basis for business class construction.

METHODS

The research study was divided into two separate activities. First, a descriptive analysis was performed to identify student preferences for marketization versus marketing educational delivery models. These analyses involved both self-report survey items based upon the discussions of Judson and Taylor (2014), and a separate conjoint analysis. The objective of this initial inquiry was to identify any general student preference for higher education delivered based upon marketized versus marketing underlying models. The second major activity involved predictive analyses organized by two scenarios, one reflecting marketization practices and one reflecting marketing–based educational delivery as described herein. The scenarios were randomly presented to respondents using Qualtrics. The predictive results between value perceptions and some basic behavioral intentions were then compared between the two groups. H2 suggests a comparison of direct relationships between perceived value and behavioral intentions for purposes of predictive analyses (see Figure 1).

The measures of perceived value were based on the arguments of Woodall et al. (2014) specific to higher education. Woodall et al. (2014) document how the conceptualization and measurement of the concept of perceived value vis-à-vis higher education has proven problematic. In their review, they embrace an approach similar to the current research by emphasizing marketing through the management of stakeholders' experiences. Woodall et al. (2014, p. 52) assert that, "…a consensus has emerged implying that customer value is a higher-order construct comprising a number of distinct, formative, dimensions, which can each be represented reflectively." These authors reject the traditional logic-positivistic epistemological conviction underlying this assertion as "less than reasonable." In short, they argue for a "one question" approach to evaluate student value, but admit that the efficacy of their formative conceptualization has yet to be empirically verified. We are less eager to abandon traditional scaling methods based on reflective conceptualizations, and therefore develop a five-item unidimensional conceptualization that arguably captures the common core of value-based on Woodall et al.'s (2014) five value-based research questions (7-item Likert scales).

The behavioral intention measures reflected traditional marketing outcomes such as self-report loyalty intention, course recommendation intentions, and students' concluding that it was "the right thing to do" when selecting the course. 477 students completed the online survey instrument as an extra credit exercise associated with introductory marketing or management course offering over three semesters. The sample included 374 business majors and 108 non-business majors seeking a business minor. The sample was essentially equally divided between genders. All analyses were conducted using SPSS 24.0 or Mplus 8. Appendix A presents the conjoint profiles and Appendix B presents the two scenarios underlying predictive analyses.

RESULTS

Table 1 presents the descriptive results based upon Likert, Rank-order, and percentage survey items. The first series of questions involved (7 point) Likert items and were designed to reflect the marketization versus marketing perspectives described by Judson and Taylor (2014). The overall mean of the marketization questions is 4.44, and the marketing questions is 5.35. The only gender difference concerns females having statistically larger emphasis on marketing (Males = 5.24; Females = 5.47); students are statistically equal on marketization items (Males = 4.47; Females = 4.41) Together, the Likert items suggest both marketization-related and marketing-related outcomes are consistent with the perspectives/expectations of this cohort. In addition, the mean scores suggest that both male and female students more strongly agree with marketing over marketization goals. 80% of the respondents across genders expressed a higher mean score for the marketing items over the marketization items.

The second set of descriptive items involved rank ordered items in Table 1 differentiated from highest to lowest the types of knowledge and skills students perceived to be impactful on the perceived value of their educational experiences. Critical Thinking and Job-Related knowledge and skills generally received the highest rankings. Women's ranking of a well-rounded education higher (more desirable) represented a gender difference as job training was more desirable for men.

Together, the Rank-Order items suggest both marketization-related and marketing-related outcomes are consistent with the expectations of this cohort. The final descriptive task involved asking students to identify the percentage of their academic program to date had a marketing

TABLE 1
Descriptive Analyses Results

Question	Concept	Mean Score	Result
Likert Scale Items (1-7)			
Q1: University students today are best considered as consumers purchasing a degree from universities, much like consumers purchase goods and services from retailers.	Marketization	4.92	The overall mean of the marketization questions is 4.44, and the marketing questions is 5.35. The only gender difference concerns females having statistically larger emphasis on marketing (Males = 5.24; Females = 5.47); they are statistically equal on marketization items (Males = 4.47; Females = 4.41) Together, Likert items suggest both marketization-related and marketing-related outcomes are consistent with the perspectives/expectations of this cohort. However, the means suggest that both male and female students more strongly agree with marketing over marketization goals. 80% of the respondents across genders expressed a higher mean score for the marketing items over the marketization items.
Q2: University students today are best viewed as individuals personally responsible for seeking individual growth through learning in order to help them become contributing members of society.	Marketing	5.68	
Q3: Today's universities are best viewed as selling degrees as commodities that are individually purchased by students.	Marketization	4.34	
Q4: Higher education today is best viewed as a public good that ultimately is the responsibility of the society at large in which the student lives.	Marketing	4.90	
Q5: I would say that my university provided me with a good educational experience if I learned a lot, even if I do not get a good job soon after graduation.	Marketing	5.41	
Q6: I would say that the primary purpose of universities today is to prepare students for getting a job upon graduation.	Marketization	5.64	
Q7: I would say that the primary purpose of universities today is to help students learn as much as possible in support of getting a well-rounded and general education.	Marketing	5.42	
Q8: If I do not achieve getting a good job soon after graduation, then I would say that my university failed to provide me with a good educational experience, even if I learned a lot.	Marketization	3.43	
Q9: I would say that my university provided me with a good educational experience even if I did not learn a lot, as long as I get a good job soon after graduation.	Marketization	3.88	
Rank Order Items (1-6)			Critical Thinking and Job-Related knowledge and skills emerge as generally top ranked. The only gender differences concerns females ranking a general, well-rounded education higher (more desirable) whereas males rank job training higher (more desirable). Together, the Rank-Order items suggest both marketization-related and marketing-related outcomes are consistent with the expectations of this cohort.
Critical Thinking Skills	Marketing	2.48	
Job-Related Knowledge and Skills	Marketization	2.61	
General, Well-Rounded Education	Marketing	3.74	
The Ability to Manage Large Amounts of Knowledge or Information in Support of Decision-Making	Marketing	3.69	
Professional Networking	Marketization	3.92	
Job Training	Marketization	4.56	
Learning Experience versus Normative (Should) Belief (Mean Percentage of 100)		Ratio	Ratios > 1 indicate more emphasis in experience than desired. Respondents indicate that they perceive receiving too much emphasis on becoming well rounded and life-long learning, and not enough job-related knowledge, and skills. No observed gender differences.
Learning new knowledge or skills to help me become more well-rounded	Marketing	1.54	
Life-long learning skills	Marketing	1.09	
Job-related knowledge	Marketization	0.98	
Job-related skills	Marketization	0.82	

versus marketization emphases, as well as the student's desired emphasis. Ratios in Table 1 greater than 1 indicate students experienced more of a particular emphasis than the students desired. Results indicate students experienced receiving too much emphasis in their program on becoming well rounded and developing skills related to becoming life-long learners, and not enough entry level job-related knowledge, and skills. There are no observed gender differences. Overall, interpretation of the results in Table 1 suggest students do not devalue traditional liberal education objectives in business, rather, given a choice, choose activities that support goals related to the domain of employment immediately post-graduation. These results are consistent with Tomlinson's (2017) conclusion that there is a degree of variability in attitudes and approaches towards consumerism of higher education.

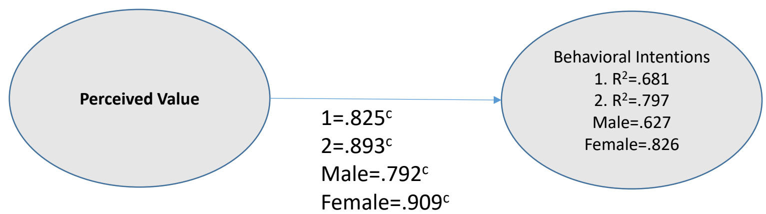
Students continue to perceive higher education as a multidimensional experience that does not necessarily conform to the "students as consumers" approach. However, we caution readers to consider Chan's (2009) note that self-report importance weights can generally suffer from issues related to (1) construct validity, (2) interpretation of correlations, (3) social desirability responding (and other forms of common method variance), and (4) lack of convergent validity with non-self-report measures. Brener et al. (2003) note that self-report measures of types of health-risk behaviors are affected unequally by both cognitive (comprehension, retrieval, decision-making, and response generation) and situational (social desirability) factors. Hendrick et al. (2013) similarly cautions about the use of self-report attitude scales. Consequently, we are cautious in accepting the self-report measures of attribute importance at face value, particularly in light of the goal mapping results reported by Taylor et al. (2011) which identified a strong preference for credentialing in undergraduate students' educational pursuits.

We therefore next moved to a conjoint exercise to more convincingly identify a preference when students are given a choice to take a class emphasizing a marketization perspective versus one based on a marketing perspective (see Appendix A for the profiles). We created these profiles based on three categories of attributes designed to capture the major differences between the GDL-based marketization versus the SDL-based marketing perspectives (see Judson and Taylor 2014, Lusch and Vargo 2014).

The first category represented a type of knowledge (job-related knowledge versus the well-rounded knowledge typically associated with a traditional liberal education). The second category represents a temporal perspective (an emphasis on short-term employment skills versus life-long learning skills as frequently identified in university mission statements). The third and final category represents the nature of value creation (value delivery as associated with traditional lecture classes versus value co-creation which emphasizes greater student participation and responsibility in the educational process).

We conducted a traditional conjoint analysis (additive model of part-worths) using the full-profile method (i.e., all profiles presented a once). The conjoint results identify the following importance weights: (1) job-related knowledge = 59.54 (males = 63.20, females = 56.25); (2) value delivery/creation = 27.49 (males = 21.69, females = 35.03); and a focus on short-term employment skills = 12.97 (males = 15.12, females = 8.72). These results clearly demonstrate that students, when given a

FIGURE 1
The Model



All paths standardized.
1 = Marketization; 2 = Marketing
a = p ≤ .05, b = p ≤ .01, c = p ≤ .001

Model Fit Indices :
Grouping = Marketization versus Marketing -- $\chi 2$ = 88.884, df = 50, RMSEA = .069, CFI = .978, TLI = .976, SRMR = .050
Grouping = Male versus Female -- $\chi 2$ = 70.723, df = 50, RMSEA = ,051, CFI = .987, TLI = .986, SRMR = .032

TABLE 2
Correlation Matrices of Latent Variables

		Perceived Value	Behavioral Intention
Marketization	Perceived Value	.911/.612	.
	Behavioral Intention	.825	877/.703
Marketing	Perceived Value	.906/.596	
	Behavioral Intention	.893	.821/.609
Male	Perceived Value	.877/.522	
	Behavioral Intention	.792	.831/.625
Female	Perceived Value	.924/.652	
	Behavioral Intention	.909	.860/.675

Diagonal Values Represent Variance Extracted Scores/Construct Reliability Scores
Off-Diagonal Values Represent Latent Construct Correlations

choice, prefer marketized education as described herein. This is true for both males and female students, however, female students as a group appear less strongly committed to the choice for marketized education according to the conjoint results.

We next assess H2 through structural equation modeling using Mplus 8 (see Figure 1). The model fit indices are acceptable across model assessments using the group function for assessed scenarios (marketization versus marketing) and gender (male versus female). The measures are reliable and valid as reflected in Table 2. The hypothesis is that marketization should reflect a greater amount of explained variance in behavioral intentions based on value perceptions related to value. In fact, that is not what we found. While both marketization and marketing perspectives explained a great deal of the variance in traditional consumer-related behavioral intentions (as reflected by the R^2 values), the marketing perspective appears to explain more of the behavioral intentions. Not unexpectedly, the influence of perceived value on students' behavioral intentions is stronger for females than males. These findings appear to support the observed ambivalence students possess vis-à-vis learning versus credentialing goals associated with their higher education pursuits.

While every fledgling domain of research grapples with its own set of debates and doubts, we worry whether some existing dilemmas in survey measurement and the newness of measuring value co-creation in an educational setting leads to conclusions concerning any results being an attribute of an artefact of the respondent's social desirability. The infrequent usage of this measure in this setting limits a researcher's ability to determine its vulnerability to biasing effects of common method effects associated with social desirability. As a result the final hypothesis utilizes techniques popularized by Williams, Hartman, and Cavazottee (2010) and Williams and McGonagle (2016) and to determine social desirability bias is not a significant threat to our results as a result of the measures or collected self-report data in a single administration. Investigating for potential social desirability bias is a relatively novel, but popularity in research within education environments has been lacking and it is our responsibility to utilize available statistically meaningful methodologies rather than leaving this task to future researchers (Lehmann-Willenbrock and Allen, 2017; Malhotra, Schaller, and Patil, 2017). We included social desirability in our measurement to determine the possibility of this important issue, employing the following steps. To empirically test for a social desirability bias we utilized procedures involving latent variables analyses and a marker variable (Williams et al. 2010). These procedures modeled the extent to which the latent variables of our theoretical model share variance with a maker variable (social desirability).

Following Williams et al. (2010) a series of model comparison tests can establish whether the social desirability bias was present and if present does the bias have a uniform or unequal impact to the substantive variables of perceived value or behavioral intentions. To account for common method variance (CMV) within the indicators, several confirmatory factor analysis (CFA) model comparisons were made to evaluate through factor loadings the presence and degree of the social desirability bias influence. Based on the results from the model comparisons, using a chi-square difference test, it appears that CMV is not biasing the relationships between indicators or the relationship between the latent constructs of perceived value and behavioral intentions (See Table 3). A non-significant chi-square difference test also supports not including the social desirability variable in the measurement models as the social desirability bias did not attenuate the relationships between variables. Although we do not observe such support for the biasing effects of common method variance, the model was tested for as a demonstration of a technique that can be followed by others in this research domain. This study is among the first scholarly effort in this setting illustrating the complete analysis and helps provide confidence regarding this measures resiliency to common method effects in this setting. The contribution to education research involves an easily-replicable method for minimizing the worry of social desirability's effects when applied in the educational literature, and opportunities and insights for future research.

DISCUSSION

This study began as a consideration of the vexing question as to the "best" way to deliver undergraduate education in terms of value (co)creation. Universities' administrators and faculty generally perceive that they are at an important crossroads, one that arguably confronts the soul of the academy. One fork in the road is to "stay the course" of traditional liberal education seeking well-roundedness and lifelong learning. The other fork is to acquiesce to growing marketization pressure, which alternatively emphasize practitioner-related knowledge and skills in support of employment opportunities and efficacy.

We view these results as very promising for marketers of higher education. Even as there is a clear documented trend toward greater marketization in the delivery and evaluation of higher education, the results reported herein align with other evidence that marketization alone is not the only path to perceived value with higher education – at least from the students' perspective. That is, the students themselves as a primary stakeholder appear to possess a measure of ambivalence toward marketization versus marketing. We interpret these results as consistent with Tomlinson's (2017) conclusion that there is a degree of variability in attitudes and approaches towards consumerism of higher education. Specifically, students still perceive higher education in ways that do not conform to the ideal student-consumer approach. Therefore, the results reported herein suggest that this may be a false dichotomy. That is, the results demonstrate that students themselves are ambivalent as to which path to pursue. The identified students' ambivalence presents an opportunity to begin more formally developing a general value proposition in higher education that balances and capitalizes on the strengths of both the liberal education and the marketization models. The method to make this a reality is as follows.

First, we add our voice to the growing chorus of voices calling for higher education to adopt the service logic (Díaz-Méndez et al. 2012; Dziewanowska 2017; Judson and Taylor 2011, 2014; Dean et al. 2016). Embracing a service logic in the marketing of higher education arguably provides direction for university marketers (both academic and practitioner). We encourage readers to consider the arguments of Osborne (2017) related to public service-dominant logic versus public service logic as a future research implication.

Second, adopting a service perspective suggests an opportunity for university marketers to begin more formal and serious discussions as to the appropriate balance between traditional liberal education versus marketization considerations in the creation of a commensurable value

TABLE 3

Common Method Variance Test Results across Three Studies

Model		$\chi 2$	df	CFI	TLI	RMSEA
CFA		69.507	41	.987	.982	.044
Baseline Model		70.707	48	.989	.988	.036
Method-C Model		69.502	47	.989	.988	.037
	Baseline vs Model-C	$\Delta\ \chi 2$=1.205	Δdf=1	Standard at p=.05 is 3.84		
Method-U Model		64.883	40	.983	.984	.042
	Model-C vs Model-U	$\Delta\ \chi 2$=4.619	Δdf=7	Standard at p=.05 is 2.167		
Method-R Model		69.497	46	.989	.987	.038
	Model-U vs Model-R	$\Delta\ \chi 2$=4.614	Δdf=6	Standard at p=.05 is 1.635		

proposition for universities to generally embrace. University marketers are directed to Payne et al. (2017) as a useful starting place to begin such discussions in terms of framing the concept of a value proposition in this context. Operationally, readers are encouraged to consider using the value proposition canvas method to operationalize the process of value proposition development (see https://strategyzer.com/canvas/value-proposition-canvas).

Third, the value proposition canvas is an ideal way to start to identify the best mix of liberal education versus marketization considerations in the creation of a commensurable value proposition for universities's administrators and faculty to embrace. We further encourage a stakeholder consideration as part of such processes to ensure that all relevant stakeholder viewpoints area considered and have a voice in the process of value proposition development Beerkens and Udam 2017).

Fourth, embracing SDL as the emerging logic of marketing associated with higher education as the path to perceived value appears to be an operationally achievable goal. Taylor et al. (2015) call for positioning human flourishing and well-being as foundations for business school curriculum. Taylor and colleagues recognize the evolution of educational practices toward a greater focus on flourishing and well-being as opposed to a focus on job training and other marketization emphases remains a conundrum for most business educators. However, Taylor et al.'s previous results demonstrate that self-perceived flourishing goal achievement appears to fully mediate the direct effect from social involvement to social well-being for a millennial cohort of university business students.

Fifth, the results suggest research implications as well. It is an intriguing finding that respondents appear to more strongly agree with marketing over marketization goals when they are asked to assess the series of statements that represent both marketization and marketing. However, on the other hand, given a choice, they are more likely to choose the course profiles that focus on a marketization perspective. These findings imply that students have attitude-behavior discrepancy. According to Festinger's cognitive dissonance theory (1957), people experience tension or discomfort when their attitudes do not match their behaviors and they try to reduce the dissonance by changing either their attitudes or behaviors. The cognitive dissonance caused by conscious or unconscious conflicting values can not only induce students' negative perceptions or feelings on the higher education system but also significantly decrease their performance in classes and prevent them from learning. This places the research question considered herein square into the domain of social cognition generally, and cognitive consistency specifically -- a rapidly growing area of academic inquiry (Gawronski and Strack 2012). For example, our findings suggest that marketing educators should find effective ways that help students overcome their cognitive dissonance that may cause discomfort or stress and less effective learning experience. One possible way is to clarify the role and value of higher education to students by being honest about the coexistence of the marketization and marketing perspectives in higher education.

Moreover, the inconsistency between students' attitudes and behaviors implies that students pursue higher education to achieve both their short-term and long-term goals. They tend to embrace the marketization-based educational delivery that can meet their immediate needs for their successful job market. At the same time, they value on the marketing-based education delivery for their life-long learning contributing to well-roundedness. Based on this understanding, marketing educators need to be clear on what the short-term and long-term goals that students want to attain are in detail and how to do. In subsequent, the educators should develop specialized educational programs that can assist students to gradually achieve their two different goals during their program. That is, some courses could be designed to strengthen students' job-related skills and knowledge to meet their short-term goals and others could be specialized in improving their critical thinking skills or ability to process information in a comprehensive manner. It would be also beneficial to students if they could participate in an educational program that monitors their course of learning from the very beginning of the semester to the last semester so that they can recognize and keep tracking the progress of their learning over a longer period of time. By doing so, greater perceived value in higher education may be achievable consistent with the changing logic of marketing practices more generally.

In short, the results reported herein suggest the possibility that the controversy between advocates of marketization versus marketing may both be placated (to a degree) by creative solutions that merge liberal education with marketization pedagogical goals and measures of success. We believe that our findings provide useful insights for better higher education at this controversial time. We also hope our study spurs further examination of the issues related to the marketization and marketing perspectives in higher education.

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Steven A. Taylor, Ph.D.
(Corresponding Author)
Dept. of Marketing**,** Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: staylor@ilstu.edu

Nathan S. Hartman, Ph.D.
Dept. of Management & Quantitative Methods, Campus Box 5580
Illinois State University
Normal, IL 61790-5580
E-Mail: nshartm@ilstu.edu

Joon Ho Lim, Ph.D.
Dept. of Marketing, Campus Box 5590
Illinois State University
Normal, IL 61790-5590
E-Mail: jlim12@ilstu.edu

APPENDIX A -- THE CONJOINT PROFILES

Alternative Course Emphases

Profile 1 • Emphasis on job-related knowledge/skills • Emphasis on knowledge/skills most related to getting a job shortly after graduation • Highly structured classes with instructors alone creating and delivering course content (e.g., inflexible syllabi, lectures, rubrics, available study guides, instructor-only course design and evaluation)	**Profile 2** • Emphasis on job-related knowledge/skills • Emphasis on knowledge/skills most related to getting a job shortly after graduation • Highly unstructured classes with an emphasis on instructors and students working loosely together to create and deliver course content (e.g., regular meetings/interaction with faculty, flexible syllabi, student and faculty collaborative course design and evaluation).
Profile 3 • Emphasis on job-related knowledge/skills • Emphasis on versus life-long learning-related knowledge/skills. • Highly structured classes with instructors alone creating and delivering course content (e.g., inflexible syllabi, lectures, rubrics, available study guides, instructor-only course design and evaluation)	**Profile 4** • Emphasis on job-related knowledge/skills • Emphasis on versus life-long learning-related knowledge/skills. • Highly unstructured classes with an emphasis on instructors and students working loosely together to create and deliver course content (e.g., regular meetings/interaction with faculty, flexible syllabi, student and faculty collaborative course design and evaluation).
Profile 5 • Emphasis on well-rounded knowledge/skills. • Emphasis on life-long learning-related knowledge/skills. • Highly structured classes with instructors alone creating and delivering course content (e.g., inflexible syllabi, lectures, rubrics, available study guides, instructor-only course design and evaluation).	**Profile 6** • Emphasis on well-rounded knowledge/skills. • Emphasis on knowledge/skills most related to getting a job shortly after graduation • Highly unstructured classes with an emphasis on instructors and students working loosely together to create and deliver course content (e.g., regular meetings/interaction with faculty, flexible syllabi, student and faculty collaborative course design and evaluation).
Profile 7 • Emphasis on well-rounded knowledge/skills. • Emphasis on life-long learning-related knowledge/skills. • Highly unstructured classes with an emphasis on instructors and students working loosely together to create and deliver course content (e.g., regular meetings/interaction with faculty, flexible syllabi, student and faculty collaborative course design and evaluation).	**Profile 8** • Emphasis on well-rounded knowledge/skills. • Emphasis on knowledge/skills most related to getting a job shortly after graduation. • Highly structured classes with instructors alone creating and delivering course content (e.g., inflexible syllabi, lectures, rubrics, available study guides, instructor-only course design and evaluation)

APPENDIX B -- THE SCENARIOS

Marketization-Based Scenario
Chris is a business major at ISU about to take a new class that has been developed for his major. The student contacts the professor teaching the course to get an idea of how the class will be structured and receives the following feedback:

> "Chris: Thank you for your inquiry. This class will focus entirely on job-related knowledge and skills. The class is very structured. We will meet regularly as a class for lectures, and we will concentrate ONLY on knowledge and skills that you can anticipate needing for a future starting job in your major. We will discuss nothing else, such as how this class relates to the other business majors, or emphasize critical thinking, or consider anything related to life-long learning. We will rely heavily on standardized methods of assessment such a multiple-choice questions to assess your performance in the class.
>
> You can think of this class as essentially job training, where your instructor makes sure that there is a clear set of standardized requirements to successfully complete the course. In this course I as the instructor create and deliver to you all that you need to know. Your job is to essentially show up, learn what I present, generally follow the instructions in the syllabus. Feel free to contact me with any additional questions."

Your task is to answer the following questions the way that you think Chris is most likely to answer these questions.

Marketing-Based Scenario
Chris is a business major at ISU about to take a new class that has been developed for his major. The student contacts the professor teaching the course to get an idea of how the class will be structured and receives the following feedback:

> "Chris: Thank you for your inquiry. This class will focus entirely on the knowledge and skills necessary to help you become a life-long learner. The class is not very structured. We will meet regularly as a class, but I will not be lecturing. We will not over emphasize the specific knowledge and skills that you can anticipate needing for a future starting job in your major. Rather, we will work together to develop your general knowledge and skills, such as critical thinking and complex problem solving. We will typically use non-standardized methods of assessment such as essays, with editing and frequent feedback and dialogue. We will not use standardized assessment methods such as multiple-choice examinations to assess your performance in the class.
>
> You can think of this class as essentially life training. The knowledge and skills that we will focus on are less related to getting that first job upon graduation, rather, toward becoming successful throughout life. In this course, you can anticipate that your instructor challenges your ability to think beyond merely knowing the terms and concepts in a book. Therefore, there won't be a rigid set of standardized requirements to successfully complete the course. Rather, you and I will work together to grow your intellectual skills as much as possible. You and I together will create the knowledge and skills you will develop. Your job as a student will require more than simply showing up, learning what I present to you, and simply following the instructions in the syllabus. Feel free to contact me with any additional questions."

Your task is to answer the following questions the way that you think Chris is most likely to answer these questions.