

Social Media in a Subjective Science Mode: The “Facebook Likes” Study Reconfigured With Self-Reference

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Abstract

A Cambridge University study of more than 58,000 users of the popular social medium Facebook examined the extent to which the Facebook "Likes" button predicted behaviors and attributes of a diverse nature (IQ, sexual identity, political and popular-culture preferences, religious affiliation, and the like). Despite revealing several intriguing and statistically significant relationships, the research sheds scant light on the nature of the subjectivity at play.

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In a Q-methodological study of a sample of subjectively communicated responses to the Cambridge research, three versions of the subjective interface between the users of Facebook and the social medium are reported. Implications for studying the social-psychological aspects of social media from the methodological principle of self-reflection are discussed.

The recent appearance across a wide swath of social media of the principal findings from the “Facebook Likes” study (Kosinski, Stillwell, & Graepel, 2011) provides an occasion to illustrate the methodological differences when a given phenomenon, subjected to a widely-known R-methodological inquiry, is investigated with an eye on the subjectivity brought to light by Q methodology (Brown, 1980; McKewen & Thomas, 2013; Stephenson, 1953). The well-chronicled analysis of the predictive power of Facebook “Likes,” conducted by the Psychometric Centre of Cambridge University, employed sophisticated statistical techniques to draw predictive profiles of Facebook users’ race, gender, sexual orientation, religion, IQ and a host of other attributes, leading reporters summarizing the study to conclude “Likes reveal more about you than you think.” According to the report, Facebook Likes that are the “best predictors of high intelligence include ‘Thunderstorms,’ ‘*The Colbert Report*,’ ‘Science’ and ‘Curly Fries.’ Low intelligence was indicated by liking (Facebook pages for) ‘Sephora,’ ‘I Love Being A Mom,’ ‘Harley Davidson’ and ‘Lady Antebellum’” (Kosinski, et al., 2011).

Notwithstanding its success in predicting several objective and ostensibly subjective attributes, the Cambridge study was undertaken and framed solely in the objective (R-methodological) mode. In consequence, it raises but neglects – or is unable to probe – the rich domain of subjectivity that is tapped when Facebook users click a button signifying “Like,” or engage in any activity over Facebook or other social media that seeks to interact with others by sharing a viewpoint. Accordingly, we have taken the opportunity the survey affords to illustrate the difference it makes when a given phenomenon is investigated with an eye to the subjectivity at play from the standpoint of the participants. The vehicle for doing so was a Q sample of self-referential statements drawn from the con-course generated by online reaction to the Likes study, rapidly composed and disseminated in the few days following public reports of the Cambridge Research. With this approach we demonstrate what an investigation of these phenomena from the standpoint of a subjective-science might reveal. The results promise to enhance understanding of the diverse yet often-overlooked gratifications lying behind the growing importance of social media.

Self-Reference: The Missing Element in Studies of Engagement with Social Media

The Cambridge “Facebook Likes” study may qualify as the most ambitious investigation to date of the psychosocial patterns of mass behavior online. However, it is far from the first of its kind. Despite the fact that today’s most popular forms of social media are no older than two decades, scholarly inquiry into the vicissitudes of computer-mediated behavior has rapidly assumed the charac-

ter of normal science. Closely tracking the history of Facebook itself, a series of scholarly journals—e.g., *Human Behavior and Computers*, *Cyber-psychology*, *Journal of Computer-Mediated Communication*—have begun to supplement the scores of pre-existing sites for the publication of behavioral research spawned by the technology and diffusion of social media (Turkle, 2015). Not surprisingly perhaps, Facebook usage has become a staple of such research. And among the more noteworthy questions receiving the attention of scholars interested in Facebook are concerns connected to the possible effects on chronic users' self-esteem, sociability, loneliness and depression (see, for example, Konrath, O'Brien, & Hsing, 2011; Hampton, et al., 2014)—all viewed as experiential consequences of heavy usage of this particular social medium. What unites these various inquiries is their common methodological reliance on R-based properties of normal science, particularly scaling-based assessments of psychological states or traits.

Research by Pettijohn, LaPiene, Pettijohn, and Horting (2012) was predicated on the proposition that the effects of repeated exposure to one's own (self-created and managed) Facebook profile and friendship list would bolster users' "friendship contingent self-esteem" and can be considered prototypical in major methodological respects. A sample of 200 university students was administered a battery of scales including measures of Facebook Intensity (Ellison, Steinfield, & Lampe, 2007), The Friendship Contingent Self-Esteem Scale (FCSES; Cambron, Acitelli & Steinberg, 2010), a ten-item inventory consisting of two items each of the Big Five personality traits (Gosling, Rentfrow, & Swann, 2003), and the sixteen-item Narcissis-

tic Personality Inventory 16 (NPI-16; Ames, Rose, & Anderson, 2006). As hypothesized, results demonstrated a significant association between the intensity of Facebook usage and respondents' friendship-contingent self-esteem. The correlation, however, was only $r = .22$, which was significant at the .003 level for this sample size. None of the other personality variables, except for the demographic factor of age (which was inversely correlated with Facebook Intensity), was found to correlate with Facebook usage. The authors were quick to point out that their discovery of a positive relationship between self-esteem and Facebook usage differed from previous research measuring self-esteem independently of perceived friendship appraisals. In that research (Mehdizadeh, 2010), self-esteem and intensity of Facebook usage were found to be negatively correlated, a finding replicated more recently at Sweden's University of Gothenburg in what is identified as "Sweden's Largest Facebook Study" (Denti, et al., 2012).

On closer inspection, however, Denti's (2012) findings are not as straightforward as reported in media summaries. The complication lies in the pronounced effects of gender: females outnumbered males in the study by a factor of more than 2 to 1, and for women only was the inverse correlation between self-esteem and Facebook usage observed; for males, the association was precisely the opposite—the more heavily the Facebook usage, the higher men's self-esteem. To complicate the matter even further, recent results from experimental studies (Gonzales & Hancock, 2011; Toma, 2013) support the claim advanced by Pettijohn et al. (2012) that self-esteem globally, as measured by Rosenberg's self-esteem scale (and hence not solely dependent on friendship-based self-appraisals), is

elevated when individuals are randomly assigned to spend five minutes examining and/or adjusting their self-profiles on Facebook while others spend the same time either surfing the web or looking at their own reflections in mirrors before completing the Rosenberg scale. The Toma (2013) research applied a variation of the Implicit Association Test as a means of measuring the degree to which the Facebook profile-exposed individuals reflexively associated positive descriptors with positive semantic references to themselves, finding evidence of elevated self-esteem “at a deep, unconscious level” as a consequence of viewing only the personal profile portion of their Facebook account.

As interesting and unresolved as such research questions are their investigation shares methodological interrogation in the same objective mode in which the Cambridge Facebook Likes Study was designed and executed. In consequence, as Brown’s (2013) indictment of the latter put it:

[A]ll of this is in the objective mode—of race, gender, intelligence, and so forth, almost none of which is within our capacity to affect. Except for marketing purposes, of what practical use is the finding, say, that young singles who Like Christian Mingle go to church more often? ... And how causative can this predictor variable (Liking) really be? If I Like *The Daily Show* or curly fries, do I then feel smarter? ... Such things are too remote to qualify as causes of immediate behavior. ... [W]hat these researchers are missing in their fact-gathering is the subjectivity at issue. Variables such as personality, intelligence, social class, and the like are poorly understood by experts, much less by the common person, whereas Facebook Likings and other contributions are matters of common communicability about fairly ordinary things about which ordinary people are readily conversant....

Brown (2013) then proceeds to determine the difference if researchers began considering the language of the 58,000 people who gave the researchers permission to track their usage of the Facebook Like button over time. Even short of a profound methodological alteration, this alteration reveals that the sheer size of the sample for this project was itself sufficient to produce plentiful associations meeting standard thresholds of statistical significance when, in fact, the actual portions of variance accounted for in the predicted variables remained rather meager. More problematic, however, for our purposes is the failure to provide for self-reference: Indeed, in this regard the unquestionable ambiguity of the Facebook Likes button itself stands as perhaps the most obvious example.¹ When a friend dutifully responds to the request of a television news anchor “to like us on Facebook” the user’s decision to do so most certainly differs in meaning from the use of the same button as a gesture of sympathy in response to a personal friend’s sharing on Facebook of a recent loss of, say a job, a pet, or a parent. In the latter case, the use of the Like button is in all probability intended to convey a very different sentiment—most likely on the order of “I’m sorry to hear this; you have my sympathies”—than a literal expression of happiness over the friend’s loss and its public acknowledgment. The corrective, as Brown (2013) explains, is to jettison completely the presumptively objective course and begin anew with the rich array of self-referent subjective communicability instigated by the articles reporting the principal Cambridge findings to the pub-

¹ Both the Cambridge study and our research pre-date the ability of Facebook users to add emoticons to their “likes,” giving greater clarity to the nature of their feelings regarding a post.

lic at large. Readers of these summaries were not hesitant to share these reactions, and in the online versions of the articles reporting the survey's main findings, a virtual concourse of subjective communicability quickly appeared courtesy of the websites' provision of space for comments by online readers.

Method

Q Sample Construction

Following Brown's (2013) lead, we collected similar statements from websites such as USA Today, Wired, ABC News, etc., while noting the existence of three, roughly provisional, categories among the sentiments.

Please note, however, that in Q methodology these categories are provisional in that they are used to try to ensure comprehensiveness in the sample of statements and, unlike scaling theory, statements in Q methodology are not assumed to measure any particular stance *per se*.

There is no assumption that these statements will, or should, hold together as respondents engage with them.

The use of Q Methodology was approved by the IRRB at Westminster College and is on file.

Initially, we deemed the statements as fitting loosely into three types: (1) supportive or curious about the specifics of the Cambridge Study's findings; (2) perturbed or indignant at the secretive or commercial intent of the research; and (3) idiosyncratically reactive to Facebook generally or the Facebook Likes study in particular. Once we were convinced that the population of items had reached the limits of redundancy, we each nominated a series of items from each of these initial categories, ultimately deciding that the range of subjective sentiments

raised could reasonably be represented with a Q sample of $N = 40$ items.

Participant Selection

The resultant Q sample was administered to 47 sorters who were self-identified “regular users” of Facebook. Participants included both U.S. citizens and U.K. citizens. The sorters were either students or subscribers to the aforementioned listserv. Participants rank-ordered the 40 statements along a continuum running from +5 (Most Agree) to -5 (Most Disagree) according to the following distribution:

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
(2)	(3)	(3)	(4)	(5)	(6)	(5)	(4)	(3)	(3)	(2)

The data were analyzed in the customary fashion—correlated and factor-analyzed, using principal components and varimax rotation—and resulted in a three-factor solution. Finally, as is customary in Q-methodological studies, the array of factor scores—for each statement’s placement on each factor—were computed. The ultimate result is a “composite Q sort” representing each of the three factors, and these can be found in Table 1.

Results

Factor 1

Factor 1, defined by 17 sorters, is inclined to support data analyses such as that conducted by the Cambridge group. In this regard, these data are perceived to be helpful in studying social processes in general and the use of social media in particular. Furthermore, what is commonly referred to as “data mining” is relatively neutral (+5

Table 1
Factor Array for Facebook "Likes" Q Sample Items

Item No.	Statement	Factor Scores		
		1	2	3
1	I hate the very idea of being advertised to, and the thought of some faceless company having a private profile of all my preferences and Likes makes my skin crawl. Privacy please.	0	5	-2
2	Wow. Who would've imagined that liking country music would correlate with being stupid?!	-1	3	-1
3	I personally find heavy-users of Facebook pretty boring. I'd much rather have daily updates from the world's great writers and thinkers via Twitter than updates on what old high school friends had for dinner via Facebook.	2	4	-2
4	You can learn a lot about a person's tastes, values, and even sense of identity by having computers slog through large amounts of data about them. This does not degrade the individual (in my opinion), but allows us to observe and map out fascinating cultural trends and correlations.	5	0	3
5	Well, I say we all go in and put in all sorts of random Likes, just to throw them off. LOL	-3	-5	-2
6	"Harley Davidson" indicates low intelligence??? So, how come I read about doctors and lawyers forming groups to go out riding their Harleys during the weekends in warm weather?	-1	-4	0
7	I could make a pretty good case that someone who wastes their time going around clicking that stupid "like" button cannot possibly be any version of "intelligent".	-2	-1	-4
8	You are what you Like.	2	-5	2
9	This is not unique to Facebook and is not even unique to social networking in general. It's one of the implications of Big Data and in this case Big Data in a social networking context. Lots of information makes for certain inferences and sensitive predictions, which in turn invades private space and personal identity.	3	4	-1
10	I eat curly fries after feeling dazed and confused from a good nap; therefore, I must be at the apex of mankind! Quick, someone sculpt a marble statue of me!	-3	-3	-4

Table 1 Continued
Factor Array for Facebook "Likes" Q Sample Items

Item No.	Statement	Factor Scores		
		1	2	3
11	Attention journalists: Did you know that articles like this reduce complex individuals into one-dimensional lemmings, offering neither useful information nor relevant insights, while at the same time being pretty darn offensive?	-5	-3	0
12	Someone has to pay for the party: FB users aren't charged for their use because studies like this tell the advertisers where to spend their money.	4	0	3
13	The like button is quite a seductive thing. It's all around the Web, it's all around Facebook. And it's so easy!	0	-1	1
14	Way to state the bloody obvious. I can't believe that Cambridge wasted money on this nonsense.	-4	-1	0
15	Get it straight: You are not a customer of Facebook. You are the Product Facebook sells.	1	3	1
16	I wonder if it took into account "pity Likes"? Sometimes friends post pictures or status comments that I don't actually like, but if it's been up a while with no feedback I will Like it just to be supportive and not leave them feeling ignored.	-3	2	3
17	Meanwhile, we have a third-world electric grid, a mediocre public education system, unemployment and many other problems in society and these people are worried whether I like rock music and cooking. And we wonder why we're falling behind?	-4	3	4
18	Lies, damn lies, and statistics. True.	-4	0	0
19	So what if liked curly fries, then I got tired of them? So I was a genius but now I'm not? Makes about as much sense as the rest of the article.	-2	2	1
20	Who, in their right minds, would think that Facebook wouldn't use the membership data they gather?	4	1	5
21	I wouldn't take this study too seriously. I for one have a "Facebook self" and my real self. I don't divulge much of the latter in my "Likes" or surfing on the web. I doubt that I'm the only one who guards their identity this way.	-1	1	0
22	Wow. You mean to tell me that things people like and dislike reveal hidden aspects of their personality? I'm at a loss for words.	0	-4	1
23	This is only the tip of the iceberg. Wait 'til they do a similar study of the Twitter accounts individuals subscribe to.	1	2	0

Table 1 Continued

Factor Array for Facebook "Likes" Q Sample Items

Item No.	Statement	Factor Scores		
		1	2	3
24	The point is, no matter the vehicle for information — a bumper sticker, yard sign, logos on clothing, or other data found online — it has already been proven that it is possible for social scientists to draw conclusions about personal attributes based on these characteristics.	3	0	5
25	NO, dammit! The study does NOT show 'If you like A, then you must be B.' It shows a correlation. Like most correlations, there will be outliers. You can like the Colbert Report and still be an idiot.	1	5	2
26	The amount of personal information people will put on Facebook never fails to amaze me.	2	4	4
27	If a person says they have nothing to hide, ask them if they drive around with their name and address on their car, do they take the subway with their net worth posted on their jacket, do they have no blinds or curtains in their home? It is about common sense and EVERYONE practices privacy.	0	1	-1
28	I love this idea that our actions speak louder than anything else, and that big data can tell us something.	2	-4	2
29	Screw Facebook!! It's a High PRICE to Pay (Your Privacy) for making virtual "Friends"!	-2	1	-5
30	If anyone thinks Facebook exists to do anything but gather and sell your information they are living in a fantasy land.	1	0	-4
31	It is an evil and insidious practice. The corporations we do business with are not our friends.	0	-1	-5
32	It's probably true, a bit of big data analyses and humans turn out to be a lot less individual than they think they are.	3	0	-1
33	Do they correlate having a high IQ with not using Facebook at all?	-1	1	-1
34	Well, it's been said gazillion times before: Internet is a public place, don't put anything out here that you wouldn't put on a billboard on Times Square.	4	-1	4
35	The coming trend seems to be taking yourself off social media and minimizing input of what you do use.	-2	-2	-3

Table 1 Continued
Factor Array for Facebook "Likes" Q Sample Items

Item No.	Statement	Factor Scores		
		1	2	3
36	It seems like the non-random sampling could lead to skewing of the data. People who are more cautious with their online presence would likely not have volunteered for this study.	1	-2	-2
37	Due to this 'study', I'm going to make a conscious point to Like strange and eerie things instead of the things I really like. Just so Facebook can think I'm a psycho.	-5	-2	-3
38	Facebook doesn't know if I'm lying . . . for the moment.	0	-3	1
39	The IP address of your computer identifies you. Google knows what you're searching for and the websites you visit. Cookies and data miners record your every mouse click. None of this is new information. If you use the internet, then nothing you do on it is really, truly private.	5	2	2
40	Considering the ads Facebook shows me, it looks like they only vaguely know about my private life and what interests me.	0	-2	-3

Statement 39. Cookies and data miners record your every mouse click. None of this is new information); the generally accepted research norm of respecting study participants' integrity is upheld and the conclusion is that the Cambridge project is relatively successful in that regard. Factor 1 participants strongly reject the sarcasm expressed by some in reaction to the research.

+5 Statement 4. You can learn a lot about a person's tastes, values, and even sense of identity by

having computers slog through large amounts of data about them. This does not degrade the individual (in my opinion), but allows us to observe and map out fascinating cultural trends and correlations.

-5 Statement 11. Attention journalists: Did you know that articles like this reduce complex individuals into one-dimensional lemmings, offering neither useful information nor relevant insights, while at the same time being pretty darn offensive?

-4 Statement 18. Lies, damn lies, and statistics. True.

-4 Statement 14. Way to state the bloody obvious. I can't believe that Cambridge wasted money on this nonsense.

-3 Statement 10. I eat curly fries after feeling dazed and confused from a good nap; therefore, I must be at the apex of mankind! Quick, someone sculpt a marble statue of me!

-2 Statement 19. So what if I liked curly fries, then I got tired of them? So I was a genius but now I'm not? Makes about as much sense as the rest of the article.

There is some ambivalence, however, conveyed toward the impact of data analysis upon the privacy of Facebook consumers. On the one hand, as noted above (Statement 4), the perception is that "slogging" through data does not "degrade the individual"; on the other hand, Factor 1 also concludes that data analyses do undermine "private space" accompanied by the possibility that individual identities can be revealed.

+3 Statement 9. This is not unique to Facebook and is not even unique to social networking in general. It's one of the implications of Big Data and in this case Big Data in a social networking context. Lots of information makes for certain inferences and

sensitive predictions, which in turn invades private space and personal identity.

“The invasion of private space” can be constrained if Facebook users use common sense when posting to Facebook and take personal responsibility for the type of information that they make available to others. Thus, a person is cautioned to exercise good judgment; the problem occurs when discretion is set aside—complications that follow from not thinking through the implications of participating on Facebook.

+4 Statement 34. Well, it’s been said gazillion times before: Internet is a public place, don’t put anything out here that you wouldn’t put on a billboard on Times Square.

+5 Statement 39. The IP address of your computer identifies you. Google knows what you’re searching for and the websites you visit. Cookies and data miners record your every mouse click. None of this is new information. If you use the Internet, then nothing you do on it is really, truly private.

+2 Statement 26. The amount of personal information people will put on Facebook never fails to amaze me.

Factor 1 recognizes that Facebook is a commercial enterprise in addition to providing a resource for people to connect with one another. Consequently, in line with the advice to carefully consider what others may make of or take from one’s postings, Facebook participants should realize that Facebook benefits come with a price.

+4 Statement 20. Who, in their right minds, would think that Facebook wouldn’t use the membership data they gather?

+4 Statement 12. Someone has to pay for the party: FB users aren’t charged for their use because

studies like this tell the advertisers where to spend their money.

+1 Statement 15. Get it straight: You are not a customer of Facebook. You are the Product Facebook sells.

+1 Statement 30. If anyone thinks Facebook exists to do anything but gather and sell your information they are living in a fantasy land.

Given its neutral (if not generally positive) stance toward Facebook, Factor 1 does not encourage people to actively subvert Facebook in order to undermine it or the research that attempts to make sense of the activities (“Likes”) of its users.

-3 Statement 5. Well, I say we all go in and put in all sorts of random Likes, just to throw them off.

LOL

-5 Statement 11. Due to this ‘study’, I’m going to make a conscious point to Like strange and eerie things instead of the things I really like. Just so Facebook can think I’m a psycho.

In summary, Factor 1 acknowledges the value of data analysis as a potentially important component of social research. Based on the factor scores of the statements that define Factor 1, we can paraphrase its point of view to the effect that the Cambridge study serves the functions of social science although its findings were not particularly surprising. Furthermore, Facebook’s use of membership data is not unexpected; the “piper” has to be paid. The problems that arise from Facebook involvement and research associated with it, such as invasions of private space, result from the careless activity of Facebook users: the individual is compromised when he or she fails to be prudent with the type and amount of personal information

that is posted.

Factors 2 and 3

Factors 2 and 3 are variations on the themes found in Factor 1, a conclusion supported by the factor inter-correlations although greater variation exists between Factors 2 and 3 ($r_{1,2} = .255$, $r_{1,3} = .349$, $r_{2,3} = .189$). Nine sorters define Factor 2, while eight sorters define Factor 3. Similarly to Factor 1, the second factor assumes data mining will occur regardless of Facebook users' preferences, an opinion shared with Factor 3 (factor scores are listed in order: Factors 1, 2 and 3):

+4 +1 +4 Statement 20. Who, in their right minds, would think that Facebook wouldn't use the membership data they gather?

Factor 2, however, fails to find any useful purpose to the type of study conducted by the Cambridge research group; Factor 3, on the other hand, is more inclined, as is Factor 1, to value the research.

+5 0 +3 Statement 4. You can learn a lot about a person's tastes, values, and even sense of identity by having computers slog through large amounts of data about them. This does not degrade the individual (in my opinion), but allows us to observe and map out fascinating cultural trends and correlations.

+3 0 +5 Statement 24. The point is, no matter the vehicle for information—a bumper sticker, yard sign, logos on clothing, or other data found online—it has already been proven that it is possible for social scientists to draw conclusions about personal attributes based on these characteristics.

+2 -4 +2 Statement 28. I love this idea that our actions speak louder than anything else, and that

big data can tell us something.

In this regard, Factor 2 distinguishes itself from the other two by doubting to a greater extent the underlying premise that interactions among Facebook users' demographic characteristics demonstrate anything important.

+1 +5 +2 Statement 25. NO, dammit! The study does NOT show 'If you like A, then you must be B.' It shows a correlation. Like most correlations, there will be outliers. You can like the Colbert Report and still be an idiot.

Factor 2, more so than the other two, resents the commercial use of Facebook data, a norm they believe that treats a Facebook user as a commodity and, consequently, invades personal space.

0 +5 -2 Statement 1. I hate the very idea of being advertised to, and the thought of some faceless company having a private profile of all my preferences and Likes makes my skin crawl. Privacy please.

+1 +3 +1 Statement 15. Get it straight: You are not a customer of Facebook. You are the Product Facebook sells.

+3 +4 -1 Statement 9. This is not unique to Facebook and is not even unique to social networking in general. It's one of the implications of Big Data and in this case Big Data in a social networking context. Lots of information makes for certain inferences and sensitive predictions, which in turn invades private space and personal identity.

As noted earlier, the factors generally concur that the individual is accountable for preserving privacy with respect to personal information (although in one instance, statement no. 34, Factor 2 slightly disagrees).

+2 +4 +4 Statement 26. The amount of personal

information people will put on Facebook never fails to amaze me.

+4 -1 +4 Statement 34. Well, it's been said gazillion times before: Internet is a public place, don't put anything out here that you wouldn't put on a billboard on Times Square.

+5 +2 +2 Statement 39. The IP address of your computer identifies you. Google knows what you're searching for and the websites you visit. Cookies and data miners record your every mouse click. None of this is new information. If you use the Internet, then nothing you do on it is really, truly private.

Although the scores for the three statements point to the consensus among the factors regarding prudent use of the internet, including Facebook, Factor 1 simply recognizes that people post personal information (no. 26)—it is assumed (+2)—given that the “Internet is a public space” (no. 34, +4) and “none of this is new information” (no. 39, +5). Factors 2 and 3, however, appear to construe this reality in a different way (reinforced by the interpretations presented just below): Facebook appears to be complicit with parading one's life (no. 26, +4 +4).

The primary distinction between Factors 1 and 2 (and to a limited extent Factors 2 and 3) is the general negative attitude Factor 2 has toward Facebook itself. Whereas Factor 1 is critical of those who fail to exercise discretion in posting personal information on Facebook, Factor 2 is much more critical of the Facebook “experience” taken as a whole. This disapproving attitude is clearly expressed by the following:

-4 +3 +4 Statement 17. Meanwhile, we have a third-world electric grid, a mediocre public education system, unemployment and many other prob-

lems in society and these people are worried whether I like rock music and cooking. And we wonder why we're falling behind?

+2 +4 -2 Statement 3. I personally find heavy-users of Facebook pretty boring. I'd much rather have daily updates from the world's great writers and thinkers via Twitter than updates on what old high school friends had for dinner via Facebook.

+1 +3 +1 Statement 15. Get it straight: You are not a customer of Facebook. You are the Product Facebook sells.

This negative evaluation, however, is qualified, both in terms of the people who use Facebook and the consensus that, despite how Facebook might be abused, efforts should not be made to undermine either Facebook generally or research drawing on Facebook data.

-2 -1 -4 Statement 7. I could make a pretty good case that someone who wastes their time going around clicking that stupid "like" button cannot possibly be any version of "intelligent".

-2 +1 -5 Statement 29. Screw Facebook!! It's a High PRICE to Pay (Your Privacy) for making virtual "Friends"!

-5 -2 -3 Statement 37. Due to this 'study', I'm going to make a conscious point to Like strange and eerie things instead of the things I really like. Just so Facebook can think I'm a psycho.

-3 -5 -2 Statement 5. Well, I say we all go in and put in all sorts of random Likes, just to throw them off. LOL

On the other hand, Factor 3 is more critical of the notion that Facebook is some evil corporation out to exploit the naïve public. Factor 3 types put the onus on the user not to reveal so much information, and do not believe that Facebook is doing anything out of the ordinary of usual

business practices.

0 -1 -5 Statement 31. It's an evil and insidious practice. The corporations we do business with are not our friends.

-2 +1 -5 Statement 29. Screw Facebook!! It's a High PRICE to Pay (Your Privacy) for making virtual friends.

+1 0 -4 Statement 30. If anyone thinks Facebook exists to do anything but gather and sell your information they are living in a fantasy land.

There are a few items that generate consensus among the three factors. Two of these statements poke a little fun at the Cambridge study:

-3 -3 -4 Statement 10. I eat curly fries after feeling dazed and confused from a good nap; therefore I must be at the apex of mankind! Quick, someone sculpt a marble statue of me!

-1 +1 -1 Statement 33. Do they correlate having a high IQ with not using Facebook at all?

Two other statements demonstrate that each factor type believes that social media sites are here for the foreseeable future:

+1 +2 0 Statement 23. This is only the tip of the iceberg. Wait 'til they do a similar study of the Twitter accounts individuals subscribe to.

-2 -2 -3 Statement 35. The coming trend seems to be taking yourself off social media and minimizing input of what you see and do.

Discussion

In response to the media coverage of the Cambridge University "Facebook Likes" study, we demonstrate that a missing component of the Cambridge study was an examination of the subjectivity inherent in the use of social me-

dia. Gathering representative statements regarding expressions of opinion revolving around the study, a Q-sample was derived that was administered to 47 regular users of Facebook. Three factors emerged. The first supports the thrust of the Cambridge study. Useful information can be achieved from investigating Facebook likes, albeit with some concern expressed for personal privacy. A second factor questions the significance of the Cambridge study, i.e., that the data say anything very useful about users of Facebook, and that is highly critical of the commercial aspects of Facebook. A third factor criticizes the notion that Facebook is a soulless corporate entity, essentially preying on its customers.

Researcher van Dijck (2013) makes the point that users of social media are engaged in personal expression, claiming that a Facebook *persona* is generally quite different from a LinkedIn *persona*, as LinkedIn is typically used in a professional/employment context, while Facebook is more personal. However, the larger point that van Dijck makes is that users of social media are involved in a form of personal branding. “From Justin Bieber to Barack Obama, online personas have become an indispensable part of self-branding...promoting and branding the self has also become a normalized, accepted phenomenon in ordinary people's lives” (van Dijck, 2013, pp. 202-203). So, while the Facebook Likes study may have some utility for marketers, the personal narratives and styles displayed by users may be of much more significance, and deserving of attention. These narratives are subjective in nature, and the application of Q sort methodology to their study is likely to reveal subjective communicability rich in detail.

In short, the Cambridge study has provided an in-

complete picture of Facebook users, and perhaps the least interesting picture, at that. And like virtually all of the research on social media and their use, the Cambridge study is R-methodological from start to finish. As a result, users become units of analysis and the phenomena of interest—e.g., Facebook Likes, IQ, personal habits and the like—assume the character of variables on which all respondents *receive* scores.

The results, in the form of correlations between Facebook Like button clicks and the various other variables, may well meet standard thresholds of statistical significance; after all, with 58,000 respondents, that threshold is not very high. But it is fair to ask what this ostensible focus on the “objective”, as indicated by our description of correlational studies such as the Cambridge study, entails by way of costs in the methodological disregard for self-reference. If, as some have claimed, the use of the Facebook Like button can convey sympathy for a friend’s loss, then the nagging question about variability in the style of interacting with social media looms ever larger. The three factors revealed by our modest effort demonstrate that the search for uniformity across user-social media interaction patterns—which of course lies at the core of R-methodological research—is, at best, unwarranted and, at worst, in many instances simply misleading. Given that the use of social media is essentially a subjective undertaking, the methods used to study such behavior need to be appropriate to the task.

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