FlashReport

On being liked on the web and in the "real world": Consistency in first impressions across personal webpages and spontaneous behavior

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ABSTRACT

With recent growth in the use of personal webpages and online social networking, people are changing the way that they meet and form impressions of each other. The current research examines the correspondence in impressions formed from face-to-face interaction and personal webpages. As expected, people liked by interaction partners were also liked on the basis of their Facebook® pages. Across the two social mediums, social perceivers utilized analogous criteria in forming impressions: interaction partners and webpage viewers liked people who were socially expressive in face-to-face interaction and personal webpages, respectively. Finally, webpage expressivity and webpage self-disclosure were independent constructs, predictive of face-to-face counterparts: nonverbal expressivity and verbal self-disclosure. Implications for the changing landscape of social perception are discussed.

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Over the last decade, industrialized countries have observed a major shift in how people meet and interact. People now use personal websites to assess who they should befriend, date, and even employ. The premise is that examination of personal webpages allows potential friends, dates, and employers to predict how a person will actually behave. Yet despite the exponential growth in the creation and perusal of personal websites, little is known about the correspondence between personal websites and "real world" behavior. To address this issue and provide some insight into the behavioral validity of website judgments, we examined whether and why people judged to be likable on the basis of their Facebook® page might also be likable in real life.

On the transformation of social life

The popularity of social networking websites has grown so much in the last decade that it is rare to find an adolescent or young adult who does not actively maintain a personal webpage on websites such as Facebook®, MySpace®, or Friendster® (e.g., Lenhart & Madden, 2007). Adult single people are increasingly likely to maintain personal webpages on "dating" websites (Madden & Lenhart, 2006) and employers are increasingly likely to search personal webpages when evaluating potential employees (Finder, 2006). Indeed, 10% of Americans have jobs whose employ-

ers *require* them to market themselves online (Madden, Fox, Smith, & Vitak, 2007). With web-based technology advancing at an ever-increasing rate, it is likely that social networking will only become more popular in the coming years. Although it is unlikely that people will ever completely abandon face-to-face social interaction, many important social activities that were previously relegated to the "real world" are now occurring on the Internet. What was previously "known" with regard to impression formation, person perception (Macrae & Bodenhausen, 2000), self-presentation (Schlenker & Pontari, 2000) and other topics may need to be revisited in this new social reality.

With the Internet-driven transformation of social life, social scientists have begun to explore the dynamics of web-based communication, including social networking patterns (e.g., Ellison, Steinfeld, & Lampe, 2007). Some recent research has even demonstrated that self-reported personality traits are reflected in personal webpages (Buffardi & Campbell, 2008; Marcus, Machilek, & Schutz, 2006; Vazire & Gosling, 2004). While such studies are informative with regard to the social and psychological processes occurring online, there is little evidence regarding the extent to which spontaneous (and directly observed) behavior occurring in the "real world" is faithfully represented online. Gaining such an understanding is crucial, for example, to understanding the validity of web-based social perception as well as for understanding the social psychological correspondence between the web and more traditional social milieus.

We here examined the correspondence of web-based social perception and "real world" social perception with the understanding that these mediums may yield somewhat different impressions.

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Actual social interaction occurs in real-time and is likely to include much spontaneous behavior. In contrast, people can spend hours deliberately constructing the webpages on which social perceivers base their impressions. Hence, whereas impressions formed from social interaction may be based on a mix of deliberative and spontaneous behavior, impressions formed from personal webpages may be based on targets' wholly deliberative or self-presentational behavior (Toma, Hancock, & Ellison, 2008). There may therefore be limited correspondence between web-based and interaction-based impressions.

Conversely, very different types of information provided by the two mediums may still yield quite similar impressions. Funder and Colvin (1991) have argued that "people might change their behavior markedly across situations and yet maintain a substantial degree of interindividual consistency…" (p. 775). Indeed, when considered in terms of impressions formed by observers, there appears to be consistency across mediums or situations. Funder and Colvin, for example, demonstrated that target persons elicited similar impressions regardless of whether those targets were observed in an informal conversation with one person or were observed in a debate with a different person on a different day. Likewise, a recent study demonstrated considerable similarity in impressions of target persons' across 15 situations ranging from introducing oneself to singing to solving a logic problem (Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004). Finally, although there are differences between initial face-to-face interaction and webpage construction, both situations presumably include an element of impression management. For these reasons, we expected some consistency between impressions formed from face-to-face interaction and those formed from personal webpages.

Impressions of likability were examined here, in part, because of the clear implications for important decisions such as dating, friendship, and employment. A person who is disliked on the basis of their webpage is unlikely to attract dates, friends, or employers online. Moreover, likability (warmth) is often regarded as one of two core factors that drive social judgments (see Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979). Hence, people are likely to make likability inferences in perusing personal websites. To the extent that people do make inferences about likability they are likely to do so on the basis of observable cues. Although there are substantial differences in the cues available to perceivers across the two social media, the conceptual factors underlying cues on personal webpages may bear some similarity to the factors underlying cues available in face-to-face interaction. In both media, we examined observable cues theoretically undergirded by social expressivity and self-disclosure, both of which are thought to play some role in producing intimacy and liking (though too much or uneven disclosure can also produce disliking; e.g., Collins & Miller, 1994; Reis & Shaver, 1988; Riggio, 2006).

In general, because people appear to exhibit consistency in behavior across channels of communication (e.g., Funder & Colvin, 1991), we expected students who were rated positively in the social interaction to also be rated positively on the basis of their Facebook® pages, even if conscious impression management is more likely on personal websites. We expected observable cues to underlie such correspondence in social perception.

Method

Participants

Thirty-seven undergraduate students (18 female) at a private university in the northeastern United States received monetary reimbursement for participation.

Procedure

Participants completed the experiment individually in a large office-sized room containing a video-camera. After informed consent, participants were introduced to "another participant" who was actually a female confederate. There were six such confederates in total, each of whom was trained to respond naturally but to maintain consistency between participants, whether those participants were male or female. The confederate sat opposite the participant with only a small coffee table separating the two. After the initial introduction, the experimenter explained that the participant and confederate should try to get to know one another by asking questions. The experimenter then left the room and returned after 4 min had elapsed. The participant was later debriefed, verbally probed for suspicion, and given a permission form for downloading his/her Facebook page. Immediately after the participant left the room, his/her Facebook page was downloaded.

Measures

Confederate ratings. The confederate rated the participant on several dimensions, three of which were relevant to likability: likability, warmth, and agreeableness. *Behavioral liking* denotes the average of these three ratings ($\alpha = 0.84$).

Behavioral cues. From videos of the social interaction, three undergraduate research assistants at a separate university coded (on 7-point scales) seven specific cues related to social expressivity and personal disclosure. As expected, a principal components analysis with varimax rotation revealed a two factor structure accounting for 76% of the variance. *Nonverbal expressivity* consisted of four items with rotated factor loadings greater than 0.6: lively vocal expression (inter-rater $\alpha = 0.69$), smiling ($\alpha = 0.78$), open versus closed smile ($\alpha = 0.71$), and facial expressivity ($\alpha = 0.76$). Nonverbal expressivity scores denote the average of these four items (internal consistency $\alpha = 0.84$). *Verbal self-disclosure* consisted of three items with rotated factor loadings greater than 0.6: revealing emotional information about oneself (inter-rater $\alpha = 0.63$), talking about oneself ($\alpha = 0.70$), and disclosing more than the confederate ($\alpha = 0.68$). Verbal disclosure scores denote the average of these three items (internal consistency $\alpha = 0.87$).

Global Facebook ratings. Ten undergraduates from a nearby private university rated the target *person* on the basis of his/her Facebook page with regard to the likability of the target person (inter-rater $\alpha = 0.79$), the extent to which the judge would want to be friends with the target person ($\alpha = 0.73$), the extent to which the target person seemed attractive ($\alpha = 0.85$), and the extent to which the target person seemed trustworthy ($\alpha = 0.75$). *Facebook liking* denotes the average of these four items (internal consistency $\alpha = 0.85$).[1]

Facebook cues. As with face-to-face interaction, we expected to distinguish between self-disclosure and social expressivity, where the former refers to talking about oneself and the latter refers to a sociable interactive style. On personal webpages we describe self-disclosure with respect to how much one talks about himself or herself, as indicated by lists of personal interests, personal activities, personal attitudes, and the like. We describe social expressivity with respect to displays of sociable interactivity, as through posting of photo albums and contacting others ("friends"). Our analysis focused on 12 easily quantifiable cues. As expected, a principal components analysis with varimax rotation revealed a two

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[1] A principal components analysis on these four items revealed a single factor. The only factor with an eigenvalue greater than 1 accounted for over 70% of the variance—all items had factor loadings above .70. Moreover, when broken down into the two most face-valid items for likability ("how likable is this person?" "how much would you want to be friends with this person?"), results for this index remain unchanged.

Table 1
Facebook cues: descriptive statistics.

Variable	Mean	Standard deviation	Factor loading: expressivity	Factor loading: self-disclosure
Factor 1: webpage expressivity				
Pictures	282.03	179.23	0.89	−0.03
Friends	389.11	202.23	0.83	−0.03
Wall posts	867.70	682.15	0.78	−0.02
Photo albums	7.26	7.56	0.64	0.21
Factor 2: webpage disclosure				
Personal Interests	3.65	5.04	0.47	0.67
Personal activities	2.30	2.82	0.08	0.80
Entertainment preferences	3.91	5.14	0.23	0.74
Facebook groups Posted	33.22	26.40	0.47	0.62
Quotes	2.76	3.30	0.02	0.77
Applications	8.00	4.64	−0.28	0.77
Unloaded cues				
Pieces of contact information	2.49	1.56	−0.02	0.30
Political affiliation	0.43	0.50	0.02	0.42

Note. Rotated factor loadings are listed.

Table 2
Correlations among liking, expressivity, and disclosure in Facebook and face-to-face interaction.

Variable	Facebook liking	Behavioral liking	Webpage expressivity	Webpage disclosure	Nonverbal expressivity	Verbal disclosure
Facebook liking						
Behavioral liking	0.33[*]					
Webpage expressivity	0.61[**]	0.11				
Webpage disclosure	−0.07	−0.12	0.32[*]			
Nonverbal expressivity	0.25	0.34[*]	0.41[*]	0.16		
Verbal disclosure	−0.23	−0.25	−0.01	0.34[*]	0.06	

[*] $p < 0.05$.
[**] $p < 0.001$.

factor structure accounting for 52% of the variance. *Webpage self-disclosure* consists of six items with rotated factor loadings greater than 0.6: Number of personal interests revealed, number of television, book, and movie preferences revealed, number of favorite quotes displayed, number of creative applications displayed, number of personal activities revealed, and number of Facebook groups endorsed.[2] Webpage self-disclosure scores denote the average of the standardized (*Z*-score) values of these six items ($\alpha = 0.84$). *Webpage expressivity* consisted of four items with rotated factor loadings greater than 0.6: number of pictures posted, number of wall postings, number of photo albums created, and number of friends. Webpage expressivity scores denote the average of the standardized (*Z*-score) values of these four items (internal consistency $\alpha = 0.81$). Amount of contact information listed and listing of political affiliation did not load on either factor (Table 1 displays descriptive statistics of all cues).

Results

The relationship between confederate ratings and webpage ratings provides a glimpse into the relationship between first impressions formed in the real world versus those formed from information presented online. The positive correlation between confederate liking and Facebook liking ($r = 0.33$, $p < 0.05$; see Table 2) revealed similarity in impressions formed from dynamic interaction and personal webpages. For this analysis and all others re-

ported below, patterns for male and female participants were quite similar—there were no significant differences in correlation magnitude by gender, as confirmed by comparisons that utilized Fisher's *r*-to-*Z* transformation (all *p*'s > 0.15). Moreover, correlations controlling for gender yielded the same pattern of results (all significant correlations retained partial *r*'s of at least 0.28).

Given the relationship between behavioral and Facebook liking, we examined the role of social expressivity and self-disclosure in impressions of liking. Positive first impressions of people based on Facebook pages were correlated with increasing webpage expressivity ($r = 0.61$, $p < 0.001$) just as positive first impressions of people based on their dynamic behavior were correlated with nonverbal expressivity ($r = 0.34$, $p < 0.05$). Replicating previous research on face-to-face interaction (see Collins & Miller, 1994), there was no linear relationship between self-disclosure and impressions of liking based on face-to-face interaction ($r = −0.25$, $p = 0.13$) or based on personal webpages ($r = −0.07$, $p = 0.70$).

Other evidence also points to similarity in behavior occurring in face-to-face interaction and on personal webpages. Each of the two distinct factors emerging from the personal webpage cues were uniquely related to face-to-face counterparts. People who displayed cues to social expressivity on their personal webpages also displayed nonverbal cues to social expressivity during the face-to-face interaction ($r = 0.41$, $p < 0.05$). Likewise, people who disclosed a lot of information about themselves on personal webpages also disclosed a great deal of information about themselves during the face-to-face interaction ($r = 0.34$, $p < 0.05$). These relationships were distinct: webpage self-disclosure was unrelated to nonverbal social expressivity ($r = 0.16$, $p = 0.30$) and webpage social expressivity was unrelated to verbal self-disclosure ($r = −0.01$, $p = 0.94$).

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[2] For each cue, univariate outliers (values more than three standard deviation units from the grand mean) were winsorized by changing the deviant raw score to a value one unit larger or smaller than the next most extreme score. There were four such values over the 12 cues.

Discussion

The current research is the first to demonstrate that there is correspondence between first impressions formed from observations of actual behavior in the real world and those formed from webpages. Moving beyond relationships with self-reported variables (cf. Baumeister, Vohs, & Funder, 2007), we observed that first impressions formed from personal webpages provided perceivers with valid information about the webpage authors' spontaneous likability in "real life". Expressivity played a role in creating positive first impressions online as well as in the "real world"; interestingly, nonverbal expressivity and verbal self-disclosure were related to webpage expressivity and webpage disclosure, respectively. Thus, the social world as captured on personal webpages has important analogues to the social world as captured in an initial interpersonal interaction, with respect to impression formation (liking judgments) and impression management (expressivity and disclosure).

The current research has important implications for an up-to-date scientific understanding of impression formation. As the cultural setting for learning about potential dates, friends, and employees shifts from face-to-face interaction to personal webpages, a great deal of change is likely in the processes involved in impression management and impression formation. Clearly, social perceivers have qualitatively different input for judgment when presented with personal webpages than when placed in a face-to-face social interaction. Compared to a social perceiver in real-time interaction, the webpage perceiver is presented with a diversity of information in a static medium that eliminates spontaneous nonverbal behavior. Indeed, the relationship between webpage and face-to-face impressions was not perfect in the current research, suggesting some divergence between impressions formed in the two mediums.

Yet these differences betray converging outcomes in impression formation and impression management. Social perceivers are likely to rely on some of the same processes and heuristics in making first impression judgments, even given substantial differences in the medium on which those judgments are based. Indeed, previous research has demonstrated that impressions formed in different types of contexts often bear considerable similarity (Funder & Colvin, 1991). One cue that was important to real-time and web-based impressions was social expressivity; although there are, by necessity, qualitative differences in expressivity across the two social settings, the same people who exhibited nonverbal expressivity in real-time social interaction also exhibited expressivity on their personal webpages. Hence, while social interactions and personal webpages have many qualitative differences, considered more broadly, there are important social analogies between the two sources of social information.

In conclusion, the online social world may not be that different from real-time social interaction. There is certainly some utility to assessing personal webpages for the purpose of choosing likable dates, friends, and employees.

Acknowledgments

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