The effect of Twitter posts on students' perceptions of instructor credibility

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Greater numbers of instructors are turning to social networking sites to communicate with students. This study examined whether posting social, scholarly, or a combination of social and scholarly information to Twitter has an impact on the perceived credibility of the instructor. Participants were assigned to one of three groups: a group that viewed social tweets, one that viewed scholarly tweets, and one that viewed a combination of social and scholarly tweets. Participants were then asked questions about the instructor’s perceived credibility. Results show that participants who viewed only the social tweets rated the instructor significantly higher in perceived credibility than the group that viewed only the scholarly tweets. No other significant differences were found among the groups. These results have implications for both teaching and learning, as there is an established link between perceived instructor credibility and positive learning outcomes.

Keywords: Twitter; credibility; social networking; trust; user-created content

Introduction

The number of people actively participating in online social networking is increasing. Nineteen percent of people say they use Twitter or another social networking site to share updates about themselves; this is up from 11% in 2008 (Lenhart 2009). Twitter, a microblogging site that allows users to post 140 character updates, is also becoming increasingly popular among college teachers. According to a survey conducted in the USA of almost 2000 higher education instructors, 31% of respondents reported using Twitter in some capacity (Faculty Focus 2009). With increasing numbers of college teachers choosing to use social networking sites, it is important to look at the impact of these new tools on perceptions of instructor credibility. Teacher credibility is important to consider because previous studies show...
that a teacher who is perceived as highly credible can have a positive impact on student learning (Frymier and Thompson 1992; Martin, Mottet, and Chesebro 1997; McCroskey, Valencic, and Richmond 2004; Schrodt et al. 2009). This study examines how the type of information posted on Twitter impacts teachers’ perceived credibility.

**Credibility**

Teacher credibility has been the subject of research and debate for decades. One of the earliest studies on teacher credibility by McCroskey, Holdridge and Toomb (1974) led to the development of five factors to measure credibility: competence, character, sociability, composure, and extraversion. Researchers used these factors for many years to measure teacher credibility (Finn et al. 2009). In the early 1990s, McCroskey (1992) set forth caring as one of the main dimensions of teacher credibility, arguing that if a student perceives a teacher as caring this leads to higher credibility ratings. In 1999, McCroskey and Teven refined the dimensions of the credibility scale to one composed of three factors: competence, trustworthiness, and caring. This scale has become the primary instrument used to measure teacher credibility (Finn et al. 2009).

When studying perceived credibility in an online context, there are several factors that can impact users’ credibility perceptions. Previous studies (Fogg 2002; Fogg and Marshall 2001; Fogg and Tseng 1999; Fogg et al. 2001; Johnson and Wiedenbeck 2009) show that providing information about the author of online information as well as a picture enhances credibility. Hyperlinks can also be important in helping users form judgments about online credibility (Fogg 2002; Stewart and Zhang 2003).

It is important to study instructor credibility because it has been shown to impact a number of factors, including, but not limited to: student learning outcomes (McCroskey, Valencic, and Richmond 2004; Schrodt et al. 2009), student motivation to learn (Frymier and Thompson 1992; Martin, Mottet, and Chesebro 1997), and communication between the teacher and student (Myers and Bryant 2004). According to McCroskey (1992), achieving a high level of perceived credibility also involves self-disclosure on the part of the instructor.

**Instructor self-disclosure**

Self-disclosure, or revealing personal information about one’s self, is often used as a tool to help teachers relate more closely to their students (Nussbaum, Comadena, and Holladay 1987; Wheless, Zakahi, and Chan 1988). Researchers have debated the classroom effects of such personal self-disclosure, many finding that teachers’ attempts to relate to students on an intimate level can often lead to increased teacher credibility (Brann, Edwards, and Myers 2005; Frymier and Houser 2000; Frymier and Thompson 1992; Hosek
and Thompson 2009; Martin, Mottet, and Chesebro 1997; Mazer, Murphy, and Simonds 2007; McCroskey 1992; Myers and Bryant 2004; Schrod and Turman 2005; Teven and Hanson 2004). Given this finding, however, teachers can quickly cross a line between appropriate and inappropriate information sharing in (or out of) the classroom (Barber and Pearce 2008; Hosek and Thompson 2009; Mazer, Murphy, and Simonds 2007; McBride and Wahl 2005). Teachers must make careful decisions about what information, and how much, to disclose to students for optimal effects regarding perceived caring and credibility. Once information is revealed in the classroom, it becomes co-owned with the students, and the classroom can become more relationship centered (McBride and Wahl 2005).

Hosek and Thompson (2009) found that teachers reveal private information about themselves to encourage students to also disclose personal information and to build close relationships. A similar study by McBride and Wahl (2005) found that teachers revealed information about (in order of frequency): family, personal feelings and opinions, mundane details, and personal history. Teachers reported revealing this information to appear human, extend course content, get students’ attention, and to provide examples.

Personal communication between teachers and students develops trust, allowing for a more productive and effective learning environment (Bloom, Hastings, and Madaus 1971; Ellis 1999; Frymier and Houser 2000; Rodriguez, Plax, and Kearney 1996; Teven and Hanson 2004). According to Frymier and Houser (2000), college-level instructors should be encouraged to form these personal relationships:

Teaching at the college level has traditionally been viewed as something that requires content expertise on the part of the teacher and effective teaching meant finding the right delivery system for the content. Teachers have not been encouraged to think about the relationships they have with students beyond those that are clearly inappropriate. However the evidence is growing that effective teaching means personal communication between teachers and students as well as expertise and effective delivery of the content. (217)

While most researchers agree that self-disclosure can improve teacher credibility, studies have found that too much disclosure or unprofessional disclosure habits can decrease an instructor’s credibility and ability to command respect from students. As teachers disclose private information, they run the risk of receiving negative feedback from students (Kearney et al. 1991).

**Instructor self-disclosure online**

Social networking, when used appropriately, can be a helpful tool for instructors. Many instructors utilize social networking sites as an additional tool in developing relationships with their students. By keeping up with these sites,
instructors are able to demonstrate that they are trying to share interests and to fit into the students’ world. This can cause students to gain respect and willingness to learn from their instructor (Kugler 2008).

An experimental study by Mazer, Murphy, and Simonds (2007) examined how a college teacher’s disclosure of information on Facebook impacted students. The researchers found that high levels of self-disclosure led to increased levels of student motivation, learning, and led to a more comfortable classroom climate. They concluded that when teachers disclose personal pictures, messages from family and friends, and opinions about topics, students identify more closely with the teacher.

According to Myers and Bryant (2004), instructor caring, an important factor in credibility, is conveyed through responsiveness, accommodation, and accessibility. Computer-mediated communication can allow teachers to interact with students outside of the classroom more frequently. This enriched interaction can lead students to perceive the teacher as more caring (McComb 1994). Teachers who participate in social media may come across to their students as more accessible and responsive to technological changes. O’Sullivan, Hunt, and Lippert (2004) found that when students viewed websites, those who viewed the sites with high levels of mediated immediacy reported high levels of motivation and rated the instructor highly.

Research questions
The lack of scholarly literature on social networking sites, specifically Twitter, and perceived instructor credibility led to three main research questions:

RQ1: If a college teacher discloses social information on a social networking site, will this enhance the teacher’s perceived credibility?

RQ2: If a college teacher discloses scholarly information on a social networking site, will this enhance the teacher’s perceived credibility?

RQ3: If a college teacher discloses a combination of social and scholarly information on a social networking site, will this enhance the teacher’s perceived credibility?

Previous studies (Brann, Edwards, and Myers 2005; Frymier and Houser 2000; Frymier and Thompson 1992; Hosek and Thompson 2009; Martin, Mottet, and Chesebro 1997; Mazer, Murphy, and Simonds 2007; McCroskey 1992; Myers and Bryant 2004; Schrodt and Turman 2005; Teven and Hanson 2004) have examined the impact of teacher self-disclosure on a teacher’s perceived credibility, but to date no studies have been done on how disclosing social information versus scholarly information on a social networking site impacts teacher credibility. The researcher believes the findings on self-disclosure and perceived instructor credibility in previous studies can be extended to tweets on the social
networking site Twitter. In this study, teacher’s perceived credibility was measured as it has been in many previous studies by using McCroskey and Teven’s (1999) three dimensions: competence, trustworthiness, and caring. Social information was defined as information on the college teacher’s personal life – including the teacher’s family and activities outside of the classroom. Scholarly information was defined as tweets relevant to the college instructor’s teaching and/or research. This information was not as personal in nature as the information revealed in the social tweets.

Methodology

Participants

One-hundred and twenty undergraduate students enrolled in a small college in the USA participated in the study. The students were 18–23 years old with a mean age of 20. They were from a variety of majors including, but not limited to: communications, education, biology, and business. Thirty percent reported having a Twitter account. In terms of Twitter usage, 73% reported never using Twitter, 17% reported using it one hour a week, 5% reported using it two hours per week, 1% reported using it five to six hours per week, and 3% reported using it more than six hours per week. Fourteen percent reported viewing the profile of at least one college teacher on Twitter.

Eighty-one percent of the participants were females and 17% were males. At this college, there are more females (1233) than males (686), and the distribution of students reflects this. Mann–Whitney U tests showed no significant differences between males and females on any of the questions.

Procedures

Participants were recruited via classroom visits. Willing participants were randomly assigned to one of the three conditions. The researcher then emailed each participant a link to the study. One group viewed the Twitter account with only social tweets, one group saw the Twitter account with only scholarly tweets, and one group saw the Twitter account with a combination of social and scholarly tweets. Participants read the tweets and then rated the college teacher’s perceived credibility using a three-item scale that measured competence, trustworthiness, and caring (McCroskey and Teven 1999). A seven-point Likert scale was used to measure the responses. The reliability of the scale in this study, computed using Cronbach’s alpha, was .81. The entire study was conducted online, and participants did not know into which condition they were placed. There were 40 students in each group. As an incentive, a $50 gift card to the school store was given to one randomly selected participant.
Design and ethics

Three accounts were created on Twitter.com (see Figure 1 for an example of one of the accounts). The name of the teacher, all information on the site, and the posts were fabricated by the researcher. The tweets were made up based upon the researcher’s own experience tweeting, as well as examining the Twitter accounts of college teachers who use Twitter. See the appendix for some of the tweets presented in each of the three conditions.

In order to minimize the number of variables in the study all accounts used variations of the same female name (Caitlin Milton, Caitlyn Milton, and Kate-lyn Milton). Variations in the spelling had to be used because Twitter would not allow duplicate account names. All of the accounts also contained the same number of tweets (22), the same number of hyperlinks (five), and displayed only one picture – a profile picture. A picture of a sunset was used as the profile picture for the account. The decision was made to not include a picture of a person because the researcher did not want participants’ reactions to the pictures to influence their credibility ratings.

This study was approved by the Elizabethtown College Institutional Review Board. Upon completing the study, each of the participants was told that the Twitter accounts they had just read were fictional. Each participant was also given the phone number and email address of the researcher so they could contact the researcher with any concerns; none of the participants took advantage of this opportunity.

![Figure 1. Picture of the Twitter account created for the study. This is the social tweet account.](image-url)
Propensity to trust
The participants’ propensity to trust was measured using a validated three-item propensity to trust scale (McKnight, Choudhury, and Kacmar 2002; McKnight, Kacmar, and Choudhury 2004). Propensity to trust is important to consider because previous studies (Collins 2006; Gefen 2000; Johnson and Wiedenbeck 2009; Mayer, Davis, and Schoorman 1995; McKnight, Choudhury, and Kacmar 2002; McKnight, Cummings, and Chervany 1998; McKnight, Kacmar, and Choudhury 2004) show that it has an impact on perceived credibility ratings; the more trusting someone is, the more likely they are to rate something as credible. A Kruskal–Wallis test conducted on the data showed no difference in the propensity to trust among the groups, \( H = 3.63 \) (df = 2, \( N = 120 \)), \( p = .16 \), which means the differences measured between the groups, in terms of perceived credibility, were not due simply to the fact that one group had more trusting people in it than another. Reliability of the propensity to trust scale in this study, computed using Cronbach’s alpha, was .86.

Findings
The questionnaires were analyzed to see how social, scholarly, and a combination of social and scholarly tweets impact an instructor’s perceived credibility. Results indicate that there were differences among the three groups in terms of rating the instructor’s credibility. The group that saw the social tweets only rated the instructor as more credible than the group that saw the scholarly tweets only. No significant differences were found between the other groups. Nonparametric statistics, including the Kruskal–Wallis test, Mann–Whitney \( U \) test, the Wilcoxon matched pairs test, and the Spearman rank correlation, were used to analyze the data. These tests were chosen because the data were ordered (for each question, participants chose responses on a seven-point scale). Also, a histogram showed that the data were not normally distributed. In order to help make the presentation of the data clear, the group that saw the social tweets will be referred to as the ‘social’ group, the group that saw the scholarly tweets will be referred to as the ‘scholarly’ group, and the group that saw a combination of the social and scholarly tweets will be referred to as the ‘social + scholarly’ group.

Teacher credibility
Teacher’s perceived credibility was measured using a three-item scale that measured competence, trustworthiness, and caring (McCroskey and Teven 1999). Using the Kruskal–Wallis test, a significant difference was found among the three groups when examining the overall credibility score (the sum of the score on the competence, trustworthiness, and caring items), \( H = 6.03 \) (df = 2, \( N = 120 \)), \( p = .049 \). Since pair-wise comparisons cannot be
made using the Kruskal–Wallis test, the Mann–Whitney $U$ test was used. Using the Mann–Whitney $U$ test to examine the overall credibility score between the groups (again, the sum of the score on the competence, trustworthiness, and caring items), a significant difference was found between the social group and the scholarly group. The social group rated the college teacher significantly higher in terms of perceived credibility than the scholarly group. There were no other significant differences in terms of perceived credibility between the groups (see Table 1 for the means and standard deviations of the groups and Table 2 for the results of the Mann–Whitney $U$ tests).

### Caring, competence, trustworthiness

Participants responded to the statement, ‘This professor seems caring’ (one of the sub-scale items that constituted the three-item perceived credibility scale) on a seven-point Likert scale, where 1 meant strongly disagree and 7 meant strongly agree. When the three groups were compared using the Kruskal–Wallis test, a significant difference was found, $H = 26.56$ (df = 2, $N = 120$), $p = .000$. Using the Mann–Whitney $U$ test, the groups were compared pairwise, and a difference was found on this item between the social and scholarly groups. The group that viewed the social tweets rated the college teacher as significantly more caring than the group that viewed the scholarly tweets ($U = 309.50$, $p = .000$). A Mann–Whitney $U$ test also showed that the social + scholarly group found the college teacher to be significantly more caring than the scholarly group ($U = 424.00$, $p = .000$). No difference on the caring item was found between the other groups. When the other sub-scale items of

<table>
<thead>
<tr>
<th>Group</th>
<th>$M$</th>
<th>SD</th>
<th>$N$</th>
</tr>
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<tbody>
<tr>
<td>Social</td>
<td>17.70</td>
<td>2.42</td>
<td>40</td>
</tr>
<tr>
<td>Scholarly</td>
<td>16.02</td>
<td>3.65</td>
<td>40</td>
</tr>
<tr>
<td>Social + scholarly</td>
<td>16.82</td>
<td>3.23</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>$U$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social versus scholarly</td>
<td>582.50</td>
<td>.03*</td>
</tr>
<tr>
<td>Scholarly versus social + scholarly</td>
<td>712.50</td>
<td>.36</td>
</tr>
<tr>
<td>Social versus social + scholarly</td>
<td>673.00</td>
<td>.22</td>
</tr>
</tbody>
</table>

*Significant difference at .05 level.
competence and trustworthiness were examined, no significant differences were found among any of the groups.

**Other differences between the social and scholarly groups**

Using the Kruskal–Wallis test, there were also significant differences found for the following questions: ‘This professor conveys a feeling of goodwill’ $H = 17.57$ (df = 2, N = 120), $p = .000$; ‘I got a good feeling about this professor after reading the Twitter posts’ $H = 6.25$ (df = 2, N = 120), $p = .044$; and ‘This professor seems like she would be responsive to my needs’ $H = 5.81$ (df = 2, N = 120), $p = .05$. A Mann–Whitney $U$ test was then conducted and the differences were found to be between the social and scholarly groups (see Table 3).

**Perceived credibility relationships**

Perceived credibility increased depending upon how comfortable participants felt viewing the Twitter account ($r_s = .52$, $p = .000$) and whether they felt it was a good idea for college teachers to have Twitter accounts ($r_s = .30$, $p = .001$).

Age did play an important role in the study, and there were several weak negative correlations found. There was a significant negative correlation between how old the participant was and how credible they perceived the college teacher to be ($r_s = −.189$, $p = .039$). The older the student was, the less credible they considered the college teacher to be after viewing the Twitter account. Also, the older the student was, the less likely they were to think that it was a good idea for college teachers to have Twitter accounts ($r_s = −.232$, $p = .01$) and the less comfortable they were posting personal information on Twitter ($r_s = −.399$, $p = .015$).

**Hyperlinks**

Participants were asked how many hyperlinks they clicked while viewing the Twitter page. The average number of hyperlinks clicked was one out of the

<table>
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<tr>
<th>Statement</th>
<th>$M$</th>
<th>SD</th>
<th>$U$</th>
<th>$p$</th>
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</thead>
<tbody>
<tr>
<td>This professor seems caring.</td>
<td>5.58</td>
<td>1.36</td>
<td>309.50</td>
<td>.000</td>
</tr>
<tr>
<td>This professor conveys a feeling of goodwill.</td>
<td>5.58</td>
<td>1.13</td>
<td>400.00</td>
<td>.000</td>
</tr>
<tr>
<td>I got a good feeling about this professor after reading the Twitter posts.</td>
<td>5.54</td>
<td>1.20</td>
<td>556.50</td>
<td>.014</td>
</tr>
<tr>
<td>This professor seems like she would be responsive to my needs.</td>
<td>5.55</td>
<td>1.21</td>
<td>573.50</td>
<td>.024</td>
</tr>
</tbody>
</table>

Note: All responses were measured on a seven-point Likert scale.
five they could have possibly clicked. A majority, 59%, chose to not click on any hyperlinks. There were no differences found between any of the groups and how many hyperlinks the participants chose to click.

Types of information posted
Participants were asked if it was a good or bad idea for professors to have Twitter accounts that students can view. Participants were fairly evenly split, with 53% responding that it was a good idea and 47% indicating that it was a bad idea. Those who responded ‘no’ to this statement were given six reasons as to why it might be a bad idea, and those who answered ‘yes’ were given four reasons as to why it might be a good idea. They were asked to rate those reasons on a seven-point Likert scale. The reasons were generated from a pre-test administered to 15 students. These 15 students were asked an open-ended question about why having a Twitter account is a bad and/or a good idea for professors. Responses were analyzed for common themes and formed into a series of statements. The Wilcoxon matched pairs test was used to see if the means were significantly above or below the midpoint of four on the seven-point scale. For each question the responses were found to be significantly above the midpoint. See Tables 4 and 5 for the statements, means, SDs, and results of the Wilcoxon matched pairs test.

Table 4. Means and standard deviations for reasons as to why it is not a good idea for professors to have Twitter accounts.

<table>
<thead>
<tr>
<th>Question</th>
<th>M</th>
<th>SD</th>
<th>T</th>
<th>z</th>
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</tr>
</thead>
<tbody>
<tr>
<td>It is not a good idea for professors to have Twitter accounts that students can view because:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>It can decrease students’ respect for a professor.</td>
<td>5.15</td>
<td>1.62</td>
<td>159.00</td>
<td>−4.10</td>
<td>.000</td>
</tr>
<tr>
<td>It eliminates social boundaries between students and professors.</td>
<td>5.40</td>
<td>1.55</td>
<td>172.50</td>
<td>−4.67</td>
<td>.000</td>
</tr>
<tr>
<td>It is unprofessional.</td>
<td>4.91</td>
<td>1.51</td>
<td>172.00</td>
<td>−3.85</td>
<td>.000</td>
</tr>
<tr>
<td>Their account might display unprofessional content.</td>
<td>5.58</td>
<td>1.29</td>
<td>138.00</td>
<td>−5.56</td>
<td>.000</td>
</tr>
<tr>
<td>Students might not need to know about professors’ lives.</td>
<td>4.60</td>
<td>1.72</td>
<td>95.50</td>
<td>−2.44</td>
<td>.015</td>
</tr>
<tr>
<td>It harms a professor’s credibility.</td>
<td>4.71</td>
<td>1.47</td>
<td>126.00</td>
<td>−3.14</td>
<td>.002</td>
</tr>
</tbody>
</table>

Notes: All responses were measured on a seven-point Likert scale. The T, z, and p values all represent the results of the Wilcoxon matched pairs test.
Discussion

This study examined the impact of posting social, scholarly, and a combination of social and scholarly tweets to the popular social networking site Twitter and their impact on perceived teacher credibility. Results show a significant difference between the group that saw just the social tweets and the group that saw the scholarly tweets only. The group that saw only the social tweets rated the college teacher higher in perceived credibility than the group that saw only the scholarly tweets. No significant differences were found between the group that saw the combination of social and scholarly tweets and the other groups. These results support previous research that shows revealing personal information can increase a teacher’s perceived credibility (Brann, Edwards, and Myers 2005; Frymier and Houser 2000; Frymier and Thompson 1992; Hosek and Thompson 2009; Martin, Mottet, and Chesebro 1997; Mazer, Murphy, and Simonds 2007; McCroskey 1992; Myers and Bryant 2004; Schrodt and Turman 2005; Teven and Hanson 2004). The results of this study have implications for not only instructor self-disclosure but also for student learning. The results indicate that instructors should embrace these new opportunities to disclose information about themselves on social networking sites, as this could lead to increased perceived credibility. In turn, this increase in perceived credibility could carry over into the classroom in the form of increased student motivation, a greater interest in the material presented in the classroom, and a greater willingness to learn from the instructor (Frymier and Thompson 1992; Kugler 2008; Mazer, Murphy, and Simonds 2007).

It was surprising that there was no significant difference between the scholarly group and the social + scholarly group. Since the dimensions used to measure credibility have both a caring and a competence component, it was

<table>
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</thead>
<tbody>
<tr>
<td>It makes them seem more approachable.</td>
<td>6.03</td>
<td>.96</td>
<td>7.50</td>
<td>−6.84</td>
<td>.000</td>
</tr>
<tr>
<td>It makes them seem more human.</td>
<td>6.06</td>
<td>.90</td>
<td>7.25</td>
<td>−6.85</td>
<td>.000</td>
</tr>
<tr>
<td>It might allow the students to have a more personal relationship with the professor.</td>
<td>5.50</td>
<td>1.14</td>
<td>44.00</td>
<td>−6.25</td>
<td>.000</td>
</tr>
<tr>
<td>It shows they are up on the latest technology.</td>
<td>5.60</td>
<td>1.33</td>
<td>102.00</td>
<td>−5.81</td>
<td>.000</td>
</tr>
</tbody>
</table>

Notes: All responses were measured on a seven-point Likert scale. The T, z, and p values all represent the results of the Wilcoxon matched pairs test.
interesting to note that the scholarly tweets, which were included in the study to raise the teacher’s level of perceived competence, did not significantly raise competence ratings in the groups that saw the scholarly posts. This could be an indication that caring, not competence, is the most important dimension when it comes to assessing perceived credibility on social networking sites. Indeed, this would not be a radical departure from what previous studies have shown regarding the strong connection between caring and perceived credibility (McComb 1994; McCroskey 1992; Teven and Hanson 2004).

When participants in the study were asked why it is not appropriate for teachers to have social networking site accounts, many worried that they would not post appropriate information, thereby causing possible awkwardness in the student–teacher relationship. This feeling among participants supports previous findings that show it is important for teachers to disclose only appropriate information (Barber and Pearce 2008; Hosek and Thompson 2009; Mazer, Murphy, and Simonds 2007; McBride and Wahl 2005). While this study did not look at the impact of disclosing inappropriate information on Twitter and how this affects perceived credibility, this could be an area for future research.

It is interesting to note that those who reported feeling comfortable viewing the Twitter account in the study and who felt that it is a good idea for teachers to have social networking site accounts rated the college teacher in the study higher in terms of perceived credibility. It should be noted that while these correlations were significant, they were weak. These findings may suggest that reaching out to students who have a positive feeling about social networking sites may be a good idea; while trying to form a connection using these sites with a student who does not support the use of this technology may, in fact, hurt the student–teacher relationship.

Age was an interesting factor in this study. There were weak correlations between participants’ ages and time spent on Twitter and whether they felt it is a good idea for college teachers to have Twitter accounts. With increasing age of the participants, they were less likely to think it is a good idea for college teachers to have Twitter accounts, and they reported spending less time on Twitter. This could indicate that communicating via social networking sites with younger students may be more advantageous for the instructor than using these sites to connect with older students.

Previous studies indicate that hyperlinks can be important in helping users form judgments about online credibility (Fogg 2002; Johnson and Wiedenbeck 2009; Stewart and Zhang 2003). Hyperlinks did not appear to be a factor in this study. In fact, a majority of participants chose not to click on the hyperlinks at all. It could be that very few participants clicked on hyperlinks due to the experimental nature of the study and the fact that they did not know the college teacher.

Since the participants were viewing a Twitter account for a college teacher, they did not know this may have had an impact on the results. Future studies
may wish to explore the impact of Twitter posts on the perceived credibility of a teacher that students do know. Also, future researchers may wish to examine how social and scholarly posts impact perceived teacher credibility on other social networking sites.

In terms of limitations of the study, one limitation was that only students from a small college in the USA participated. If students from larger universities took part in the study, the results may be different. One of the attributes that students at smaller schools often prize is the ability to form close relationships with teachers; so this emphasis on the ‘caring’ dimension of the perceived credibility scale, as well as a possible predisposition to valuing the personal part of the student–teacher relationship, may have influenced the results. Also, the Twitter account in the study was created to be that of a female; future studies may wish to see if the results of the study would be different if a male profile was used.

Females were over-represented in this study, which is another limitation. While the male to female ratio in the study was proportionate to the male/female distribution at the institution where the study was conducted, it is not proportionate to society as a whole. This may have impacted the results, as females are generally perceived to be more caring and nurturing than males, and thus they may have prized the dimension of caring above the other dimensions on the three-item credibility scale. Also, previous literature indicates that there is a propensity for people to place more trust in those who are similar to themselves, as opposed to dissimilar (Byrne 1971; Cialdini 1993; Zimbardo and Leippe 1991). In this study, a female instructor name was used, so automatically the female participants may have trusted the author, thereby influencing their credibility scores on the items. This over-representation of females may impact the generalizability of these results.

Another limitation is that there was no way to tell if students were reading only the tweets allocated to them in their specific condition or if they were sharing and reading tweets that others in the study received. Since students read the tweets and answered the questions without supervision, it is possible that some sharing of tweets may have occurred, thereby impacting the results. The researcher is not aware that this type of sharing went on, but future researchers may wish to conduct this study in a supervised computer lab where a measure of control can be exercised.

Students who participated in the study were self-selecting, and this certainly could have impacted the results. It may be that only those who were very interested in social networking technologies ended up taking part in this study, which could have skewed the results more favorably in terms of instructors using social networking sites and their feelings toward the tweets they read. If this study is repeated, future researchers may want to try to specifically include students who are not as ‘connected’ to see what impact this has on the results.

The type of tweets posted was an aspect not explored fully in this study. The tweets posted in the social condition were very personal and represented
a strong sense of family. They were also presented in very conversational language … akin to language that students themselves might use. Tweets that were more neutral in nature in the social condition may have elicited a different response. An interesting study might investigate just the social condition and vary the types of tweets presented.

Conclusion
The idea of self-disclosure of information to build relationships shows up often in the literature (Hosek and Thompson 2009; McBride and Wahl 2005) and is something that social networking sites, like Twitter, have made very easy to do. No longer do teachers need to use class time to reveal bits of personal information about themselves: instead, this revelation of information can take place outside of class in a forum where students can choose whether to look at it. The nature of Twitter with its short updates, options to share pictures, and to easily post links may make it the ideal place to share information and carry on conversations with students outside of class. The use of social networking sites allows conversations to continue and can enrich a student’s perception of the teacher. As previous studies show, this personal communication can develop trust and lead to a productive learning environment (Bloom, Hastings, and Madaus 1971; Ellis 1999; Frymier and Houser 2000; Rodriguez, Plax, and Kearney 1996; Teven and Hanson 2004).

In conclusion, the results of this study confirm findings in previous studies that show sharing personal information with students can increase the perceived credibility of the instructor. This study has extended those findings to personal updates on the social networking site Twitter. This is a ripe area for further research as greater numbers of instructors choose to communicate with students outside of the classroom using social networking sites.

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Notes on contributor
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References
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Appendix.  Examples of tweets used in the study

**Social tweets**
Home with my daughter today, she isn’t feeling well :-(
Feeling good after an early morning swim at the rec center.
Jackson (our dog) is responding to his treatments well, we hope he’ll be running around and chasing rabbits again before long.

**Scholarly tweets**
A study from the Leichtman Research Group shows that DVRs are in 36% of households, but more than 90% of all TV viewing is done live.
Great video that explains Web2.0 (http://www.youtube.com/watch?v=6gmP4nk0EOE)
Working on a study about how social networking sites can be used in educational settings.

**Social/scholarly tweets**
I’m making a yellow cake with chocolate icing for my brother-in-law’s birthday, yummy.
Went bowling, yup, I’m still a bad bowler … but it’s fun :-)