DO STUDENTS EXPERIENCE "SOCIAL INTELLIGENCE," LAUGHTER, AND OTHER EMOTIONS ONLINE?

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ABSTRACT
Are online activities devoid of emotion and social intelligence? Graduate students in online and blended programs at Texas Tech University and the University of Memphis were surveyed about how often they laughed, felt other emotions, and expressed social intelligence. Laughter, chuckling, and smiling occurred "sometimes," as did other emotions (e.g., anticipation, interest, surprise). The capacities comprising social intelligence were also experienced "sometimes," but more frequently in online classes than in non-class-related online activities. The students were mostly likely to present themselves effectively and care about others and least likely to sense others' emotions. In a comparison of social intelligence capacities in the online course and other non-course-related but online activities (e.g., surfing and gaming), a paired *t*-test confirmed that the means were different ($p < 0.05$) and perhaps documented greater occurrence of social intelligence in the online course setting.

KEYWORDS
online learning, emotions, social intelligence

I. INTRODUCTION

In the debate over its effect on users, the Internet has been attributed with both freeing human kind to explore limitless information and dooming them to isolation and "social autism" [1, p. 8], where individuals are unable to empathize or understand others. This type of extreme language is also not uncommon among faculty who have yet to adopt online learning, so the question begs for an investigation that is open to exploring the actual facts rather than concluding that either only good or catastrophe must necessarily be the result of putting education online. It is important to explore what students in online courses are actually experiencing in terms of emotions such as laughter as well as Goleman's [1] social intelligence.

II. REVIEW OF LITERATURE

A. The Brain-Emotion Connection

Goleman [1] based his argument that online communications were unable to contribute to the individual's development of social intelligence on findings from neuroscience. He concluded that face-to-face communications were necessary to "create each other" [p. 5] with brain-to-brain linkages that shape emotional responses including the individual's sense of humor. Through the effect of mirror neurons, the joy or sadness of another is experienced with the same neurons as would fire if the event were to happen

to oneself. Email, for example, works against the individual's ability to perceive accurately the other's emotional state because the other person cannot be seen or felt, thereby muting empathy and perhaps providing an explanation of the "online disinhibition effect" [2], which occurs when one does not deal face-to-face with the effects of one's rudeness and may explain the prevalence of "flaming" and verbally lambasting another in the online environment. The importance of humor is also especially critical, as humor is a "social bond" [1, p. 45] between individuals, as is smiling and laughter. This explains, in part, why technology is cast in such dramatic terms by Goleman [1, p. 7] as isolating, insidious, and creating "social and emotional costs."

Small and Vorgan [3] address a similar set of themes focusing on the impact of technology on the brain and the likely alterations in brain function on human abilities. They note that young people immersed in technology have poor development of social skills, direct communication skills, and ability to read nonverbal cues occur [p. 116]. In fact, heavy Internet use leads to "psychological consequences" such as "loneliness, confusion, anxiety, depression, fatigue, and addiction" [p. 117] and may create a "social and emotional distancing" [p. 117] from friends and families.

While the current study does not attempt to study the brains of students in online coursework nor study the development of social intelligence *per se*, it has a more basic purpose. That is, it can and does focus on the expression of the emotions considered so essential to the development of social intelligence [1] and social and emotional connection [3]. Of particular interest will be assessing students' ability to express laughter or smiling when online, to feel other emotions, as well as to express the capacities intended to connect with others through one's social intelligence.

B. Capacities of Social Intelligence

To determine if Goleman [1] is correct and social intelligence cannot be expressed in the online setting, we must find a way ask online students relevant questions that capture elements of social intelligence. To do so requires an understanding of the separate "capacities" of social intelligence, which in Goleman's [1, p. 84] conceptualization, is captured by two broad categories (social awareness and social facility) and four capacities for each category. The definitions of these capacities are:

- Social Awareness:
  - Primal empathy: Feeling with others; sensing non-verbal emotional signals.
  - Attunement: Listening with full receptivity; attuning to a person.
  - Empathic accuracy: Understanding another person's thoughts, feelings, and intentions.
  - Social cognition: Knowing how the social world works.
- Social Facility:
  - Synchrony: Interacting smoothly at the nonverbal level.
  - Self-presentation: Presenting ourselves effectively.
  - Influence: Shaping the outcome of social interactions.
  - Concern: Caring about others' needs and acting accordingly.

More information is provided on the instrument development process in the methodology section. However, to complete the review of literature, the research that has been conducted on online education will be reviewed for topics connected to social intelligence, such as the expression of emotions.

C. Online Education and Research into Emotions

This section will move from a general discussion of emotions and learning to a more specific review of the research literature on emotions in online learning. First, however, philosophers and psychologists have attempted to explain the sources and expressions of emotions, from bodily responses [4], to adaptive responses for survival [5], to motivations to act [6]. Others, trying to define emotions more precisely, characterize emotions as more specifically moods or feelings; these distinctions, although valuable, were not considered in this research because research subjects may not be able to quickly grasp such fine distinctions. In other words, emotions are various and variously conceived, something "everyone knows"

but cannot define specifically.

What is intriguing about emotions and learning is their assumed secondary or supportive role to learning. Learning has traditionally emphasized cognition (how people think) and "underplay or overlook the dominant impact of affective (how people feel) . . . factors on thinking, learning, and performance" [7, 5). Even when it is clear that such emotions as motivation, frustration, and enjoyment may influence learning, it remains difficult for some individuals to accept the importance of emotions to the educational experience.

The research on emotions in online learning, while not as robust as other areas of research, has received consistent attention. Emotions or affective responses have been included in formal evaluations [8] including questions about the students' emotions, feelings, and mood, as well as instances of humor as well as [9], who interviewed online learners and found many emotions being expressed (from fear and frustration to pride and enthusiasm). Humor and laughter have been more fully researched. Stambor [10], Shatz and LoSchiavo [11], Hübler and Bell [12], Anderson [13], Bacay [14], O'Regan [15], and Taylor, Zeng, Bell, and Eskey [16] are just some of the researchers and online teaching experts who have studied and advocated the use of humor in the online course. Humor has been touted as an aid to student learning [10], bringing life to online instruction [11], building ethos through use of emails [12], removing distance and increasing student motivation to participate in online discussions [13]. It makes learning more palatable and enjoyable [14], based on individual and different tastes for what is funny [15]. Humor is a social lubricant [11], makes the instructor seem friendlier [15], and can support the instructional purpose [15]. However, humor should also avoid offending students or becoming too critical of others [15]. Humor can be used to underscore a point or say something serious and therefore can be an effective instructional tool.

While laughter is more likely to occur when humans are with others in a face-to-face setting [16], the above researchers seem to indicate that humor and laughter are possible online, albeit less boisterous than the face-to-face kind. Johnson [17] asserts that virtual communication "may artificially dampen laughter that would otherwise be generated in a face-to-face encounter" (p. 129). These types of statements stress the differences between laughter or humor in the face-to-face and online settings, which this research does not intend to settle. However, such statements do confirm the perception that (despite the research literature above), laughter online is "less than."

> Putting smiley faces into email to supplement the lack of verbal intonation helps convey when you're trying to be funny, but because the recipient of your [email] message is still alone when reading it, she won't be likely to laugh out loud, and that suppressed laughter will make a difference. The memory will be happier – and consequently stronger–if she laughs [17, p. 129].

This research study is a first step in assessing whether laughter occurs in online classes or in other online settings among graduate students.

Astleitner [18] developed an instructional design approach (FEASP, for Fear, Envy, Anger, Sympathy, and Pleasure) that supports 20 instructional approaches that increase positive and decrease negative emotions. In the opinion of college students, the most important emotions were fear (41.5%), pleasure (45.3%), and motivation (60.4%). Carmody and Berge [19] also specifically include emotions as part of their design of four online learning models: student-centered, subject-centered, teacher-centered, and teaching-centered.

Studies on emotions in online learning have focused on specific emotions, such as intimacy, play, and pride/shame [20], fear and alienation [21], anxiety [22], engagement and confusion [23], and distress [24]. Other studies have focused on specific populations, such as adults whose emotions changed during the semester of their online course [25]. Some studies focus on emotions of different types, such as self-directed emotions, task-directed emotions, emotions directed at the technology [26], or emotions expressed about discrimination or cultural diversity online [27]. Other studies focus on specific technologies, such as the use of simple email to provide social support to students and lower emotional or avoidance behaviors [22, 28]. Emotional intelligence [29] has also been studied for its prediction of

online success [30]; emotional intelligence was correlated (r=.67) with resilience and explained 11 percent of the variance in grade point average (GPA). This is not a high percentage, but it demonstrates a modest relationship between emotional intelligence and academic achievement. The need for more studies of different types is clearly indicated, as the importance of emotions to online learning still needs to be proven and practical, but research-based solutions to designing and delivering courses that attend to emotions need to be developed.

D. Research Questions

Based on the literature review that has been presented, five research questions were developed to explore the experiences of online students as they relate to emotions such as laughter and the capacities of social intelligence. Since this research may be one of the first to explore these issues within the framework of social intelligence, any findings will need to be confirmed by further research.

1. How often do graduate students in online courses respond with laughter, chuckling, or smiling?
2. How often do graduate students in online courses experience emotions?
3. How often do graduate students in online courses experience the capacities of "social intelligence?"
4. How often do graduate students doing non-class-related online activities experience the capacities of "social intelligence?"
5. Are there differences in the frequency of "social intelligence" capacities between the two settings (online courses versus non-course-related but online activities)?

III. METHODOLOGY

A. Research Design

A survey research design was chosen for this study to begin to explore the relationships between emotions and social intelligence for students taking courses online. It used Likert-scale ratings about frequency of occurrence of specific emotions and capacities tied to social intelligence.

B. Settings

This research draws upon the students admitted and enrolled in two graduate-level programs in higher education. Because it was important to ensure that students had extensive experiences with online learning, it was decided to focus on students enrolled in primarily online or heavily blended courses or programs. Two such programs were found. First, Texas Tech University (TTU) offers four graduate-level programs, a blended Ed.D. and Ph.D. in higher education, as well as an online Ed.D. program in higher education with a community college administration emphasis. TTU also offers a blended Master's of Education in Higher Education and Student Affairs. The program defines *blended* as one or more classes taken through distance technologies. In any case, all TTU students have experienced fully online courses in their degree programs, and so are suitable for inclusion in this study. Second, the University of Memphis offers three graduate-level programs online, a Master of Science in Leadership and two Ed.D. programs in Adult Education and in Higher Education. While the institutions are different, they share similarities. Both are located in the southern region of the U.S., with Texas Tech University in the southwest and University of Memphis in the southeast. Both universities' higher education programs enroll primarily adult, working professionals, many of whom work full-time in positions within higher education institutions. Both are large, publically-supported research institutions, offering degrees at the undergraduate and graduate levels. Both are developing online programs to serve a larger state and regional student population.

C. Sample and Population

During fall 2011, when this research was conducted, the population of graduate students in the online and blended graduate programs at Texas Tech and the University of Memphis totaled 172 students. The final sample included responses from 67 students for a combined 39% response rate. Table 1 presents a profile

of the sample in comparison to the population of both programs together based on gender and ethnicity.

	Sample		Population	
Gender				
Female	42	62.6%	94	55.0%
Male	25	37.3%	77	45.0%
Ethnicity				
African American	7	10.4%	34	19.8%
Asian	2	3.0%	2	1.2%
Hispanic *	2	3.0%	16	9.3%
Caucasian	56	83.6%	120	69.8%

Table 1. Sample versus Population in Fall 2011
*Includes Latino, Mexican-American, etc.
SOURCES: Higher Education Program Data, Texas Tech University, and Office of Institutional Research, University of Memphis

In addition, the students ranged in age from 20-29 (23.5%), 30-39 (35.3%), 40-49 (23.5%), and 50+ (17.6%), placing our sample clearly within the adult student category. Based on the data on gender and ethnicity, the sample was 7.6% more female and 13.8% more Caucasian. Therefore, based on the profile in Table 1, we can claim the sample is relatively representative of the population of students admitted to our graduate programs and that they are primarily adult, working professionals.

The Institutional Review Boards of both institutions granted approval to conduct this research. Because the research used SurveyMonkey.com for collecting the data and no identifying information was collected in the survey, individuals in the sample were assured anonymity.

D. Instrument Development

Prior to the research being initiated, the first author brainstormed several items based on the literature on emotions, including questions about humor as well as the capacities comprising social intelligence. Three demographic questions (gender, age in 10-year periods, and race/ethnicity) were included for the sole purpose of assessing whether the final sample was an accurate representation of the population. Because the focus was the frequency that certain emotions or capacities occurred, all items were to be assessed by a Likert-style scale, with the descriptors (and codes) being "not at all" coded as one, "rarely" coded as two, "sometimes" coded as three, "frequently" coded as four, and "all of the time" coded as five. This coding allowed both a mean to be calculated as well as the frequency of responses to be reported.

In order to assess whether students had experienced humor online, three versions of the question were asked about laughing, chuckling, and smiling to oneself. Students were asked to answer based on performing three different activities: reading a blog or website, reading an online discussion for class, and reading an email from a friend or colleague. These situations were chosen in an attempt to explore differences (if any) between humor when reading something for class (blog; online discussion) or for a personal relationship (email from a friend or colleague).

To capture students' feelings or emotions, a set of questions asked them to assess the extent to which nine statements described themselves:

- I look forward to logging into class discussions;
- When I'm away from class, I wonder what other students have posted;
- Other students post interesting comments;
- When I read online discussions, some students make me angry;
- One of the first things I do in the morning is check the class discussion board;
- I am often surprised by how other students think;
- I like sharing jokes over email with my friends;
- I think I am funny online; and

- I think other students are funny online.

The purpose of this set of items was to ascertain students' feeling state without obviously doing so; therefore, the items use or imply emotional states ("look forward," "wonder," "interesting," "angry," "first things" or anticipation, "surprised," "like," and "funny"). This was done to capture words and emotional states that students could easily recognize and find relevant (or not); the intent was to capture relatively simple emotional states rather than make fine psychological distinctions.

In order to assess social intelligence, the capacities identified by Goleman [1] were paired with descriptions of the capacity gleaned by careful reading of Goleman's text and operationalized into a single item. It was decided to rely on single items (one per social intelligence capacity) to keep the survey instrument a reasonable length so that more students would be encouraged to complete it. This may be seen as a limitation since it eschews use of multiple items for each capacity that would increase confidence in a result that claims to capture a capacity. Given the complexity of the lives of students in the sample, which include full-time employment, family obligations, and completing a graduate program, this seemed to be a reasonable compromise. The capacity and the instrument item are displayed in Table 2.

Capacity	**Instrument Item**
Social Awareness	
Primal empathy: Feeling with others; sensing non-verbal emotional signals	Sense others' emotions online
Attunement: Listening with full receptivity; attuning to a person	Listen (or read) others' postings with full attention
Empathic accuracy: Understanding another person's thoughts, feelings, and intentions.	Understand the other person's thoughts, feelings, and intentions
Social cognition: Knowing how the social world works.	No item
Social Facility	
Synchrony: Interacting smoothly at the nonverbal level.	Exchange your thoughts smoothly with others
Self-presentation: Presenting ourselves effectively.	Present yourself (who you are) effectively
Influence: Shaping the outcome of social interactions.	Shape the outcome of interactions with others
Concern: Caring about others' needs and acting accordingly	Care about others' needs and act accordingly

Table 2. Social Intelligence Capacity and Instrument Item

Two items bear further justification. No item for "social cognition" was developed because it seemed to capture a capacity, while important, that would either require multiple items or be perceived as too personal or intrusive by students. The item for "synchrony" asks about exchanging thoughts while the capacity dealt with nonverbal behavior; since nonverbal behavior is undetectable in most online settings, this adjustment seemed necessary. All of these items were asked about two conditions: (1) when the student was logged into the class website, and (2) when the student was "surfing or gaming or looking for information (that was not class related)." These two sets of questions assess whether expression of the participants' capacities were different in class and non-class settings.

A draft version of the instrument was then pilot-tested with three graduate students who were asked to complete the instrument but also to identify questions that were not clear or confusing. A revision of the instrument was undertaken at this stage. The instrument was created within the SurveyMonkey.com site and was reviewed by the second author for accuracy and readability.

Given that both the pilot test (n = 3) and the sample (n = 67) are small in size, interpretations deriving from the use of this instrument should be made with caution until further replication studies can be completed.

E. Data Collection

Both institutions create email listservs comprised of students admitted into a degree program that are used by faculty and/or administrators wishing to communicate to all students; these email programs are available to the author located at the respective institution. In early September 2011, emails were sent by the authors inviting the students enrolled in their institution's programs to participate in the study and providing them with the link to the SurveyMonkey site. After two weeks, a follow-up email was sent to thank individuals who had completed the survey and to invite remaining students to participate in the study; this email also provided a deadline for completing the survey of one week thereafter.

Once the SurveyMonkey site was closed, data were downloaded and printed for analysis. Data were also imported into SPSS version 14 for statistical analysis to answer research question 5.

F. Data Analysis

Research question 1, "How often do graduate students in online courses respond with laughter, chuckling, or smiling?" was answered by reporting the frequency and means of three items as applied to different situations (reading a blog, online discussion, an email). Research question 2, "How often do graduate students in online courses experience emotions?" was answered by reporting the frequency and means of nine items.

Research question 3, "How often do graduate students in online courses experience the capacities of social intelligence?" was answered by reporting the means and frequencies of seven items. Research question 4, How often do graduate students doing non-class-related online activities experience the capacities of "social intelligence?" was also answered by reporting the means and frequencies of seven items. However, research question 5, "Are there differences in the frequency of "social intelligence" capacities between the two settings (online courses versus non-course-related but online activities)?" was assessed by one-sample *t*-tests comparing the means of each paired items. Given the small sample size, a *p* value of 0.05 was used.

G. Assumptions and Limitations

The validity of survey research depends on several assumptions. First, we must assume that participants in the survey answered honestly and did not attempt to answer as they think they ought. Given that the survey was sent out to all graduate students enrolled in higher education programs at both universities, the likelihood that participants responded as if a course grade would be affected is minimized and the anonymity assured by using SurveyMonkey would ensure their responses could not be identified as their own. Second, we must assume that participants can reflect and remember their experiences while online, even if what happened may be days or weeks in the past. Third, we must assume that participants are sufficiently self-aware to recognize their own emotions and capacities accurately, even if they would not use this language to describe themselves.

This research has two limitations. First, as noted earlier, the instrument requires further testing on larger samples. Second, the findings may not be generalizable to graduate students at other universities or students in other more traditionally delivered educational programs.

IV. RESULTS

A. Laughter, Chuckling, or Smiling in Online Courses

The results of the three questions about laughter, chuckling, and smiling to oneself were used to address research question 1 and are reported in Table 3. It is fair to conclude from the means that "sometimes" was the most frequent response. Two trends can be detected by reviewing differences in the means by a) type of response (laughter, chuckling, smiling) and b) type of activity (reading blog, online discussion, email from a friend). First, the responses are graduated, with smiling happening more frequently than chuckling and chuckling more frequently than laughter. These differences make sense as more overt behavior (such as laughter) happens less often than a more gentle smile or chuckle. Second, reading

online discussions for class consistently elicited fewer responses of laughing, smiling, or chuckling than reading an email from a friend or colleague. This response also makes sense as students are hopefully more serious when involved in class-related activities.

Activity	Never	Rarely	Sometimes	Frequently	All of the time	Mean
To what extent have you laughed out loud when you						
Read blog or website	3.5%	12.3%	49.1%	31.6%	3.5%	3.19
Reading online discussion for class	10.5%	28.1%	45.6%	8.8%	7.0%	2.74
Read email from friend/colleague	1.8%	7.1%	33.9%	46.4%	10.7%	3.57
To what extent have you chuckled to yourself when you						
Read blog or website	3.5%	7.0%	40.4%	45.6%	3.5%	3.39
Read online discussion for class	5.3%	28.1%	43.9%	19.3%	3.5%	2.88
Read email from friend/colleague	0.0%	5.5%	36.4%	49.1%	9.1%	3.62
To what extent have you smiled to yourself when you						
Read blog or website	1.8%	0.0%	42.1%	43.9%	12.3%	3.65
Read online discussion for class	5.3%	19.3%	40.4%	24.6%	10.5%	3.16
Read email from friend/colleague	0.0%	0.0%	31.6%	50.9%	17.4%	3.86

Table 3. Frequency of Emotions While Online (n = 57)

B. Other Emotions in Online Courses

Table 4 presents the frequencies and means for the other emotions that might be expressed during an online class, which were used to address research question 2. Again, all of the means seem to capture an average of "sometimes," or that these emotions occur sometimes in the class. The two emotions with the highest means were "interest" and "surprise," and the lowest mean captured "anger."

Activity	Never	Rarely	Sometimes	Frequently	All of the time	Mean
I look forward to logging into class discussions	5.3%	28.1%	42.1%	21.1%	3.5%	2.89
I wonder what other students have posted	8.8%	24.6%	31.6%	26.3%	8.8%	3.02
Other students post interesting comments	14.0%	33.3%	49.1%	1.8%	1.8%	3.23
When reading online discussions, some students make me angry	14.0%	33.3%	49.1%	1.8%	1.8%	2.44
One of the first things I do in the morning is check class discussions	14.0%	29.8%	24.6%	22.8%	8.8%	2.82
I am often surprised by how other students think	1.8%	14.0%	63.2%	14.0%	7.0%	3.11
I like sharing jokes over email with friends	15.8%	29.8%	31.6%	15.8%	7.0%	2.68
I am funny online	15.8%	26.3%	42.1%	14.0%	1.8%	2.60

Other students are funny online	5.3%	21.1%	59.6%	12.3%	1.8%	2.84

Table 4. Emotions that Describe the Student (n = 57)

C. "Social Intelligence" Capacities in Online Courses

Table 5 presents the frequencies and means for capacities tied to social intelligence, which were used to address research question 3. Three insights result from careful review of these figures. First, all of the means place the frequency of the capacities in the "sometimes" category. Second, the highest means are for "present yourself (who you are) effectively" and "care about others' needs." Perhaps the ability to present oneself effectively is the result of these adult students' professional experiences, which may demand and depend upon these skills. Third, the lowest mean is for "sense others' emotions," which is more difficult to do online, although one can detect emotion through word choice and emphasis in writing, but this may not be how the participants interpreted "sense." This is an area that requires further elaboration in a future study.

Activity	Never	Rarely	Sometimes	Frequently	All of the time	Mean
To what extent do these qualities apply to you?						
Sense others' emotions	0.0%	17.9%	55.4%	26.8%	0.0%	3.09
Read others' postings with full attention	0.0%	7.1%	41.1%	42.9%	8.9%	3.54
Understand others' thoughts, feelings, and intentions	0.0%	5.4%	39.3%	53.6%	1.8%	3.52
Exchange your thoughts smoothly	1.8%	5.4%	30.4%	62.5%	0.0%	3.54
Present yourself (who you are) effectively	0.0%	5.4%	30.4%	60.7%	3.6%	3.63
Shape outcome of interactions with others	0.0%	10.7%	58.9%	28.6%	1.8%	3.21
Care about others' needs and act accordingly	0.0%	7.3%	29.1%	50.9%	12.7%	3.70

Table 5. Elements of Social Intelligence When Logged into the Class Website (*n* = 57)

D. "Social Intelligence" Capacities in Non-Class-Related Online Activities

Table 6 presents the frequencies and means for the capacities of social intelligence expressed during online, but non-class-related activities such as surfing, gaming, or looking for information, which were used to address research question 4. Four insights are possible by reviewing Table 6 and then comparing it to Table 5. First, all means are clearly (and consistently) in the "sometimes" category. Second, the highest means are the same as for the online class (in Table 5): "present yourself (who you are) effectively" and "care about others' needs." This finding implies that perhaps the participants are consistent in their strongest capacities, irrespective of where they are applied (in class or not). Third, the lowest mean is (again) for "sense others' emotions," which makes sense in an online environment as noted above. Fourth, however, is an intriguing difference between the means for capacities in online classes (Table 5) and the means for non-class online activities (Table 6). In every capacity but one, the mean for capacities of social intelligence are higher when participants think about their online course experience than when remembering their experience engaged in non-class online activities. This may mean that they are conscious of bringing their social intelligence to a class, whether online or not, where interactions with others are a requirement of the class and of learning. The one capacity that is nearly the

same irrespective of setting is "present oneself," which may capture these adult students' consistency of character and personality.

Activity	Never	Rarely	Sometimes	Frequently	All of the time	Mean
To what extent do these qualities apply to you?						
Sense others' emotions	3.6%	26.8%	37.5%	30.4%	1.8%	3.0
Read others' postings with full attention	1.8%	10.7%	48.2%	37.5%	1.8%	3.27
Understand others' thoughts, feelings, and intentions	3.6%	17.9%	42.9%	33.9%	1.8%	3.13
Exchange your thoughts smoothly	5.5%	10.9%	45.5%	38.2%	0.0%	3.16
Present yourself (who you are) effectively	5.4%	8.9%	39.3%	44.6%	1.8%	3.64
Shape outcome of interactions with others	3.6%	21.4%	42.9%	30.4%	1.8%	3.05
Care about others' needs and act accordingly	0.0%	17.9%	32.1%	44.6%	5.4%	3.38

Table 6. Elements of Social Intelligence When Surfing, Gaming, or Looking for Information (Not Class Related) (n = 57)

E. Differences in "Social Intelligence" Capacities Between Online Courses and Non-Class Activities

A paired t-test was calculated to compare the means of the seven items included in Tables 5 and 6, with the results used to address research question 5. The t was 3.96, df = 6, p = 0.007, which confirms that the differences in means for the two settings were statistically different. This means that the social intelligence capacities for the two settings–the online class versus non-class-related but online activities of surfing, gaming, and looking for information–were quite different. Perhaps this is an indication that these participants do distinguish between settings (whether in class or not) in the use of social intelligence, and they know when to use social intelligence skills (such as an online class) and when the skills are less essential.

V. DISCUSSION

There is ample evidence that these participants are experiencing emotions at least some of the time online. They are responding with laughter or a smile, even if no one can see it or ask "what's funny?" They are more serious in online class discussions, but they do occasionally find themselves chuckling at some remark. This is also true–again, some of the time–for a range of emotions (from "interest" to "surprise") while engaged in their online coursework. They also seem to know that class requires more social intelligence than other online activities. It is fair to conclude that they do not seem emotionless or autistic as Goleman [1] supposed.

It may be that our participants, all adults and professionals working at positions of responsibility in colleges and universities, already benefit from brains and emotions that were fully formed before taking their courses online. Their capacities for social intelligence were already in place, developed by many years of interacting with family members and dealing with a variety of work challenges. Whether the experience of taking courses online affected their social intelligence in a negative manner is still open, but we suspect that when one's employment responsibilities involve mostly face-to-face problem-solving with students and staff in colleges and universities, the online experience may have little effect on one's development of (or diminishment) social intelligence.

Another consideration in interpreting the results of this study is that the participants are enrolled in either online or blended programs. Those enrolled in blended programs may have developed relationships with

their classmates outside of the online environment, perhaps within a face-to-face course, or as professional colleagues. Having prior knowledge of an individual could provide an inherent understanding of that individual's personality, which could provide a foundation or context to help interpret the meaning of the comments made within online discussions or emails, which could influence the emotional reaction of the reader.

The data provide some evidence that the participants "take themselves online," transferring what they know about working with others into the online coursework and presenting themselves consistently and effectively. In other words, the online course is not as open to participants' adopting a persona or virtual self as perhaps other online environments such as gaming or other virtual, but non-class-related environments.

It is intriguing that the capacities for social intelligence were more evident – to be precise, more frequently in evidence–in the online course rather than while surfing or gaming. This may imply either that the participants take a consistent self online, but it may also mean that they take their social intelligence online and do not withhold this intelligence because the people are not dealt with in real-time or face-to-face. This also may mean that when surfing, they realize that their social intelligence skills are not as important and need not be used as frequently or consistently as in class. If this finding holds up in future research studies, then it may imply that teachers of online courses can depend upon students' social intelligence skills being applied in the educational setting and students realize (if unconsciously, perhaps) that online courses require them to bring their social intelligence skills into play.

The research has left us with several unanswered questions. Is Goleman [1] correct to worry about online experiences leading to depression and isolation, or is this for only very young students or those who spend all their time online? We suspect that students who have family and job responsibilities may offset this effect, if it exists, so perhaps there is little cause to worry. Future studies should investigate how exactly students express emotions and humor in their online courses and other settings as well as describe the context for the occurrence of smiling or laughter. In other words, a next step of this line of research might usefully explore the situation wherein an emotion was experienced; this may enlighten our understanding of what conditions create laughter (a humorous comment by a student, a funny teaching story of the faculty, or something purely personal and idiosyncratic?) To do so, researchers should not rely on their memory of online class experiences; this line of research might usefully depend on course transcripts of online activities and discussions. While this study did not look for the "Internet disinhibition effect" [2], its findings suggest that developing the capacities for social intelligence might prevent disinhibition from occurring in the online setting, although this requires further research. We need a better understanding of how people–all types of people–go online and feel emotion, including laughter and anger. We need to know whether social intelligence can be taught or developed online and how it can be practiced or supported in online settings.

It may be that the relationship of technology and social intelligence may be more complex than is commonly proposed by the advocates and critics. Heilbrun [31] wrote about her discovering email in her 60s that email "is the perfect way to encounter the world outside one's own private domain" [p. 58]; it is instantaneous and spontaneous, and allows individuals to reveal only what they want about themselves, not intrusive (as in the sense of a phone call that interrupts what the other is doing). Perhaps her experience is but the enthusiasm of an individual finding a new way to communicate with friends and colleagues, but it also reveals an appreciation for a communication tool that was not possible before the Internet. Email is not perfect, of course; Heilbrun did not live long enough to see her inbox filled with ads for sexual enhancements and requests for money, so she may have tempered her initial positive view of email. But her first enthusiasm for email reminds us that technologies often bring both good and bad to the user and that how we respond and who we are may be the best key to determining whether we will be harmed or aided by the new tool. For instance, perhaps the socially intelligent can maintain their capacities even when online, adjust to the problems of online discourse with greater ease, and find solutions that are positive to most of the users. Perhaps their online experiences can bring new depth or understanding of others who share our human experience. Perhaps the development of social intelligence

can be aided by bringing different people together across great distances, as in an online class. These are all testable hypotheses, and it is well worth extending the current research to answer these questions.

VI. ABOUT THE AUTHORS

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VII. REFERENCES

1. **Goleman, D.,** *Social intelligence*, New York: Bantam Books, 2006.
2. **Suler, J. "**The online disinhibition effect" (2004). http://www-usr.rider.edu/~suler/psycyber/disinhibit.html.
3. **Small, G., and Vorgan, G.,** *Surviving the technological alteration of the modern mind*, New York: Collins Living, 2008.
4. **James, W.,** *What is emotion?,* 1884. http://psychclassics.yorku.ca/James/emotion.htm.
5. **Darwin, C.,** *The expression of emotions in man and animals*, Chicago: The University of Chicago Press, 1965.
6. **Barbalet, J**., *Emotion, social theory and social structure*, Cambridge: Cambridge University Press, 1998.
7. **Martinez, M.** "Beyond classroom solutions: New design perspectives for online learning excellence." *Educational Technology & Society* 5(2) (2002). http://ifets.ieee.org/discussions/discuss_january2002.html.
8. **Stacey, E., and Rice, M.** "Evaluating an online learning environment." *Australian Journal of Educational Technology* 18(3): 323-340 (2002).
9. **O'Regan, K.** "Emotion and e-learning." *Journal of Asynchronous Learning Networks* 7(3): 78-92 (2003).
10. **Stambor, Z.** "How laughing leads to learning." *APA Online* 37(6) (2006).
11. **Shatz, M.A., and LoSchiavo, F.M.** "Bringing life to online instruction with humor." *Radical Pedagogy* 8(2) (2006). http://radicalpedagogy.icaap.org/content/issue8_2/shatz.html.
12. **Hübler, M.T., and Bell, D.C.** "Computer-mediated humor and ethos: Exploring threads of constitutive laughter in online communities." *Computers and Composition* 20(3): 277-294 (2003).
13. **Anderson, D.G.** "Taking the 'distance' out of distance education: A humorous approach to online learning." *Journal of Online Learning and Teaching* 7(1) (2011). http://jolt.merlot.org/vol7no1/anderson_0311.htm.
14. **Bacay, S.C.** "Humour in the classroom – A dose of laughter won't hurt." *CDTLink* 10(1) (2006). http://www.cdtl.nus.edu/sg/link/mar2006/tm3.htm.
15. **Taylor, C., Zeng, H., Bell, S., and Eskey. M.** "Examining the do's and don'ts of using humor in the online classroom." *TCC 2010 Proceedings, 2010* (1): 31-46 (2010). http://etec.hawaii.edu/proceedings/2010/Taylor.pdf.

16. **Jamison, K.R.,** *Exuberance,* New York: Vintage, 2004
17. **Johnson, S.,** *Mind Wide Open,* New York: Scribner, 2005.
18. **Astleitner, H.** "Designing emotionally sound instruction: An empirical validation of the FEASP-Approach." *Journal of Instructional Psychology* 28(4): 209-219 (2001).
19. **Carmody, K., and Berge, Z.** "Elemental analysis of the online learning experience." *International Journal of Education and Development Using Information and Communication Technology* 1(3): 108-119 (2005).
20. **Gilmore, S., and Warren, S.** "Emotion online: Experiences of teaching in a virtual learning environment." *Human Relations* 60(4): 581-608 (2007).
21. **Wegerif, R. "**The social dimensions of asynchronous learning networks." *Journal of Asynchronous Learning Networks* 2(1): 34-49 (1998).
22. **Ng, K**. "Using e-mail to foster collaboration in distance education." *Open Learning* 16(2): 191-200 (2001).
23. **Shen, L., Wang, M., and Shen, R.** "Affective e-learning: Using 'emotional' data to improve learning in pervasive learning environment." *Educational Technology & Society* 12(2): 176-189 (2009).
24. **Hara, N., and Kling, R.,** *Students' distress with a web-based distance education course: An ethnographic study of participants' experiences*, Bloomington, IN: Indiana University, 2000.
25. **Zembylas, M.** Adult learners' emotions in online learning. *Distance Education* 29(1): 71-87 (2008).
26. **Wosnitza, M., and Volet, S**. "Origin, direction and impact of emotions in social online learning." *Learning and Instruction* 15: 449-464 (2005).
27. **Zembylas, M.** "Engaging with issues of cultural diversity and discrimination through critical emotional reflexivity in online learning." *Adult Education Quarterly* 59(1): 61-82 (2008).
28. **Heiman, T.** "The effects of e-mail messages in a distance learning university on perceived academic and social support, academic satisfaction, and coping." *The Quarterly Review of Distance Education* 9(3): 237-248 (2008).
29. **Goleman, D.,** *Emotional intelligence*, New York: Bantam Books, 1995.
30. **Berenson, R., Boyles, G., and Weaver, A.** "Emotional intelligence as a predictor for success in online learning." *International Review of Research in Open and Distance Learning* 9(2) (2008). http://www.irrodl.org/index.php/irrodl/article/view/385/1049.
31. **Heilbrun, C.,** *The last gift of time*, New York: Ballantine Books, 1998.