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Article abstract

As students increasingly opt for online classes, it becomes more important for administrators to predict levels of potential academic success. This study examined the intrinsic factors of emotional intelligence (EI) and personality to determine the extent to which they predict grade point average (GPA), a measure of academic success, among students attending community college. Stepwise multiple regression revealed that EI emerged as the most significant direct predictor of GPA. The addition of personality to EI significantly increased the amount of variance accounted for in GPA. Main conclusions are that soft skills are pertinent to academic success and may constitute a useful profile of the successful online student that could be applied to marketing, advisement, quality assessment, and retention efforts.

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Abstract

As students increasingly opt for online classes, it becomes more important for administrators to predict levels of potential academic success. This study examined the intrinsic factors of emotional intelligence (EI) and personality to determine the extent to which they predict grade point average (GPA), a measure of academic success, among students attending community college. Stepwise multiple regression revealed that EI emerged as the most significant direct predictor of GPA. The addition of personality to EI significantly increased the amount of variance accounted for in GPA. Main conclusions are that soft skills are pertinent to academic success and may constitute a useful profile of the successful online student that could be applied to marketing, advisement, quality assessment, and retention efforts.

Keywords: Online student success; online learning; emotional intelligence; personality; persistence; characteristics of online learning

Introduction

Innovative delivery technologies have expanded the traditional classroom setting to distance or online learning, but whether the characteristics of students who are successful in the traditional classroom setting transfer to success in online classes is unknown. Online education has experienced astronomical growth since the 1990s (Gallagher, 2002; Perreault, 2004) although the benefits of online education do not necessarily correlate with the acquisition of knowledge (O'Malley & McCraw, 1999).

Students perceive online learning as beneficial in time saved (the ability to take more courses) so they increasingly opt for online courses, raising the question of whether student experience in the

traditional classroom provides them with the same academic readiness for online courses. In the traditional classroom setting, where learning is based on face-to-face human interaction, student success is grounded on the instructor's ability to perceive nonverbal student cues, modify instructional methods accordingly, and provide timely answers to student questions. In the online environment, face-to-face human interaction and its commensurate benefits are absent. Instead, the written word is the communication tool. Because of this difference, students' technological expertise, unmet needs for human contact, lack of self-motivation, or feelings of isolation can deter success in online courses (Hill & Rivera, *n.d.*).

Whereas identifying and resolving student characteristics that contribute to online failure prior to enrollment would enhance student success (Timmons, 2004), the literature regarding the profile of successful online learners is relatively recent and anecdotal rather than empirical (Wang & Newlin, 2000). Administrators and instructors have limited data for predicting academic success in the online format. Students have limited data for predicting whether online learning is appropriate for them. The ability to broadly profile the students most likely to succeed in the online environment would focus marketing, advisement, and retention efforts.

Learning is as much a function of a person's emotional response to a learning environment as it is to the instructional method or classroom (Flood, 2003). The success of online students, however, has been primarily investigated in terms of student ease with computer technology or satisfaction with the program rather than intrinsic characteristics such as self-directedness, self-motivation, emotional self-regulation, or persistence (Gallagher, 2002). Moreover, emotional characteristics that have been linked to online success include persistent effort, internal locus of control, and self-efficacy (Albritton, 2003; Holcomb, King, & Brown, 2004; Irizarry, 2002; Kemp, 2002; Parker, 2003; Wang & Newlin, 2000).

These emotional predictors of online success correspond with emotional intelligence (EI). EI is self-awareness of one's own feelings and needs, the ability to label them accurately, and to merge them with personal long-term goals as well as the needs and feelings of others in the current social situation (Jerabek, 1998). It predicts success in school and business beyond traditional indicators of academic intelligence and personality (Van der Zee, Thijs, & Schakel, 2002). EI predicts academic success in traditional classrooms and serves as a transitional tool to the corporate world (Barchard, 2003; Goldsworthy, 2000; Parker, Summerfeldt, Hogan, & Majeski, 2004). In the corporate world, the EI that characterizes successful leaders is reflected in their self-awareness, self-management, and relationship building for everyday problem-solving and communication (Goleman, 1995). In addition to emotional predictors of online success, EI is positively correlated with age (Goleman, 1998); Bar-On (2006) found that older groups (age 40+) scored significantly higher on EI than younger groups.

Despite its contributions to success in other venues, there has been little investigation into the construct of EI as a predictor for success in the online environment (Imel, 2003). As distance education continues to play a greater role in higher education, the challenge is to explore the possible relationship between online learning and EI (Imel, 2003). We measured EI in the current study. The following section broadly reviews the connection between online student characteristics and EI and personality.

Online learning requires student and instructor preparation that is distinct from the traditional classroom; both the student and the academic institution need to be cognizant of this difference (American Center for the Study of Distance Education [ACSDE], 1999). Success in online courses is probably a combination of technical, personal, cognitive, motivational, and psychological factors. Computer literacy, reading and writing skills, and effective written

communication certainly contribute to online success (Buchanan, 1999). Online students must also supply the motivation to succeed in online classes without face-to-face human interaction. Successful students need to be able to monitor their own learning and progress, garner peer support, exercise good time management skills, and draw on experience to find resources on the Internet (Blocher, De Montes, Willis, & Tucker, 2002; ACSDE, 1999). Online success is further predicted by several self-regulatory functions including effective self-management, emotional self-regulation, self-generated motivation, self-efficacy, persistence, and an internal locus of control (Bocchi, Eastman, & Swift, 2004; Buchanan, 1999; Draves, 2000; Liu & Ginther, 1999; Wang & Newlin, 2000). Factors that reduce online success include a student's educational background (Wang & Newlin, 2000), and lack of written communication and/ or time management skills in combination with unrealistic online course expectations (Timmons, 2004).

Learning theory views intellectual intelligence and emotion as polar opposites (O'Regan, 2003, ¶1; Imel, 2003) despite the fact that "…effective learning is much more a function of the emotional response to a learning environment than the techniques and structures on which it is based" (Flood, 2003, Pedagogy, ¶1). People differ in their emotional responses to situations. Adult learners in particular have a need to be emotionally comfortable with the learning situation for learning to take place (Draves, 2000). Online learning elicits frustration, anxiety, apprehension, and incompetence as well as excitement and pride in what one has accomplished (O'Regan, 2003). Certain emotional competencies are necessary for learning to take place: Individuals must control negative emotions like fear, anxiety, and frustration so that positive emotions like enthusiasm and a sense of accomplishment can increase (O'Regan, 2003). Attending to emotions in the classroom enables both student and instructor to manage feelings and provides useful methods to address difficulties that could deter success (Gates, 2000).

Affective domains (interpersonal skills, coping skills, emotional responses) are slowly melding into traditional and online learning instructional designs (Goldsworthy, 2000; O'Regan, 2003). EI can be taught and integrated into the curriculum (Tucker, Sojka, Barone, & McCarthy, 2000). Goldsworthy (2000) integrated EI into online instructional approaches by designing online educational materials for personal emotional skills that maintain motivation, self-confidence, and team work when people feel overwhelmed.

Persistence in a post secondary academic institution is loosely defined as the tendency to stay in school and finish a degree program (Summers, 2003, ¶3). It is influenced by many factors (Dellana, Collins, & West, 2000; House, 2001; Reynolds & Weagley, 2003; Richards & Ridley, 1997; Summers, 2003; Ziegler, Bain, Bell, McCallum, & Brian, *n.d.*). Personal dimensions include age, gender, ethnicity, financial constraints, academic background, and responsibilities to work and home. Associated emotional dimensions or psychographics (Irani, Telg, Scherler, & Harrington, 2003) include self-belief and attendance. Academic dimensions include clarity of educational goals, reasons for choosing the degree program or major, course availability, scheduling convenience, satisfaction with instruction, grade point average (GPA), computer proficiency and comfort, and choice of online or traditional classroom courses.

Persistence (measured as student progress or motivation to continue with a degree program) has also been investigated as resilience, defined as coping behaviors when faced with stresses or setbacks, life events, and external commitments (Kemp, 2002). Successful completers had high levels of resilience in establishing and maintaining healthy relationships, ethical standards, willingness to take risks for beliefs, mastery of self in a social environment, and the persistence to work through difficult situations with self-confidence (Kemp, 2002). As a dimension of EI, we measured resilience in the current study to examine its theoretical relationship with EI.

Personality type is predictive of academic success in traditional classrooms, but few data are available about personality and online success, so we included personality in the study. In traditional classrooms, personality corresponds to course perception (Daughenbaugh, Ensminger, Frederick, & Surry, 2002; Irani et al., 2003). In particular, the personality traits of achievement, dominance, and exhibitionism predict traditional classroom performance (Fagan & Squitiera, 2002; Lufi, Parish-Plass, & Cohen, 2003; Rothstein, Paunonen, Rush, & King, 1994). Specifically, Rothstein and colleagues (1994) found that achievement correlates directly with conscientiousness, exhibitionism with extroversion, and dominance occurs across all Big Five Factors of personality (extroversion, neuroticism, agreeableness, conscientiousness, and openness to experience). Academic success among first-year law students is directly correlated with self-confidence, self-esteem, previous achievements, independent thinking, and ambition (Fagan & Squitiera, 2002). Extroverts prefer online instruction (Daughenbaugh et al., 2002).

Our primary research question was whether EI is a predictor of GPA.

Method

Participants

The study sample was drawn from a mixed student population of Caucasian, African American, Hispanic, Asian, and Middle Eastern ethnic groups attending a two-year technical community college. Age ranged from 18-57 years. Since the college has an open door policy (all applicants are accepted), the population ranged widely in academic readiness from remedial to advanced. Students who were enrolled for spring and fall semesters in 2005 had the option of selecting from 40 online courses. Online courses were developmental (pre-college math or English) or normal curriculum serving the Arts and Sciences; Business, Industrial, and Engineering Technology; Health and Human Services; and Transitional Studies (remedial/ developmental) degree programs.

Materials

Three instruments provided through http://www.psychtests.com (a research initiative of http://www.queendom.com) were used to measure EI, personality, and resilience. Reliability, criterion validity, and construct validity have been established on all tests through a random selection of a pool of 150,000 men and women aged 10 to 80 who took the tests on the http://www.queendom.com website. Cronbach's Alpha (r = .88), Spearman-Brown's split half technique (r = .88), and Guttman's split half technique (r = .88) all revealed high reliability coefficients for the EI survey. Cronbach's Alpha (r = .85), Spearman-Brown's split half technique (r = .81), and Guttman's split half technique (r = .79) all revealed high reliability coefficients for the resilience survey. The Assessment of Character Traits Profile (ACT-personality test) reports are based on percentiles. Raw scores for the subscales were used to generate descriptive statistics and to evaluate the reliability and validity of the profile. Cronbach's Alphas were provided for each subscale, range r = .70 to r = .82, and indicated high reliability coefficients for the personality survey. Psychometric reports are available by request.

The EI survey (EI-Q abridged) consisted of 17 self-assessment and situational questions that measured overall EI and the perception of self and others (see http://hr.psychtests.com/archprofile/stats/eiq_abridged.pdf). It measured the ability to recognize and label personal feelings and needs, and to reconcile those needs with personal long-term goals and the needs of other people (Jerabek, 1998, p. 1). Scores are reported as an overall general EI

score scaled from 50-150. Average EI is a score of 100, low EI is below 75, and high EI is over 115; the greater the score, the higher the EI.

Resilience was calculated with a survey of 25 situational items measuring the ability to cope with and recover from minor stressors and difficult life events in relation to age, stress, and life setbacks (St. Jean, Tidman, & Jerabek, 2001). These data were collected to compare to EI scores. Scores are reported as overall resilience on a scale from 0-100 with 50 as a midpoint. The greater the points, the greater the resilience (see http://hr.psychtests.com/archprofile/stats/resilience.pdf).

The personality survey (ACT) (Warren, 2002) used 64 Likert-type scaled items to assess (a) helpfulness, (b) sociability, (c) need for approval, (d) dependence, (e) tension, (f) rigidity, (g) need for control, (h) competitiveness, (i) conscientiousness, (j) achievement, and (k) tendency to be innovative. These data were collapsed into six clusters – traits emerged when instrument was developed as delineated on the scoring guide provided by the publisher: (1) sociability [i.e., helpfulness and sociability], (2) external locus of control [i.e., need for approval and dependence], (3) tension [i.e., tension], (4) aggressiveness [i.e., rigidity and need for control], (5) persuasiveness [i.e., competitiveness and conscientiousness], and (6) achievement [i.e., achievement and tendency to be innovative]. Cluster scores (personality traits) ranged from 0-100. Scores were reported as an overall score and scores on each of the subscales. The higher the cluster score, the more the person exhibited the associated characteristic. In this study, personality traits were analyzed as percents of total personality score. The trait with the highest percent was used to classify personality. Traits were alphabetized and coded 1-6 for analysis. Students who scored 75 percent or higher on more than one trait were coded as a 7.

In addition to measures of EI, resilience, and personality, data were also collected on age, gender, number of completed online courses (as a measure of previous online experience), program of study, number of semesters completed, and GPA. Age and gender were open fields on the survey. Number of semesters completed was measured from 0-7 (e.g., 0 was scored if the participant was in their first term at the school). GPA was measured on a scale from below 2.0 to 4.0, broken down in the mid range of each grade (i.e., low C average 2.0 - 2.4, high C average 2.5-2.9, etc. to 4.0). GPA was self-reported.

Design and Procedure

We used an inter-correlational research design to examine the relationship between online success (GPA) as the dependent variable and the above variables as independent (predictor) variables.

During a mandatory orientation session held at the beginning of the spring 2005 semester, procedures and expectations of participants were explained, and online students were invited to volunteer to participate in the study. A letter of consent explaining the purpose of the study, risks and benefits, confidentiality measures, participation guidelines, and contact information was emailed to 30 online faculty members to obtain their permission to solicit student volunteers for the study. The letter was then emailed to students through the college email system and posted on the *WebCT* announcement page with a disclaimer indicating that a student should not access the assessments more than once. The letter explained that clicking on the link to the assessment website (see http://www.psychtests.com) constituted informed consent and an agreement to participate.

Once informed consent was obtained, students accessed the link with a user name and password. Confidentiality was maintained by having students use their student identification (ID) numbers

or randomly generated terms or numbers. Data were stored in an online repository and only available to the authors through a secure user name and password for 6 months after data collection. Data were gathered and aggregated through an individual identification number or the Individual Service Provider (ISP, unique identifiers of each computer). Students were instructed to complete all three online instruments during one 30 - 45 min testing period at their convenience within a two-week period identified in the letter.

Students were compensated for participating in the study in several ways. Online, completion of each instrument was immediately followed with feedback of the total score. Participants then received personalized advice on how to improve their EI and resilience based on their scores. Finally, participants received in-depth narratives that interpreted the impact of their most prominent personality traits on academic achievement. Some faculty provided extra credit or replacement of a test grade; students submitted their scores and a paragraph on self-knowledge gained from study participation.

Data for the analysis were provided by participants who completed all three instruments. If a participant took the assessment more than once, only data on the first time (indicated by time and date stamps) were included in analysis.

Significance was set at $p = .05$. Inferential tests were two-tailed unless otherwise indicated. Two tests were conducted to determine if we could combine spring and fall data: an independent *t* test of EI and a chi-square test of independence for GPA. Demographic variables were examined for normalcy (resemblance to the normal curve) with frequency distributions. Scattergrams of all bivariate correlations were examined for linearity; all were linear. A Pearson intercorrelation table was generated and inspected to determine the strength of correlations for entry into a stepwise multiple regression analysis; only variables that significantly influence the dependent variable should be entered into the regression. Stepwise regression was used because the statistical computer software determines the order in which independent variables become part of the regression equation; entry is based on the strength of bivariate correlation coefficients (largest coefficients are entered first). The regression equation was generated to predict the value of the dependent variable (GPA) based on a constant (intercept; value of Y when $X = 0$ where Y is the dependent variable and X is the independent variable) and regression coefficients (relative weights) for each independent variable. We ran *t* tests to test the hypothesis that the slope (b) of the regression line equals zero, which would indicate the regression was no more predictive than the mean of the dependent variable. Beta weights, which are standardized regression coefficients, are included because they are metric-free and illustrate the magnitude and direction of the relationship between GPA and each independent predictor variable.

Results

The independent *t* test showed EI data from spring and fall did not differ significantly, $t(111) = 0.43$, $p = .67$, 95% CI -4.46, 6.89, spring $M = 107.95$, $SD = 14.75$, $SEM = 1.63$, $n = 76$; fall $M = 106.73$, $SD = 14.36$, $SEM = 2.36$, $n = 37$. The chi-square test showed that the distribution of students across GPA categories did not differ from chance, $X^2(4,90) = 9.12$, *ns*. Based on these findings, data from the two semesters were combined for analysis.

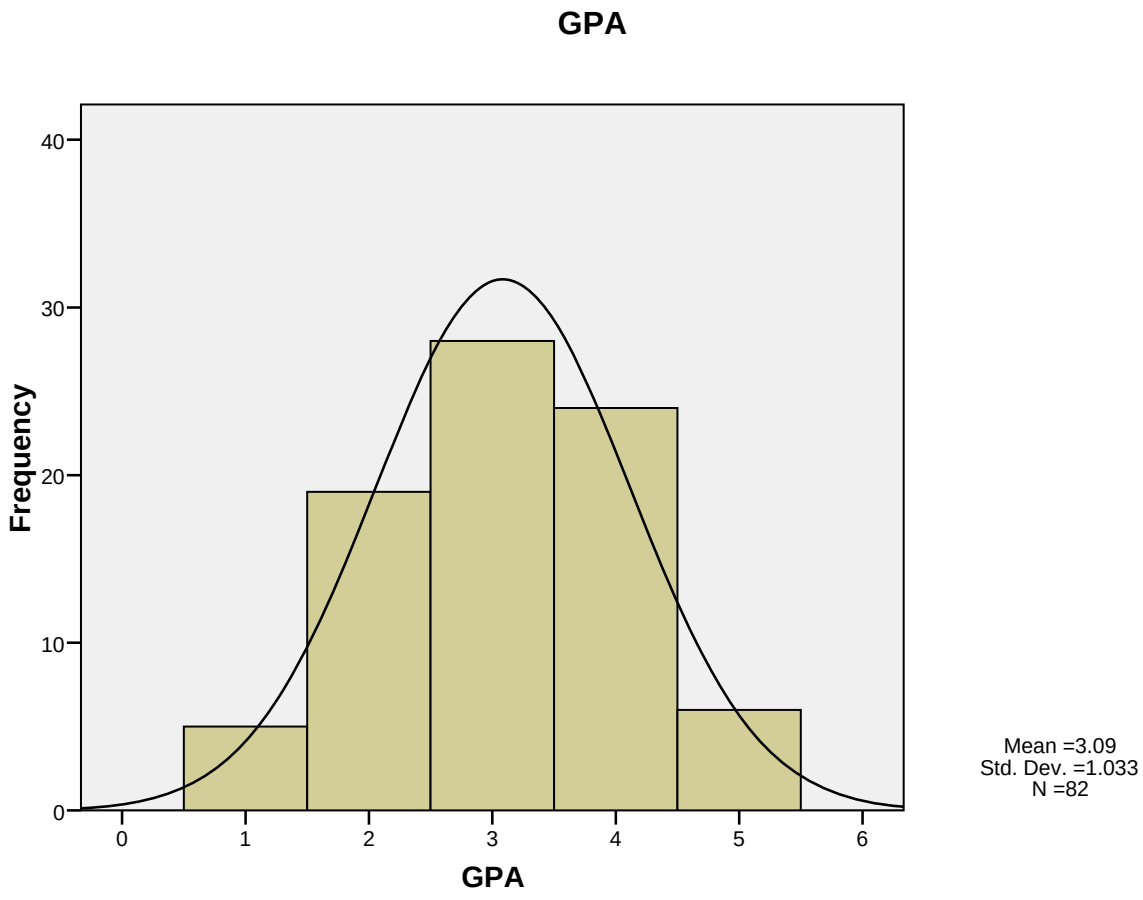
Of 359 registered online students, 272 participated in the study. Only participants who completed all three assessments (EI, resilience, and personality) were included in this analysis. Just less than half of the 272 participants (42%, $n = 113$) completed all three assessments. Of these 113 participants, 19 students were eliminated from analysis because they were currently in their first

online class, leaving a total of 82 students in the current analysis. Of the remaining 159 out of 272 participants, 23 percent (n = 62) supplied personality data only, 17 percent (n = 45) supplied EI data only, 14 percent (n = 39) supplied resilience data only, 3 percent (n = 8) completed just the resilience and EI surveys and 2 percent (n = 5) completed just the personality and EI surveys.

The 82 participants were adult learners aged 18-57 years (M = 29.7 years, SD = 9.5, Mdn = 28, Mode = 20, skew = 1.00). The majority were female (81%, female n = 66; males 19%, n = 16).

Students were about evenly divided between being relatively new and fairly experienced with online courses. About half of the students had completed one (23%, n = 26) or two (26%, n = 21) online courses (Mdn = 2 courses). Remaining students had completed three, four, or five or more online classes (13%, 21%, and 9% respectively). Of the 78 students who supplied information on the number of semesters completed, which gives an idea of the overall experience they had with college courses, the median number was three semesters completed (Mode = 2, range 1-7 semesters); 75 percent had completed less than five semesters.

Figure 1. Distribution of Grade Point Average Overlain with the Normal Curve



GPA data were collected as one of six categories with interval limits of half a GPA number level (e.g., category 3 = 2.5-2.9, category 4 = 3.0-3.4, etc., on a 4.0 point scale where 4.0 = straight A

average). Figure 1 shows that GPA data adhered closely to the normal curve (*Mdn* = 3, Mode = 3, where category 3 was the GPA interval of 2.5-2.9 (a high C average), skew = 0.11. No student reported a 4.0 as their GPA (category 6).

The possible range of the EI scale was 50-150. Student participants ranged a smaller fraction of that, 69-133, *M* = 107.2, *SD* = 14.7, *Mdn* = 108, with an acceptable skew, -.40. For resilience, the possible range was 0-100. Resilience scores averaged well above midrange, *M* = 73.5, *SD* = 12.1, actual range 41-91, with a minimally acceptable skew, -.98.

There were seven possible personality classes. Six were characterized with one outstanding trait. The seventh category was a catch-all category for students who were characterized by 2 or more traits. The modal personality rating was sociable (26%, *n* = 21), followed by 2 or more traits (24%, *n* = 20). A comparable percentage of students were characterized as being tense (13%, *n* = 11) or aggressive (11%, *n* = 9), having an achievement orientation (12%, *n* = 10) or external locus of control (10%, *n* = 8). The final 4 percent (*n* = 3) were characterized as persuasive.

Table 1. Inter-correlations between Variables and Grade Point Average

	Personality Code	Emotional Intelligence Raw Score	Resilience Raw Score	Gender	Age	Number of Semesters Completed	Online Course Experience
GPA	.257(*)	.325(**)	.252(*)	-.114	.328(**)	.221	.281(*)
Personality Code	1	-.018	-.126	-.062	.157	.123	.254(*)
Emotional Intelligence Raw Score	-	1	.673(**)	.026	.247(*)	.020	.005
Resilience Raw Score	-	-	1	-.031	.187	-.116	-.109
Gender (dummy coded)	-	-	-	1	.071	-.078	.051
Age	-	-	-	-	1	.234(*)	.264(*)
Number of Semesters Completed	-	-	-	-	-	1	.290(*)

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
For correlations between number of semesters completed and other variables, *n* = 78.

Table 1 shows the inter-correlations between the variables. Row 1 of Table 1 shows that, of the possible independent variables, all but gender and number of semesters completed correlated with the hypothesized dependent variable, GPA. Independent variables in multiple regression should be correlated with the dependent variable, but not with one another, a condition known as multi-collinearity, as correlated independent variables add nothing further to the ability of the regression line to predict the dependent variable. Specifically, EI was significantly correlated with resilience, $r(80) = .67$, $p < .01$, and age, $r(80) = .25$, $p < .05$. Age was also correlated with the number of semesters completed, $r(80) = .23$, $p < .05$, and the number of online courses

completed, $r(80) = .26$, $p < .05$. Because correlations between the other independent variables were non-significant, multi-collinearity was not a concern. To avoid the problems of multi-collinearity among correlated independent variables, a stepwise multiple regression was performed with EI and personality as the independent variables and GPA as the dependent variable, to determine if they were significant predictors of GPA. The un-standardized multiple regression formula, $F(2, 79) = 8.53$, $p = .00$, multiple $R = .42$, was

$$\text{Predicted GPA} = 0.61 + 0.024(\text{EI}) + 0.17(\text{personality})$$

At the first step of the model, EI entered the equation and accounted for 11 percent of the variance in GPA ($R = .33$). EI was directly related to GPA, indicating that high EI scores were related to higher GPA scores. At the second step in the regression, personality entered the equation. By adding the independent variable personality to the equation, the variance in GPA accounted for (R^2) increased significantly, F change (1, 79) = 6.91, $p = .01$, $SEE = .95$. The combination of EI and personality accounted for 18 percent of the variance in GPA (adjusted R^2 = 16%).

While the un-standardized regression coefficients appear small, they were both significant in a null test of the slope H_0: $b = 0$; EI $t(80) = 3.27$, $p = .00$, 95% CI .009, .038; personality $t(80) = 2.63$, $p = .01$, 95% CI .028, .204 where b = slope of the regression line. Note that the 95 percent of CI values frame the un-standardized regression coefficients .024 and 0.17, not raw EI scores or personality codes. Beta (β) weights are standardized z scores (possible range 0-1) that, because they are metric-free, show the relative contribution of EI and personality, respectively (β = .334, β = .268).

To determine the association between GPA and EI, we did a chi-square test of independence. GPA data were collected as a nominal variable with 6 levels; since no student reported a GPA of 4.0, the 6th GPA category was excluded, and only 5 levels of GPA were used. To create nominal categories from the continuous variable EI, we created high and low EI groups with a median split and compared frequencies of students across the 5 GPA levels. Results allowed us to reject the no differences null hypothesis, X^2 (4, 82) = 16.43, $p < .005$. There were no significant adjusted residuals. Visual examination of the data showed that the two middle GPA categories (high C and low B) held the biggest differences between observed and expected frequencies. In the low EI group, there were more students in the C range and fewer in the B range than expected by chance. The opposite occurred in the high EI group, which included fewer students in the C range and more in the B range than expected.

To determine the association between GPA and personality, we did a chi-square test of independence. Too many cells had expected frequencies of less than 5 (88%) so GPA was collapsed into two levels, 2.9 or less and 3.0 or more. The hypothesis that GPA was significantly associated with personality type was supported, $X^2(6, 89) = 20.10$, $p < .01$. Table 2 shows that there were almost twice as many low GPA students as expected whose personalities were characterized as having an external locus of control or being predominantly tense or aggressive.

Table 2. Association between Personality Type and Grade Point Average

GPA Level	Observed	Expected	Dominant Personality Trait
Low	5	8.73	Sociable
Low	6	3.33	External Locus of Control*
Low	8	4.57	Tense*
Low	6	3.33	Aggressive*
Low	4	2.91	Persuasive
Low	2	4.99	Achievement
Low	6	9.15	2+ Major Traits
High	16	12.27	Sociable
High	2	4.67	External Locus of Control
High	3	6.43	Tense
High	2	4.67	Aggressive
High	3	4.09	Persuasive
High	10	7.01	Achievement
High	16	12.85	2+ Major Traits

Low = GPA of 2.9 or less. High=GPA of 3.0 or higher.
* Observed frequencies twice the size of expected frequencies.

Theory predicts that there is not an association between personality and EI, but we were able to reject the null hypothesis of H_0: μ - μ = 0. A one-way ANOVA indicated there were significant differences in EI across personality types, $F(6, 76) = 2.39$, $p = .03$. Table 3 lists the personality types in descending order of magnitude and shows that sociable, achievement oriented, and persuasive individuals had the highest mean EI scores, whereas tense and aggressive individuals had the lowest mean EI scores. Tukey post hoc comparisons showed that students whose personalities were characterized as sociable (who had the highest mean EI score) were significantly higher than students characterized with tense personalities (who had the lowest mean EI score). Correspondent to this finding, a higher percentage of sociable students reported higher GPAs than did tense students. The breakdown is as follows: Both sociable and tense students were modal for the high C category (2.5 to 2.9 on the 4-point scale); 33 percent of the sociable students and 45 percent of the tense students. Some 29 percent of sociable students were below this GPA level, whereas 37 percent of the tense students were below it. Sociable students, however, were actually bimodal for GPA. Another 33 percent reported GPAs ranging from 3.0 to 3.5 (low B category). Altogether, 38 percent of the sociable students reported GPAs higher than the high C range, whereas only 18 percent of tense students did.

Table 3. Descriptive Statistics of Emotional Intelligence (EI) Scores across Personality Types

Personality Type	N	Mean	SD	SE	95% CI Lower Limit	95% CI Upper Limit
Sociability	21	113.71	9.85	2.15	109.23	118.20
Achievement Oriented	10	111.30	11.63	3.68	102.98	119.62
Persuasive	3	111.00	7.00	4.04	93.61	128.39
2+ Major Traits Indicated	21	108.33	19.19	4.19	99.60	117.07
External Locus of Control	8	101.88	14.85	5.25	89.46	114.29
Aggressive	9	100.56	11.86	3.95	91.44	109.68
Tension	11	97.36	12.86	3.88	88.72	106.01

An independent *t* test indicated that there was no difference in EI between male and female participants, t (80) = 0.24, p = .81, males M = 106.44 EI raw score, SD = 17.62, SEM = 4.40, n = 16; females M = 107.42, SD = 14.09, SEM = 1.72, n = 66. Males showed greater inconsistency in EI, however. There did not appear to be sex gender difference in GPA x Gender, $X^2(4, 82) = 6.92$, p = .14, although adjusted residuals indicated there were significantly more males in the GPA category of high C range of 2.5 to 2.9, observed 9, expected 5, z = 2.3, and fewer females, observed 19, expected 23, z = 2.3.

Discussion

The main finding of this study was that EI was the primary predictor of academic success in online courses, but the combination of EI and personality served as a stronger predictor of online student academic success. EI was directly associated with GPA among online students. Higher grades corresponded to greater levels of EI. The implication is that soft skills like EI and certain predominant personality characteristics may be closely related to students' academic success in online courses, whereas others may be contraindicated.

The profile of a successful online student that emerged from this investigation could be used in advisement, marketing, and retention efforts. Administrators interested in identifying students with the greatest probability of online success might consider generating student profiles for advisors' use. Validated assessments of EI and personality traits may present an efficient and non-threatening way of helping students and their institutions determine whether or not online

courses are appropriate for them. Among the students in this study who did not complete all three surveys, most either completed the personality or EI tests. This suggests that students may be less resistant to personality and EI surveys than other forms of assessment. In addition, EI can be taught, which substantiates the need for students to develop self-awareness prior to enrolling (Tucker et al., 2000). This can be accomplished through a required online orientation course that not only teaches technical skills but also teaches self-awareness skills.

Conceptually, our results are consistent with previous descriptions of emotionally intelligent individuals (Albritton, 2003; Holcomb et al., 2004; Irizarry, 2002). Sociability was the personality trait that emerged as most closely associated with online success. Sociable individuals were characterized as helpful and outgoing. This fits with the characterization of emotionally intelligent individuals as having a strong ability to establish and maintain healthy relationships (Goleman, 1995) while regulating their own emotions (Gallagher, 2002) as they take risks for their beliefs (Kemp, 2002). Other personality factors that are intuitively and demonstrably associated with academic success, such as achievement and persuasiveness, were also associated with above average EI mean scores. Achievement-oriented individuals were characterized as innovative and highly motivated to achieve, whereas persuasive individuals were competitive and conscientious. On the other hand, tense and aggressive individuals and those with an external locus of control reported average or below average EI scores (Table 3). Tension is related to a number of factors, whereas aggressiveness in this study was associated with rigidity and the need for control. Those with an external locus of control have a particular need for approval. All these latter factors appear to militate against success in the online environment where time-delayed written communication is the mode of interaction. Table 2 shows that there were more than twice as many individuals characterized as tense, aggressive, or externally controlled in the lower levels of GPA than in the higher levels.

The persistence of emotionally intelligent individuals is attributed to an internal locus of control and self-efficacy (Holcomb et al., 2004; Irizarry, 2002; Parker, 2003; Wang & Newlin, 2000), as well as resilience. Resilience is the ability to cope successfully with stresses or setbacks, the willingness to take risks for one's beliefs, and the self-confidence to master the self in a difficult social environment. The challenge of the online environment is to cope successfully with the lack of immediate faculty feedback and face-to-face contact between student and faculty.

An important result of our study was that resilience was strongly and directly associated with EI but did not, in itself, predict GPA. This finding supports the theoretical link between resilience and EI where resilience is viewed as a dimension subsumed under the broader construct of EI as effective self-awareness. EI is the awareness of one's own feelings and the ability to accurately label and merge them with the needs and feelings of others in the current social situation (Jerabek, 1998). This finding provides indirect support for Kemp's (2002) finding that successful completers (of degree programs) displayed high levels of resilience.

The direct correlation between EI and age was consistent with Goleman (1998) and Bar-On (2006) who reported a positive correlation between EI and age. That is, the older the participants, the greater their emotional intelligence. Age was also correlated with the number of online courses taken by participants. Intuitively, this may explain the length of time students have been enrolled. It is another finding that needs further study. Our sample demographics were consistent with Halsne and Gatta's (2002) description of the typical community college population although they included a portion of displaced older workers as well. Participants were generally average-to-good students; most were 20-30 years old and female. About half were new to the college.

As distance education continues to grow, a more research-based approach to student assessment for online courses may improve the success of online courses for students, instructors, marketers, and academic institutions. With a greater understanding of how distance learners think and learn, and how EI and personality correspond to academic success online, educators may be able to design better-fitting online courses and better advise students on courses to take. In terms of distance education, these findings may indicate a need to look at the distance education course-advisement process more closely. The data, however, should be interpreted with caution as they were based on a small sample of two semesters from a single college, and all data were self-reported.

In conclusion, the triangulation between personality traits, EI, and GPA merits further investigation. The present study provides a basis for the profile of the emotionally intelligent student. Future research should look at larger samples (balanced between males and females) of more experienced students from multiple universities (including degree ranges from associates through doctoral). Methodological improvements include counterbalancing the presentation of the three assessments to control for order effects. When extra-credit incentives are used, students should provide appropriate documentation to prove that the assessments were taken. This would probably produce a larger number of respondents who complete all three assessments. Further research could investigate the correspondence between online instructors' EI and personality, and their students' EI and personality. To the extent that these constructs play a significant role in online success of students, it would be important to measure the same characteristics in instructors.

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