Journal of University Teaching & Learning Practice

Volume 9 | Issue 2 Article 8

2012

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Recommended Citation
Wang, Ning; Wilhite, Stephen C.; Wyatt, Jeannette; Young, Thomas; Bloemker, Geraldine; and Wilhite, Emily, Impact of a College Freshman Social and Emotional Learning Curriculum on Student Learning Outcomes: An Exploratory Study, *Journal of University Teaching & Learning Practice*, 9(2), 2012.
Available at:http://ro.uow.edu.au/jutlp/vol9/iss2/8

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Impact of a College Freshman Social and Emotional Learning Curriculum on Student Learning Outcomes: An Exploratory Study

Abstract
This study investigates the impact of implementing a social and emotional learning curriculum for college freshmen on student learning outcomes, including social and emotional competence and academic performance. Through the use of a quasi-experimental design, the growth in social and emotional competence of students who participated in the social and emotional learning seminars is compared with that of students who were enrolled in other freshman seminars. This comparison is complemented by a qualitative analysis of students' self-reflections in relation to specific dimensions of social and emotional competence. The results of this study suggest that exposure to a social and emotional learning curriculum during the first semester at college may contribute to the development of social and emotional competence in students. Because of the potential relationship of social and emotional competence to academic success, this study also reports a comparison of the grade point averages (GPAs) of students from the social and emotional seminars with the GPAs of students from the other freshman seminars, while controlling for other predictors of academic success. The results indicate that students exposed to the social and emotional learning curriculum had higher grades than other students across the four semesters following the completion of the seminar.

Keywords
Social and Emotional Learning, Emotional Competence, Emotional Intelligence, Curriculum in Higher Education

Cover Page Footnote
The authors wish to thank Dr. Karol Wasylyshyn for launching the emotional competence initiative at Widener University, for originating the process that led to the development of the Widener Emotional Learning Scale (WELS), and for generating candidate items for inclusion in the WELS. Without Dr. Wasylyshyn's early support, the project reported in this paper would not have been possible. Correspondence concerning this article should be addressed to Dr. Ning Wang, Center for Education, Widener University, Chester, PA 19013, email: nwang@mail.widener.edu.

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This journal article is available in Journal of University Teaching & Learning Practice: http://ro.uow.edu.au/jutlp/vol9/iss2/8

Introduction

For nearly a century, the study of social and emotional intelligence has, in part, been motivated by the desire to better understand how people perform in achievement settings such as colleges and universities. E. L. Thorndike introduced the concept of social intelligence in the 1920s, defining it as the ability to "act wisely" in relationships. The modern evolution of emotional intelligence can be traced back to the 1940s, when significant advances were being made in the conceptualisation and measurement of traditional cognitive intelligence. However, researchers have noted that cognitive intelligence, while important, is only one predictor of human performance, with other predictors stemming from the impact of what is referred to as non-intellective, affective and conative abilities (or traits) collectively designated as "emotional intelligence (EI)" (Bar-On & Parker 2000; Goleman 1995, 1998, 2006; Leeper 1948; Matthews, Zeidner & Roberts 2002; Salovey & Mayer 1990; Wechsler 1940). Other researchers have continued to focus on the importance of social and emotional competencies and their relationship to human performance, cognition and overall well-being (e.g., Bar-On & Parker 2000).

Beginning in the 1980s, terms like "social competence" and "social intelligence" began to proliferate in the literature (e.g., Hedlund & Sternberg 2000; Topping, Bremner & Holmes 2000; Zirkel 2000). Focused work by Howard Gardner introduced the notion of "multiple intelligences", which included how individuals function internally, as well as how they relate to other people (Gardner 1983). In an attempt to differentiate the emotional components that contribute to achievement functioning from the social components, John Mayer and Peter Salovey introduced the concept of emotional intelligence in 1990 (Davies, Stankov & Roberts 1998; Mayer & Salovey 1997; Salovey & Mayer 1990). The concept of emotional intelligence was made popular through the writings of author Daniel Goleman (1995, 1998). According to these authors, emotional intelligence should be viewed as the use of emotions in the service of successful social functioning. So emotional intelligence is more basic than, and is a necessary ingredient of, social intelligence.

Studies have demonstrated that emotional intelligence is associated with numerous positive and adaptive personal and social behaviors across a wide range of environmental contexts and occupations. For example, and in the most general sense, EI has been positively correlated to empathic perspective-taking, self-monitoring in social situations, social skills, interpersonal sensitivity, pro-social tendencies, emotional stability, impulse control, adaptive defense styles, resilience and the absence of psychopathology (e.g., Cavallo & Brienza 2002; Gertis, Derksen & Verbruggen 2004; Lam & Kirby 2002; Law, Wong & Song 2004; Lopes, Salovey, Cote & Beers 2005; Lopes, Salovey & Straus 2003; Pellitteri 2002; Sala 2002). This trend is further supported by a small but growing body of specific empirical research indicating a variety of positive relationships between EI and measures of academic performance and overall adjustment to higher education settings (Adeyemo 2007; Dulewicz & Higgs 2004; Higgs & Dulewicz 1999; Parker, Duffy, Wood, Bond & Hogan 2005; Petrides, Fredrickson & Furnham 2004). For example, one study suggests that academically successful college freshman had higher levels of trait EI than their less successful counterparts (Parker, Duffy, Wood, Bond & Hogan 2005). Similarly, another study of British secondary-education students found that trait EI moderated the relationship between cognitive ability and academic performance. Specific findings suggested that students with high trait EI scores were less likely to have unauthorised absences and display undesirable social behaviors (Petrides, Fredrickson & Furnham 2004).

Even though it is believed that EI plays an important role in students' academic performance, and, more specifically, in achievement settings such as colleges and universities, little attention has been given to research on the development of EI among students in higher-education programs. Questions as to whether and how college students' trait EI enhances academic performance have only begun to be addressed at this level. What seems clear is that students can develop, and actually acquire, many of the proposed component skills of EI during the course of educational development (Goleman 2006; Saarni 1999). This view appears to reflect what Van Rooy and Viswesvaran (2007) and others call a "mixed model" of EI: an amalgamation of the trait-based approach to EI, which encompasses emotional abilities, personality traits and social abilities (as reflected in the Bar-On Emotional Quotient Inventory [Bar-On EQ-i], Bar-On 1997), and the ability-based approach, which focuses on the ability to reason about emotions and the capacity to use emotions to enhance thought (as reflected in the Mayer-Salovey-Caruso Emotional Intelligence Test [MSCEIT], Mayer, Salovey & Caruso 2002).

The concept of emotional competence has guided the development and evaluation of the social and emotional learning curriculum that is the focus of this study. (This perspective has also been embraced by Bar-On (2006).) The word "competence" in place of "intelligence" is intended to convey the meaning that the emotional skills, capacities or abilities that influence one's success in coping with environmental demands and pressures can be learned, developed and enhanced over time. Emotional competence is viewed as the ongoing product of emotional development and social learning, both of which can take place in educational settings and contribute to academic achievement (Matthews, Zeidner & Roberts 2002).

Although some higher-education institutions have attempted to integrate social and emotional learning into undergraduate and graduate curricula in the form of community engagement and service-learning (Wilhite & Silver 2005), evidence is needed that such curricula can positively affect the development of college students' social and emotional competence. Through the use of a quasi-experimental design, this study investigates the impact of implementing a social- and emotional-learning curriculum for college freshmen on student learning outcomes, including social and emotional competence and academic performance. The study first presents such a curriculum that has been used in freshman seminars at a four-year college, along with quantitative results comparing the growth in social and emotional competence of students who participated in these seminars with that of students enrolled in other freshman seminars. This comparison is complemented by a qualitative analysis of the reflections of the students who participated in the social- and emotional-learning seminars in relation to specific dimensions of social and emotional competence. Because of the potential relationship of social and emotional competence to academic success, a comparison of the Grade Point Averages (GPAs) of students from the social and emotional seminars with the GPAs of students from the other freshman seminars is also reported.

Social and Emotional Learning Curriculum

A curriculum in social and emotional competence was developed to enhance academic achievement, aid in retention and assist students in the challenges of transitioning into college life. This curriculum was integrated into the existing freshman seminar course, as this course is intended to foster a successful transition to college. The components of the integrated curriculum include: time management; class participation and note-taking; knowledge of one's own emotions and awareness of the emotions of others'; active learning; self-management—physical, emotional and behavioral; critical thinking; relationship skills; appreciating difference and tolerance for disagreement; test-taking—both written and oral; perspective-taking; and behavioral flexibility.

The same syllabus, readings, instructional materials and exercises were implemented in all seminars where the curriculum was used. For example, each instructor throughout the course developed journal exercises that enhanced the understanding of the factors of social and emotional competence. To maximise "instructional fidelity", guidelines for the use of this syllabus were developed, so that the same pedagogical experience was provided in each social- and emotional-learning seminar. Lesson plans, lecture notes and auxiliary material were distributed to ensure consistent delivery of material presented. For example, in order to review the factor "Awareness of Emotions in Others" an outline specifying why it is important, how emotions are communicated, how one's own emotions affect perception and techniques to develop knowledge about emotions in others was used by all instructors. Follow-up conferences involving all instructors of the social and emotional curriculum were held at least once during the semester to review the implementation of lesson plans for efficacy and uniformity.

In addition, all instructors for this curriculum had previous clinical training in working with adolescents, facilitating the development of insight and assisting in problem-solving. This orientation may have allowed these instructors to be more attuned to the vulnerabilities of the developmental stage and the transition tasks at hand. Because of their clinical training, these instructors may have been particularly adept at assessing challenges that students faced in the areas of social and emotional competence and how these challenges led to barriers in the academic realm. This may have led to smoother integration of social and emotional skills with academic skills.

The objectives of the course are: 1) To assist students in the transition from home and high school to the higher-education environment; 2) To acquaint students with the social and emotional competencies associated with intra- and inter-personal success; 3) To discuss opportunities for direct application of these competencies to both academic and personal life; and 4) To help students acquire the skills and resources needed to be a successful college student.

The logic behind the curriculum is based on knowledge the instructors have accumulated about the freshman-year experience. Substantial proportions of first-year students are not adequately prepared for the work load required in college. This, in combination with the relative lack of "studying structure" in college (compared to high school and home), results in many freshmen reporting difficulties with time management and study skills. Still other freshmen report that they have difficulties managing homesickness and roommate relationships (if they are residential students) or making friends and dealing with personal difficulties (if they are commuting students).

Certain challenges exist for almost all entering freshmen. A major one is that they must rely more on themselves or their fellow students (rather than their parents or siblings) for managing their activities and choices. In addition, the student body at the university is often more diverse than was the case at their high schools, requiring the development of an ability to contend with a broader range of differences in values, beliefs and interpersonal styles. This becomes particularly important when students are assigned group projects.

By developing a curriculum that addresses both the development of academic competencies (such as study skills and time management) and social and emotional competencies (such as awareness of emotions in self and others, self-management and interpersonal relationship skills), an effort is being made to address the student's total experience. The difficulties in the social and emotional spheres can undermine efforts to improve skills in the academic sphere, so that addressing both in

the same course curriculum strengthens both in ways that will enhance the adjustment to college. For example, self-management skills might be considered to provide the foundation for time-management skills.

Methods

Research Setting and Participants

Widener University Located in Chester, PA, Widener University is an independent, comprehensive university offering degrees at the associate, baccalaureate, masters and doctoral levels. For the years covered by this study, the total full-time day undergraduate student enrollment ranged from 2,747 to 2,805, with freshman class cohorts ranging in size from 710 to 718. Widener's undergraduate students are drawn predominantly from the Mid-Atlantic region. For the three years covered by this study, the percentage of freshmen from the four states of Pennsylvania, New Jersey, Delaware and Maryland ranged from 94.9% to 96.5%. For the three freshman cohorts from which the participants in this study were drawn, the percentages reporting their race/ethnicity to be White ranged from 71.1% to 76.2%. For these freshman cohorts, approximately 33% indicated that they were first-generation college students whilst the percentage of women ranged from 46.9% to 52.4%.

Structure of a Freshman Seminar Each fall semester, Widener University offers 23 freshman seminars (FRS101); cumulatively, they reach approximately 50% of the university's incoming freshmen. Enrollment in each seminar tends to range from six to 15 students. During the period of this study, the seminar was an elective for students in all academic majors. The freshman seminar is a one-credit course that meets twice a week for 15 weeks, with a total of 30 one-hour classes. Each seminar is named by a theme selected by the professor – for example, "Emotional competencies for success in college and life". One primary objective of the freshman seminar is to help students learn how to be successful college students. In addition to promoting the development of skills in critical thinking, time management, personal planning, studying and writing, the course encourages students to be proactive about their academic life and use of campus resources. Approximately half of the time in the seminar is devoted to this skills-oriented content (referred to as the Widener Experience), which is common across all seminars. The other half of the class time is devoted to the professor's selected topic of interest. During the period of this study, the social- and emotional-learning curriculum was taught in three or four of the seminars as the selected topic to assess its impact on students' development of social and emotional competence.

Selection of Students in the Study In fall 2008, three FRS101 classes used the social and emotional curriculum in addition to teaching the Widener Experience. Three different instructors taught the three classes with the same curricular content, including a shared curriculum and texts, shared learning objectives, a common syllabus and common rubrics for engagement and grading. As part of this exploratory study, three comparison seminars were chosen based on other instructors' volunteering to have their classes serve as the comparison group. The three comparison seminars did not use the social- and emotional-learning curriculum; instead, the instructors of those seminars each taught the content according to the instructor's area of academic expertise. In fall 2009 and fall 2010, the number of social- and emotional-learning seminars and comparison seminars was increased to four each. Thus, this study includes, in total, 11 seminars in which the social and emotional curriculum was taught and 11 comparison seminars across three years. The number of students within each seminar varied, ranging from six to 15 students.

Table 1 provides the demographics for the students from the experimental and comparison seminars who completed both the pre- and post-measure of emotional competence (EC). The table includes the number of students from each of the experimental and comparison seminars over the three years, and their gender and ethnicity information. The study encompasses the data from a total of 210 students. The scores on the EC measures of those students who participated in the social- and emotional-learning seminars were compared to the EC scores of those students in the comparison seminars. In addition, the study compared the cumulative GPAs for the students who participated in the 2008 experimental and comparison group freshmen seminars.

Table 1: Demographics of Study Participants

Freshman Cohort		**Fall 2008 (n=51)**		**Fall 2009 (n=77)**		**Fall 2010 (n=82)**	
		Exp.	**Comp.**	**Exp.**	**Comp.**	**Exp.**	**Comp.**
Number of Participants		27	24	48	29	39	43
Gender	Female	21	14	34	24	22	42
	Male	6	9	14	5	17	1
Ethnicity	African-American	2	3	8	3	15	6
	Asian	0	0	2	3	0	3
	Caucasian	23	17	32	23	22	29
	Hispanic	2	2	3	0	0	1
	Others	0	0	2	0	2	4

* The discrepancy between the total number of participants and the breakdowns by gender or ethnicity is because some students did not report the demographic information.

Measurement Instrument: Widener Emotional Learning Scale (WELS)

The Widener Emotional Learning Scale (WELS) is a self-administered survey inventory to assess emotional competence in higher-education settings (Wang, Young, Wilhite & Marczyk 2011). After seven years of conceptualisation, item writing, field-testing and multiple revisions, the final version of the WELS consists of 39 items to assess five components of emotional competence: Awareness of Emotions in Self and Others, Tolerance of Difference or Conflict, Interpersonal Relationship Skills, Flexibility in Perspective-Taking and Behavior and Self-Management Skills. For each item, students responded on a five-point Likert scale, ranging from 1 (*rarely)* to 5 (*very often*). In addition to the survey items, the WELS also includes an Impression Management Scale (IMS), which is not part of the calculated competence scores.

Awareness of Emotions (12 items) includes skills to: identify specific emotions one is experiencing and when these change; be aware of one's emotional reactions to other people and of when one is experiencing conflicting feelings, either within self or with respect to another; understand how

one's emotional reactions affect one's thinking and work; and understand the role others' ambitions and beliefs have on their behavior.

Tolerance (10 items) includes skills to: interact constructively with others whose values, goals, perspectives or cultural identities differ from one's own; respect others' perspectives; work with others who are different; accept criticism of one's own performance; and take up new challenges.

Relationship Skills (six items) include skills to: motivate, inspire and guide others; take an active role in developing other people's talents; and resolve disagreements among others.

Flexibility (five items) includes skills to: perceive and comprehend another's expectations and adjust one's own goals and behavior accordingly.

Self Management (six items) includes skills to: think clearly and stay focused even when frustrated or under pressure; and get work done even when assigned goals are not clear.

Impression Management Scale (IMS) (10 items). Because the WELS is a self-report measure, there is a possibility that respondents may inflate their ratings as a result of social desirability (Ellingson, Sackett & Hough 1999). The IMS items were intended to assess a respondent's tendency to engage in unconscious self-deception in assessing his/her competence. As a means of limiting the influence of positive impression management in the development and use of the WELS, the norm samples excluded the responses of any participant whose mean score on the 10 IMS items was beyond two standard deviations from the IMS subscale mean.

Wang, Young, Wilhite and Marczyk (2011) reported the development and validation process of the WELS, as well as the psychometrical properties of the instrument. The WELS takes a multi-trait, multi-method approach (Campbell & Fiske 1959; Cook & Campbell 1979) to assessing skills and dispositions related to social and emotional competence. This approach reflects what Van Rooy and Viswesvaran (2007) and others (e.g., Mayer, Salovery & Caruso 2000) call a "mixed model" in assessing social and emotional competence. It is intended to assess the competence-based traits that can be learned, developed and enhanced through the course of education. A cross-validation study of the WELS with the Bar-On EQ-i (1997) provided evidence that, while the WELS assesses some aspects of social and emotional competence also assessed by the Bar-On EQ-i, it makes a unique contribution in its assessment of flexibility in perspective-taking and behavior. A cross-validation study of the WELS with the MSCEIT (2000) indicates that, in general, the WELS assesses different aspects of emotional competence from the MSCEIT, in a manner that is consistent with the differences in the theoretical approaches underlying the two instruments (Wang, Young, Wilhite & Marczyk 2011).

Administration of the WELS and Data Collection Procedure

Students from both experimental and comparison groups were introduced to the purpose of the study and asked to sign a consent form (the form was approved by Widener University's Institutional Review Board in the beginning of each fall semester of the years included in the study). The students who signed the consent form were asked to take the WELS online both in the beginning of the fall semester (the end of August to the beginning of September) and before the end of the fall semester (the beginning of December to the middle of December). In this study, only the students who took both pre- and post-WELS were included in the quantitative analysis. In addition to their responses to the pre-and post-WELS, the cumulative GPAs of the students in the

two groups who participated in the seminar in the fall of 2008 were compared at the end of each semester through the fall of 2010. As another means of assessing the impact of the social and emotional curriculum on students in the seminar, a simple qualitative analysis of reflection papers submitted at the end of the semester by students in the social- and emotional-learning seminars was also performed.

Student Reflection Paper

As a final project, each student in the social and emotional seminars was required to write a reflection paper to describe his or her own social and emotional learning over the course of the semester, using as a framework the five components of EC assessed by the WELS. In particular, the students were asked to outline strengths, challenges and changes since the beginning of the course. The paper was expected to be four to six pages, typewritten and double-spaced.

Over the three years of the study, 104 reflection papers were collected from the students in the social- and emotional-learning seminars. Each student's paper was carefully read and coded for the five components assessed in the WELS. The coding began by first training two raters, who read and coded a small sample of the papers independently, then met with the researchers to compare their findings and modify their criteria to achieve greater consistency. The actual coding process involved coders reading each student's paper and underlining every sentence that reflected one of the categories that compose the WELS, in addition to the previously determined categories of academic skills, success in college transition, overall growth and areas to improve. There was a final category that was called "other emerging themes" that left room for coders to identify other key themes that were repeatedly mentioned in students' papers but did not match previously determined categories. Each of the highlighted sentences was then compiled into a list for each student's paper. Frequency totals were then calculated for each pre-determined category.

Results

Growth in Social and Emotional Competence

Table 2 provides descriptive statistics for the overall pre- and post-WELS mean scores and standard deviations, as well as the mean scores and standard deviations for each WELS component, for both experimental and comparison groups across the three years of the study.

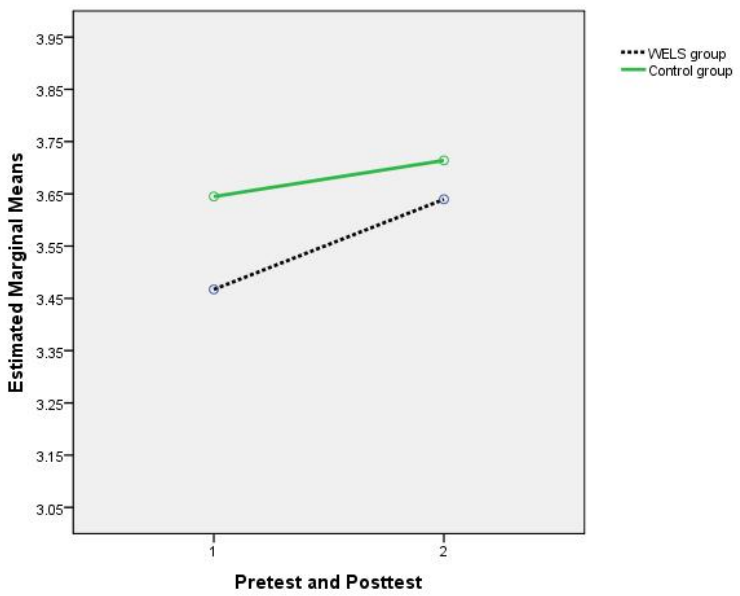
TABLE 2: Mean Scores and the Associated Standard Deviations (in parentheses) on the Widener Emotional Learning Scale (WELS)

	2008				**2009**				**2010**				**Total**			
	Experiment (n=27)		**Comparison (n=24)**		**Experiment (n=48)**		**Comparison (n=29)**		**Experiment (n=39)**		**Comparison (n=43)**		**Experiment (n=114)**		**Comparison (n=96)**	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
WELS Total	3.51 (.37)	3.77 (.43)	3.65 (.34)	3.72 (.44)	3.61 (.43)	3.72 (.46)	3.67 (.41)	3.73 (.40)	3.26 (.31)	3.45 (.41)	3.63 (.44)	3.70 (.48)	3.47 (.40)	3.64 (.45)	3.64 (.41)	3.71 (.44)
Awareness	3.49 (.55)	3.82 (.65)	3.63 (.58)	3.77 (.60)	3.67 (.60)	3.94 (.70)	3.73 (.50)	3.78 (.49)	3.31 (.49)	3.56 (.66)	3.66 (.58)	3.79 (.69)	3.51 (.57)	3.78 (.69)	3.67 (.55)	3.78 (.60)
Tolerance	4.05 (.60)	4.13 (.60)	4.17 (.48)	4.01 (.65)	4.06 (.50)	3.89 (.52)	3.91 (.63)	4.04 (.54)	3.69 (.61)	3.63 (.71)	3.75 (.66)	3.77 (.72)	3.93 (.59)	3.86 (.63)	3.90 (.63)	3.91 (.66)
Relationship	3.30 (.54)	3.49 (.52)	3.30 (.68)	3.57 (.65)	3.35 (.68)	3.51 (.67)	3.43 (.79)	3.59 (.74)	3.00 (.65)	3.33 (.74)	3.56 (.66)	3.68 (.69)	3.22 (.65)	3.44 (.66)	3.46 (.71)	3.63 (.69)
Flexibility	3.48 (.49)	3.66 (.66)	3.21 (.67)	3.36 (.67)	3.37 (.68)	3.59 (.66)	3.64 (.54)	3.67 (.58)	3.07 (.81)	3.31 (.66)	3.74 (.67)	3.76 (.78)	3.29 (.70)	3.51 (.67)	3.58 (.67)	3.64 (.71)
Self-Management	2.99 (.68)	3.50 (.55)	3.58 (.66)	3.57 (.68)	3.23 (.63)	3.38 (.71)	3.44 (.62)	3.33 (.69)	2.92 (.56)	3.17 (.56)	3.37 (.55)	3.40 (.62)	3.07 (.63)	3.34 (.63)	3.44 (.60)	3.42 (.65)

A number of mixed-design analyses of variance (ANOVAs) with repeated measures were performed on the combined results across the three years of the study to examine whether students showed significant growth in terms of social and emotional competence as measured by the WELS and its components, and to compare whether the students in the experimental group had a differentially higher growth rate than those in the comparison group. Figures 1 to 6 show the marginal mean scores estimated from the mixed-design ANOVAs for the overall WELS and its five components.

The results indicate that, from the beginning to the end of the semester, students' social and emotional competence, as measured by the WELS, increased significantly, with $F(1, 208) = 25.361$, $p < .001$. Furthermore, there was a significant interaction of group and time (pre-test vs post-test), with $F(1, 208) = 4.641$, $p = .032$. Specifically, the experimental group had a larger growth rate in EC than the comparison group. This result is demonstrated in Figure 1.

Figure 1: Estimated Marginal Mean Scores for the Overall WELS



As for the components of social and emotional competence, the results indicate that students had significant growth in awareness of emotions in self and others, with $F(1, 208) = 24.004$, $p < .001$; interpersonal relationship skills, with $F(1, 208) = 27.957$, $p < .001$; flexibility in perspective-taking and behavior, with $F(1, 208) = 9.132$, $p = .003$; and self-management skills, with $F(1, 208) = 7.855$, $p = .006$. Of these four components for which there was an overall significant increase from pre-test to post-test, the increase for the students in the experimental group was greater than the increase for those in the comparison group for awareness of emotions, with $F(1, 208) = 4.629$, $p = .033$, and self-management skills, with $F(1, 208) = 11.074$, $p = .001$. Although the tolerance score for the experimental group declined slightly from pre-test to post-test while the tolerance score for the comparison group did not, this interaction was not significant, with $F(1, 208) = 1.115$, $p = .292$. The interaction of time (pre-test vs post-test) and group was also not significant

for interpersonal relationship skills, with $F(1, 208) = .553$, $p = 458$, and flexibility, with $F(1, 208) = 3.090$, $p = .080$. Figures 2 to 6 display the results for each of the five components.

Figure 2: Estimated Marginal Mean Scores for the Awareness Component

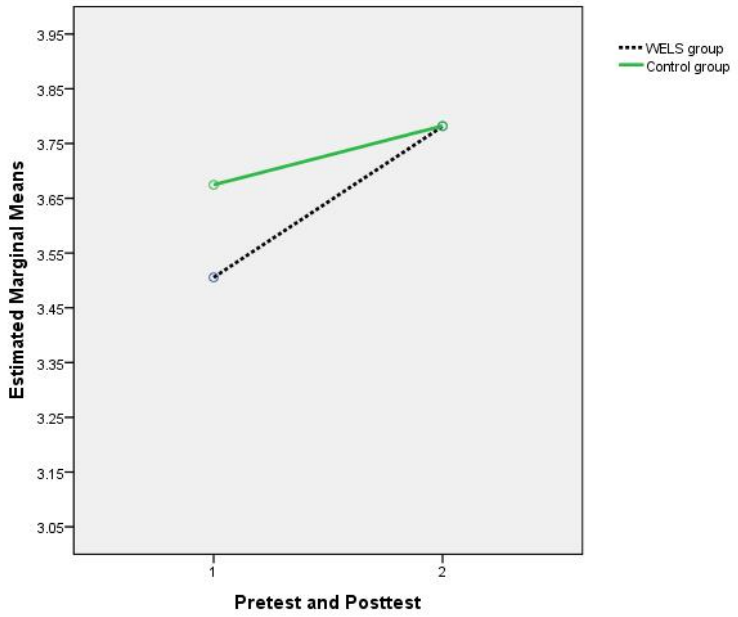


Figure 3: Estimated Marginal Mean Scores for the Tolerance Component

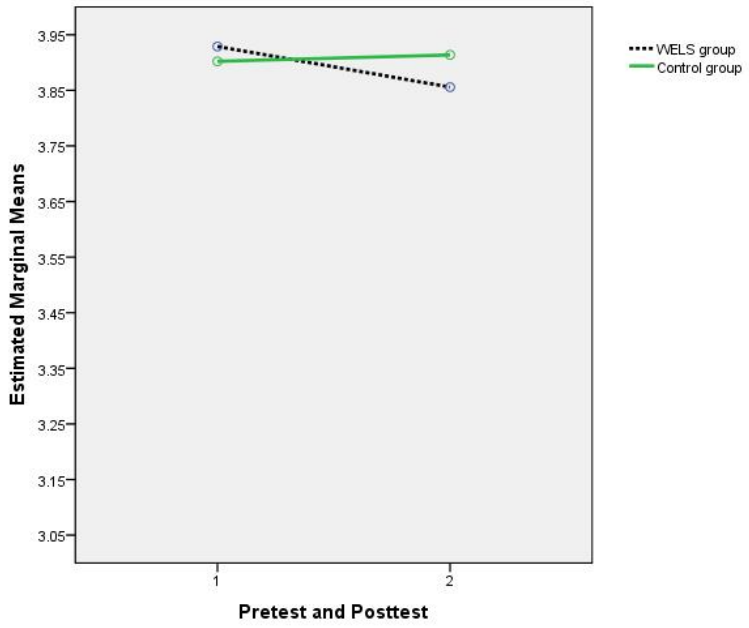


Figure 4: Estimated Marginal Mean Scores for the Relationship Component

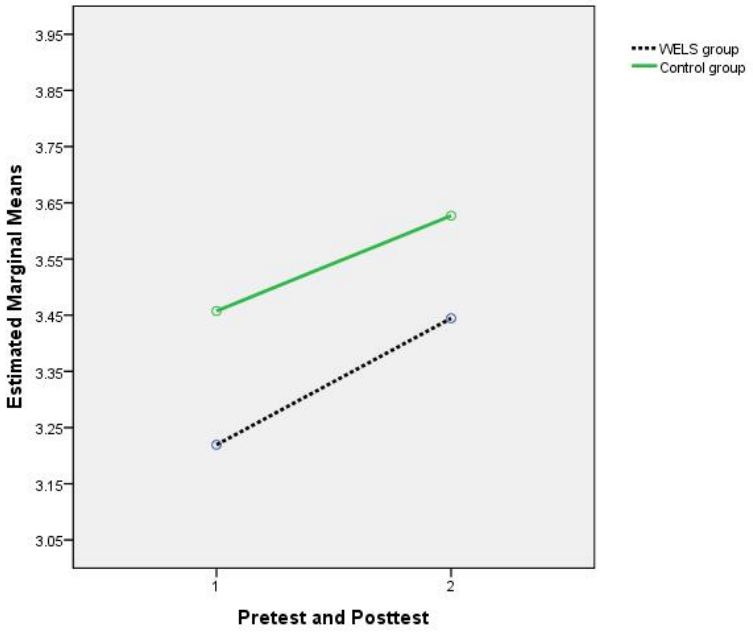


Figure 5: Estimated Marginal Mean Scores for the Flexibility Component

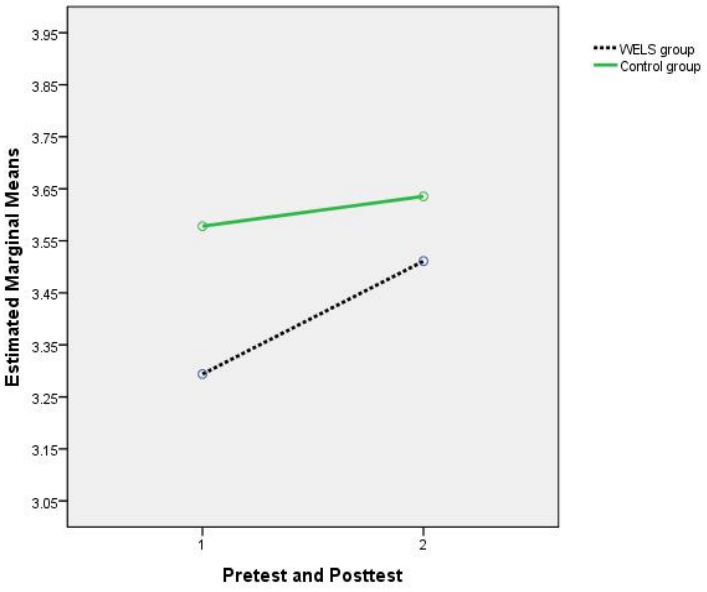
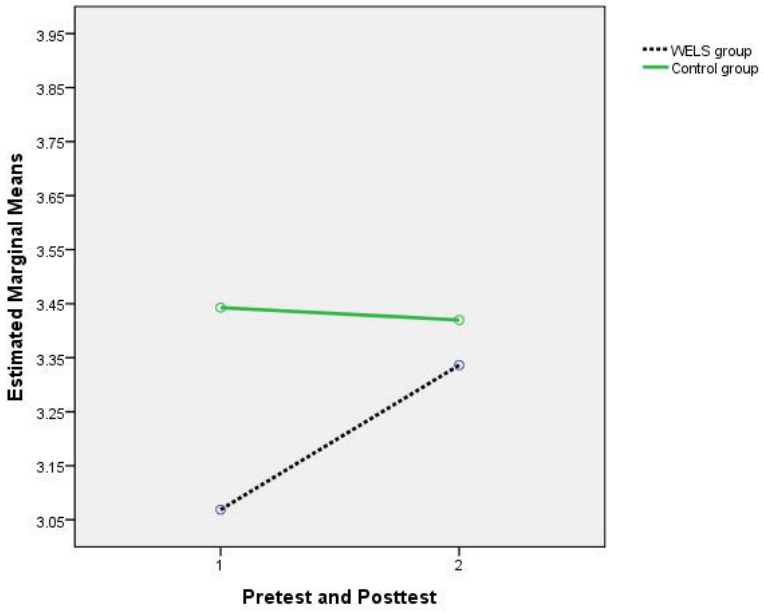


Figure 6: Estimated Marginal Mean Scores for the Self-management Component



Academic Performance

In comparing the academic performance of the 2008 cohort of freshmen in the two seminar groups (the social- and emotional-learning group and the comparison group) as reflected in their cumulative GPAs, analyses of covariance (ANCOVAs) were employed because of the quasi-experimental nature of the study. As students self-selected into the various freshman seminars, it is possible that the students in the social- and emotional-learning seminars differed from those in the comparison seminars on variables that could affect academic performance in college. Therefore, high-school GPAs and SAT scores (verbal and mathematics) for the students who participated in the 2008 freshman seminars were obtained from the university's Office of Institutional Research to use as covariates in the analyses of their college GPAs for Fall 2008 through Fall 2010 to statistically control for the preexisting differences of academic performance between the experimental and comparison groups. Table 3 provides descriptive statistics on GPAs for the students in the study.

Table 3:Mean Cumulative GPAs for the 2008 freshmen

	Fall 2008			**Spring 2009**			**Fall 2009**			**Spring 2010**			**Fall 2010**		
	N*	Mean	SD	N*	Mean	SD	N*	Mean	SD	N*	Mean	SD	N*	Mean	SD
Experiment	27	2.910	1.158	24	3.099	.523	22	3.099	.528	21	3.109	.491	20	3.131	.474
Comparison	23	2.596	.682	20	2.500	.691	17	2.796	.468	16	2.763	.452	15	2.734	.471
Total	50	2.766	.972	44	2.827	.669	39	2.967	.519	37	2.959	.499	35	2.961	.507

* The difference in the number of students from one semester to another reflects student attrition.

The results indicate that beginning in Spring 2009 (the first semester after the students completed the freshman seminar) and continuing through Fall 2010, the students who participated in the social- and emotional-learning seminars had significantly higher GPAs than the students who were in the comparison group, after statistically adjusting for differences in SAT scores and high school GPAs. Specifically, the ANCOVA results indicate that in Fall 2008 the differences were not statistically significant, with $F(4, 45) = 2.275$, $p = .076$; in Spring 2009,

significantly higher GPAs than the comparison group, with $F(4, 39) = 9.742$, $p < .001$; in Fall 2009, the experimental group continued to have significantly higher GPAs than the comparison group, with $F(4, 34) = 5.849$, $p = .001$; in Spring 2010, the experimental group continued to have a significantly higher GPAs than the comparison group, with $F(4, 32) = 4.670$, $p = .004$; In Fall 2010, the experimental group continued to have significantly higher GPAs than the comparison group, with $F(4, 30) = 4.411$, $p = .006$. Table 3 shows the differences in student GPAs.

Summary of Students' Reflection Papers

Awareness of emotions in self and others One of the themes that was examined during the coding was awareness of emotions. Of the 104 students, 99 made statements about their awareness of emotions in self and others. In total, 385 phrases were identified from student papers that exemplified awareness of emotions. This category broadly covered being aware of one's own emotions and how these emotions change in certain scenarios, as well as being aware of others' emotions. Examples of phrases that were identified in this category included: "When I am upset about something, I determine what exactly is bothering me, ways to fix it, and also make sure I don't misplace my emotions and take them out on someone they don't deserve to be taken out on." "Not only have I learned strategies for controlling and being aware of my own emotions but I have also learned to do so regarding others as well." And, "I am undeniably a very emotional person and sometimes the smallest thing can provoke a certain emotion in me."

Tolerance of difference or conflict The students' papers were read and coded by the same methods used for awareness of emotions. Each coder looked for examples of students making statements about interactions with people of diverse cultural, religious and ethnic backgrounds. Coders also searched for examples of acceptance of criticism as a part of this category. Of the 104 students, 82 made statements about tolerance. In these students' papers, 147 unique statements were identified as exhibiting tolerance; for example: "I have learned to approach situations and perceive people in a different and better perspective." "Race, religion, and country of origin do not matter too much to me in regards to how I treat a person or think about them. I find difference to be more of an interest than a reason to discriminate." And, "Being more tolerant has made me a more respectable person and has many people seeing me as a more mature individual."

Interpersonal relationship skills The coders also searched for examples of relationship skills: specifically, students inspiring others, developing others' talents and resolving disagreements with others. Of the 104 students, 70 made statements about their interpersonal relationships. Examples of the 116 phrases identified included "Freshman seminar has taught me how to keep these relationships strong, simply by talking to the people that we may have some sort of disagreement with and keep them close to you." "I have helped my [dormitory] floor mates in managing their time and helped them control their drinking habits." And, "If they are in a bad mood, I usually try extra hard to not get them even more aggravated. If people are upset, I try to make them feel better."

Flexibility in perspective taking and behavior The coders also looked for examples of the students exemplifying flexibility in perspective taking and behavior in their student papers: specifically, how students adapted their goals to others' expectations. Of the 104 students, 34 made statements about flexibility in perspective taking and behavior in their papers. From these statements, there were 52 phrases that were identified as exemplifying flexibility; examples included: "I am able to balance my emotion situation with my social situation by being flexible with everything that I do." "I am the type of person that can adjust their lifestyle for spur of the

moment type of things." And "As a freshman in college you must be flexible. Taking on this whole new lifestyle is not easy so you have to be flexible to succeed."

Self-management skills The final category from the WELS that was assessed was self-management skills. The coders searched for examples of how the freshman students handled pressure and stayed focused to complete tasks. The results showed that of the 104 students, 99 identified self-management skills, as indicated by 172 individual statements about self-management. The examples include: "I need to learn to start things earlier and give myself more time to work instead of trying to cram it into one session." "This year I have learned many techniques that enable me to successfully manage my time better." "I am able to keep my goals in mind while doing my work and I do the right things to do well in school, such as being able to think clearly when faced with heavy emotions." And, "Overall, I would say that I had an extremely successful semester because I am now aware of what is expected of me and my good grades are a direct result of self management skills."

Academic Skills Another category that was examined in the student papers was academic skills. The coders recorded examples of students addressing improvements, deficits or areas that did not change in relation to academic skills. Of the 104 students, 68 made references about their academic skills. From these students, there were a total of 99 statements noted about academic skills. Examples of these statements included: "I am now more organized with my work than I was in high school and now know how to manage my time wisely." And "I discovered my limitations academically and emotionally. As far as schoolwork goes I have realized that I am capable of much more than originally thought."

Success in college transition The coders looked for specific examples of students' success in the transition into college. The students were asked to address their reactions and reflections on becoming a college freshman. Of the 104 students, 75 mentioned aspects involved in their transition into college with 163 specific statements. Some examples included: "I was very nervous for my first semester in college, and this class taught me the skills that I needed to get by with confidence." "…this course has done a great deal in helping me transition from high school to college as well as reorganizing many different aspects about myself as a person." And, "I learned many skills that I would not have known. These skills helped me to get through many emotions I was dealing with when I first started college."

Overall growth The coders also searched for statements reflective of the broader category of overall growth. The students' papers were examined for statements about students' growth during their transition into college. Of the 104 students, 80 wrote about overall growth in a total of 151 individual statements. Examples of these statements included: "I learned how [to] analyze my emotions then confront them step by step rather than pushing them aside." "I am more open to meeting new people and different types of people than in the beginning of this class." And "Now that this class is coming to an end I feel that I have grown to become a bigger and better man than I ever thought I could be."

Areas to improve One important aspect of the transition into college as a freshman is being able to identify areas that need improvement. The coders looked for statements that the freshmen made about areas in which they need to improve. Of the 104 students, 72 identified areas to improve in 124 individual statements. Examples of these statements included: "I was never open to new ideas. I always like to stick with my old friends and just obstruct new people out." "Relationship skills have always been a tough subject for me considering that I am a reserved person." And, "At first I

was kind of having a difficult time making plenty of friends in college, but I knew this was because of me."

Other emerging themes

In order to capture all aspects of the students' observations, the coders were also asked to identify other statements that were considered important but not otherwise identified within the above categories. Of the 104 students, 48 addressed categories that were not included in other categories. There were 101 specific statements coded in this "emerging themes" category, indicating themes such as the benefits of being aware of emotions through writing; maturation in the context of relationships; and the pressures of drugs and alcohol. Examples included: "I think that writing our journals helped me in a way because I got to write my feelings and get out what I had to say and felt without anyone judging me." "I have also found the importance of not rushing a relationship and instead waiting for the right time." And, "I never had a problem staying away from drugs but alcohol was my main concern."

Discussion

The results of this study suggest that exposure to a social and emotional learning curriculum during the first semester at college may contribute to the development of social and emotional competence in students. These findings complement research conducted in K-12 education that suggests that exposure to cooperative experiences, training in social skills and internalisation of prosocial civic values contribute to children's development of social and emotional competence (e.g., Johnson & Johnson 2004; Walberg, Zins & Weissberg 2004).

However, the results reported here must be interpreted with caution because of the quasi-experimental nature of the research. It is possible, for example, that the students who elected to participate in the experimental seminar were interested in the topic in a way that predisposed them to benefit more from the opportunities that college life presents for social and emotional development, separate from the seminar curriculum, than were the students in the comparison group. It is also possible that the greater development of EC in the experimental subjects was the result of demand characteristics associated with their participation in the seminar – that they perceived that they were expected to increase their EC over the course of the semester. Although the impression-management subscale of the WELS provided some check on any excessive tendency of participants to present themselves positively, the exposure of the students in the experimental group to the social and emotional curriculum may have sensitised them to selectively presenting themselves more positively on survey items related to specific components of EC.

In order to overcome this limitation of the current research, students would need to be randomly assigned to seminars. In the Widener context, such random assignment is problematic for two reasons. First, there are scheduling constraints in that seminars are offered at different times and students are unable to take certain seminars because their scheduling conflicts with other required courses in their curriculum. Second, students have always been free to select their freshman seminar based on their interest in the topic of the seminar, and there would be resistance from instructors and administrators to taking away students' ability to choose their seminar.

Assuming that exposure to the social and emotional curriculum did have some positive impact on the development of EC in these college students, the results from the analyses of the different components of EC are of interest. Specifically, the subjects in the social- and emotional-learning

seminar showed greater development of only two of the EC components than did students in the comparison group: awareness of emotions and self-management skills. Similarly, in the analysis of the extent to which students made comments in their reflection papers at the end of the social- and emotional learning seminar that reflected the five components of EC assessed by the WELS, awareness of emotions and self-management skills were most commonly mentioned by students, with 95% of the students including comments on their development of these two components. In contrast, comments reflecting flexibility, relationship skills and tolerance were made by 33, 67 and 79% of students, respectively. These findings may suggest that certain components of social and emotional competence are more amenable to change than others, and that any intervention intended to promote the development of EC in college students may need to consider the types of information and experiences that will be most effective in influencing component skills such as flexibility. It is also possible that some of the components of EC, at least as assessed by the WELS, involve more-complex cognitive and affective processes that can only be effectively modified through much more extensive guided experiences than were provided in this study.

The results of this study provide some evidence that the development of EC in college students may be positively related to academic achievement as measured by GPA, even after controlling for differences in students' past academic performance and their standardised test scores. The finding that students exposed to the social and emotional learning curriculum had higher grades across the four semesters following the completion of the seminar complements other research suggesting a possible positive relationship between EC and academic performance in college (e.g., Adeyemo 2007; Dulewicz & Higgs 2004; Higgs & Dulewicz 1999; Parker, Duffy, Wood, Bond & Hogan 2005; Petrides, Fredrickson & Furnham 2004). Obviously, a number of factors can affect college GPA, and one that could have influenced the GPA findings in this study is major course of study being pursued. For example, perhaps the students included in the comparison group were pursuing more academically demanding majors than those in the experimental group. To examine this possibility, the percentage of students in the experimental and comparison groups pursuing the university's most demanding academic majors (science, engineering and nursing) were compared. As the percentage of students in the comparison group enrolled in these more difficult majors did not exceed that in the experimental group (58% versus 67%), the GPA difference found for the two groups may not have been an artifact of the academic majors being pursued.

It will be important to look for evidence of the impact of the development of EC on other aspects of student performance, such as college persistence and participation in prosocial activities outside the class, including civic-engagement experiences. Conversely, it will also be helpful to examine the extent to which other sorts of educational experiences beyond exposure to an explicit social and emotional learning curriculum can contribute to the development of EC in a college environment. There is already evidence from K-12 studies that cooperative learning approaches contribute to positive interpersonal relationships and degree of social supports (e.g., Johnson & Johnson 1989; Johnson & Johnson 2004), and some college studies have indicated that academic experiences involving significant interpersonal interactions and reflection, such as academic service learning courses, contribute to the development of social and emotional competence and related skills (e.g., Elias 2003; Simons & Cleary 2006; Simons, Russell & Blank 2009). What may be most important for colleges and universities that want to promote social and emotional learning in students is a comprehensive approach in which first-year course experiences set the stage for a range of subsequent learning opportunities that intentionally incorporate activities and assignments designed to promote the development of specific components of social and emotional competence.

Finally, it must be noted that the social and emotional learning curriculum employed in this study was delivered by instructors with clinical training in promoting the development of insight and problem-solving in adolescents. It will be important in future studies to examine the extent to which this curriculum can be effective in enhancing EC in students when implemented by instructors without such clinical training. The findings of such a study may have implications for faculty development in any institution that adopts a goal of encouraging the development of social and emotional competence in its students.

References

Adeyemo, D. A. (2007). Moderating influence of emotional intelligence on the link between academic self-efficacy and achievement of university students, *Psychology and Developing Societies*, 19, 199-213.

Bar-On, R. (1997). *The Emotional Intelligence Inventory (EQ-i): Technical manual*. Multi-Health Systems, Toronto.

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI), *Psicothema*, 18, 13-25.

Bar-On, R. & Parker, J. D. A. (2000). *The handbook of emotional intelligence.* Jossey-Bass, San Francisco.

Campbell, D. T. & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix, *Psychological Bulletin*, 56, 81-105.

Cavallo, K. & Brienza, D. (2002). *Emotional competence and leadership excellence at Johnson & Johnson: The emotional intelligence and leadership study*, http://www.eiconsortium.org/.

Cook, T. D. & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis for field settings*. Rand McNally, Chicago.

Davies, M., Stankov, L. & Roberts, R. D. (1998). Emotional intelligence: In search of an elusive construct. *Journal of Personality and Social Psychology,* 75*,* 989-1015.

Dulewicz, V. & Higgs, M. (2004). Can emotional intelligence be developed? *International Journal of Human Resource Management*, 15, 95-111.

Elias, M. J. (2003). *Academic and social-emotional learning. Educational Practices Series – 11*. International Academy of Education and International Bureau of Education, Switzerland.

Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st Century*. Basic Books, NY.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books, NY.

Gertis, L., Derksen, J. L. & Verbruggen, A. B. (2004). Emotional intelligence and adaptive success of nurses caring for people with mental retardation and severe behavioral problems, *Mental Retardation,* 42*,* 106-121.

Goleman, D. (1995). *Emotional intelligence*. Bantam Books, New York.

Goleman, D. (1998). *Working with emotional intelligence.* Bantam Books, New York.

Goleman, D. (2006). *Social intelligence*. Bantam Books, New York.

Hedlund, J. & Sternberg, R. (2000). Too many intelligences? Integrating social, emotional and practical intelligence. In Bar-On, R. & Parker, J. D. A. (eds). *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace*. Jossey-Bass, San Francisco, 136-169.

Higgs, M. J. & Dulewicz, V. (1999). *Making sense of emotional intelligence*. NFER-Nelson, Windsor, Ont.

Johnson, D. W. & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*. Interaction Book Company, Edina, MN.

Johnson, D. W. & Johnson, R. T. (2004). The three Cs of promoting social and emotional learning. In Zins, J. E., Weissberg, R. P., Wang, M. C. & Walberg, H. J. (eds), *Building academic success on social and emotional learning*. Teachers College Press, New York, 40-58.

Lam, T. L. & Kirby, S. L. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance, *The Journal of Social Psychology,* 142*,* 133-143.

Law, K. S., Wong, C. S. & Song, L. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies, *Journal of Applied Psychology,* 89, 483-496.

Leeper, R. W. (1948). A motivational theory of emotions to replace "emotions as disorganized responses", *Psychological Review,* 55*,* 5-21.

Lopes, P. N., Salovey, P., Cote, S. & Beers, M. (2005). Emotion regulation abilities and the quality of social interaction, *Emotion,* 5*,* 113-118 (electronic version).

Lopes, P. N., Salovey, P. & Straus, R. (2003). EI, personality, and the perceived quality of social relationships,*Personality and Individual Differences,* 35*,* 641-658 (electronic version).

Matthews, G., Zeidner, M. & Roberts, R. (2002*). Emotional intelligence: Science and myth*. MIT Press, Cambridge, MA.

Mayer, J. D., Caruso, D. & Salovey, P. (2000). Selecting a measure of emotional intelligence: The case of ability scales. In Bar-On, R. & Parker, J. D. A. (eds), *The handbook of emotional intelligence.* Jossey-Bass, San Francisco, 320-342.

Mayer**,** J. D. & Salovey, P. (1997). What is emotional intelligence? In Salovey, P. & Sluyter, D. (eds), *Emotional development and emotional Intelligence: Educational implications.* Basic Books, New York, 3-31.

Mayer, J. D., Salovey, P. & Caruso. D. R. (2000). Models of emotional intelligence. In Sternberg, R. (ed), *Handbook of intelligence.* Cambridge University Press, Cambridge, UK, 396-420.

Mayer, J. D., Salovey, P. & Caruso. D. R. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT): User's manual.* Multi-Health Systems, Toronto, Ont.

Mayer, J. D., Salovey, P. & Caruso. D. R. (2008). Emotional intelligence: New ability or eclectic traits?, *American Psychologist*, 63, 503-517.

Parker, J., Duffy, J., Wood, L., Bond, B. & Hogan, M. (2005). Academic achievement and emotional intelligence: Predicting the successful transition from high school to university, *Journal of the First-Year Experience,* 17*,* 1-12.

Pellitteri, J. (2002). The relationship between emotional intelligence and ego defense mechanisms, *The Journal of Psychology,* 136*,* 182-194.

Petrides, K. V., Frederickson, N. & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school, *Personality and Individual Differences,* 36, 277-293.

Saarni, C. (1999). *The development of emotional competence.* Guilford Press, New York.

Sala, F. (2002). *Emotional Competence Inventory: Technical manual*. The Hay Group, Boston.

Salovey, P. & Mayer, J. (1990). Emotional intelligence, *Imagination, Cognition and Personality*, 9(3), 185-211.

Simons, L. & Cleary, B. (2006). An evaluation of academic service-learning: Student and community perspectives on lessons learned. In McKnight Casey, K., Davidson, G., Billig, S. H. & Springer, N. C. (eds), *Advancing knowledge in service-learning: Research to transform the field.* Information Age Publishing, Greenwich, CT, 113-135.

Simons, L., Russell, B. & Bland, N. (2009). An exploration of the value of cultural-based service-learning for student and community participants. In Moely, B., Billig, S. E. & Holland, B. A. (eds), *Creating our identities in service-learning and community engagement.* Information Age Publishing, Greenwich, CT, 189-214.

Topping, K., Bremner, W. & Holmes, E. A. (2000). Social competence: the social construction of the concept. In Bar-On, R. & Parker, J. D. A. (eds). *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace.* Jossey-Bass, San Francisco, 28-39.

Van Rooy, D. L. & Viswesvaran, C. (2007). Assessing emotional intelligence in adults: A review of the most popular measures. In Bar-On, R., Maree, J. G. & Elias, M. J. (eds), *Educating people to be emotionally intelligent.* Praeger Publishers, Westport, CT, 259-272.

Wechsler, D. (1940). Nonintellective factors in general intelligence, *Psychological Bulletin,* 37*,* 444-445.

Walberg, H. J., Zins, J. E. & Weissberg, R. P. (2004). Recommendations and conclusions: Implications for practice, training, research, and policy. In Zins, J. E., Weissberg, R. P., Wang, M. C. & Walberg, H. J. (eds), *Building academic success on social and emotional learning.* Teachers College Press, New York, 209-217.

Wang, N., Young, T., Wilhite, S. C. & Marczyk, G. (2011). Assessing students' emotional learning in higher education: Development and validation of the Widener Emotional Learning Scale, *Journal of Psycoeducational Assessment*, 29, 47-62.

Wilhite, S. C. & Silver, P. T. (2005). A false dichotomy for higher education: Educating citizens vs. educating technicians, *National Civic Review*, 94, 46-54.

Wong, C. S. & Law, K. S. (2002). The effect of leader and follower emotional intelligence on performance and attitudes: An exploratory study, *The Leadership Quarterly*, 13, 243-274.

Zirkel, S. (2000). Social intelligence: The development and maintenance of purposive behavior. In Bar-On, R. & Parker, J. D. A. (eds). *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace.* Jossey-Bass, San Francisco, 3-27.