

Emotional Intelligence and Academic Success: Examining the Transition from High School to University¹

James D. A. Parker Ph.D.

Department of Psychology, Trent University, Peterborough, Ontario, K9J 7B8

The transition from high school to university is a stressful event for most young adults. First-year university students face the tasks of making new relationships, modifying existing relationships with family and friends, and learning study habits for a new academic environment. In addition, they must learn to function as independent adults (e.g., budgeting time or money). A failure to master these types of tasks appears to be one of the most common reasons for students withdrawing from university during the course of a 3-year or 4-year post-secondary program.

Academic success in post-secondary education has proven to be a complex phenomenon to study. Much of the previous research has focused on academic variables (like high-school GPA) or standardised measures of cognitive abilities. Although these variables predict small amounts of variability in first year performance, researchers have become increasingly aware that we need to study a broader range of predictors. For researchers interested in the transition from high school to university, the study of various emotional and social competencies (i.e. emotional intelligence) has proven to a useful predictor of academic achievement. Parker et al. (2001), for example, used the transition from high school to university as a context for examining the relationship between emotional intelligence and academic achievement. They used a model of emotional intelligence (Bar-On, 1997, 2000) that consists of several related abilities: *intrapersonal* (comprised of several related abilities like recognizing and understanding ones feelings); *interpersonal* (comprised of several

related abilities like empathy); *adaptability* (consisting of abilities like being able to adjust one's emotions and behaviors to changing situations and conditions); and *stress management* (consisting of abilities like resisting or delaying an impulse). During the first month of classes (September 1999) 373 first-year full-time students attending Trent University (a small liberal-arts university in central Ontario) completed the short form for the Emotional Quotient Inventory (EQ-i). At the end of the academic year (May 2000) the EI data was matched with the student's academic record and two groups identified: group 1 consisted of 67 academically successful first-year students (students who achieved a first-year GPA of 80% or better); group 2 consisted of 65 unsuccessful first-year students (students who achieved a first-year GPA of 59% or lower). Consistent with expectations, group 1 scored higher than group 2 on several dimensions of emotional intelligence: intrapersonal abilities, adaptability, and stress management. These emotional intelligence variables were excellent predictors in identifying both academically successful (correctly identified 82% of successful students) as well as unsuccessful students (correctly identified 91% of unsuccessful of students).

The remainder of this presentation reports on a recent longitudinal study examining the relationship between emotional intelligence and academic retention.

¹ Paper to be presented at the annual meeting of the Canadian Psychological Association, Vancouver, British Columbia, June, 2002. *DO NOTE QUOTE WITHOUT PERMISSION.*

Method

Participants

- In September 2000 approximately 90% of 1st-year students ($n = 870$) at Trent University completed a set of measures including the 51-item short-form of the BarOn Emotional Quotient Inventory (EQ-i; Bar-On, 1997; in press). The EQ-i:Short has separate scales for intrapersonal, interpersonal, adaptability, and stress management abilities.
- Participants gave permission to match these variables with their academic record while at Trent University; they also agreed to be contacted after leaving the university.
- In the fall of 2001, using records provided by the University Registrar, it was determined that 713 (82.0%) of the participants remained; 157 (18.0%) had withdrawn from the university. Over several weeks 118 (75.5%) of the students who had withdrawn were contacted by phone and asked about their current education or employment activities. Based on the results of this interview, it was determined that 66 (42.0%) students had enrolled in other post-secondary institutions, 57 (36.3%) had abandoned post-secondary study and were either working or unemployed, and 38 (21.7%) could either not be located or refused to participate in the phone interview².
- Based on the interview information, two groups were created. Group 1 consisted of 42 students who had left Trent University for other institutions and 25 students who were now working or unemployed. Group 2 consisted of 67 second-year students at Trent (matched with the 1st group on age and gender) who had participated in the study in September 2000. Because we were interested in the transition from high-school to university, only students who had

graduated from high school within the previous 2 years and were enrolled full-time (3.5 courses or more) when they started at Trent were included in these two groups.

- The two groups were not significantly different with respect to high school grade-point-average, age, or course load during 1st year.

Results

Part 1 compares EI levels of students who did not return to Trent with the matched group of students who returned for their 2nd year of study. Part 2 compares EI levels of students who abandoned post-secondary study with a matched group of students who returned to Trent University for their 2nd year of study.

Part 1 (Return vs. withdraw)

- Table 1 presents means and standard deviations for the various emotional intelligence scales for the students who "returned" to Trent for 2nd year and the students who "withdrew".
- The group who returned scored significantly higher than group who withdrew on interpersonal ability [$t=3.19$, $df=48$, $p < .003$], stress tolerance [$t=$, $df=132$, $p < .01$], and total EI [$t=4.99$, $df=132$, $p < .001$].
- A direct discriminant function analysis was performed using EI scores as predictors of membership in the two groups (return vs. withdrew). Discriminant function scores were subsequently used to classify the 134 students into return and withdrew groups (see Table 2).
- Sensitivity was 98%, specificity was 70%, positive predictive power was 70%, negative predictive power was 69%, false positive rate was 30%, false negative rate was 31%, kappa was .39, and the overall correct classification rate was 69%.

² A substantial number of the students who could not be located were international students who had returned to their home countries.

Part 2 (Return vs. abandon post-secondary study)

- Table 3 presents means and standard deviations for the various emotional intelligence scales for 25 students who returned to Trent for 2nd year ("return") and the 25 students who abandoned post-secondary study (i.e., left Trent and were subsequently working or unemployed).
- The group who returned scored significantly higher than the other group on interpersonal ability [$t=3.$, $df=132$, $p < .01$], intrapersonal ability [$t=3.67$, $df=132$, $p < .001$], adaptability [$t=3.22$, $df=132$, $p < .01$], stress tolerance [$t=2.64$, $df=48$, $p < .01$], total EI [$t=3.62$, $df=132$, $p < .001$].
- A direct discriminant function analysis was performed using emotional intelligence scores as predictors of membership in the two groups ("return" vs. "abandon"). Discriminant function scores were subsequently used to classify the 50 students into return and "abandon" groups (see Table 4).
- Sensitivity was 73%, specificity was 85%, positive predictive power was 88%, negative predictive power was 68%, false positive rate was 15%, false negative rate was 27%, kappa was .56, and the overall correct classification rate was 78%.

Discussion

Consistent with expectations, academic success (staying at university) was strongly associated with emotional intelligence. Emotional intelligence scores (collected at the start of the 1st year of study) were able to correctly identify the majority of students who would return to the university for a second year of study, as well as the majority of students who would not return to Trent University.

Emotional intelligence scores were even better predictors in identifying students who would abandon post-secondary study entirely (as opposed to transferring to a different post-secondary institution). Future research needs to determine whether these abilities continue to influence academic retention after 1st year.

Acknowledgements

This study was supported by research grants from the Social Sciences and Humanities Research Council of Canada (SSHRC) and the Ontario Government's Premier's Research Excellence Award program. For more information about the EQ-i:Short please contact Multi-Health Systems (MHS) of Toronto, Canada (1-800-268-6011) or visit their web-page at www.mhs.com.

References

- Bar-On, R. (1997). BarOn Emotional Quotient Inventory: Technical manual. Toronto: Multi-Health Systems.
- Bar-On, R. (in press). BarOn Emotional Quotient Inventory: Short form: Technical manual. Toronto: Multi-Health Systems.
- Bar-On, R. (2000). Emotional and Social Intelligence: Insights from the Emotional Quotient Inventory (EQ-i). In R. Bar-On & J.D.A. Parker (Eds.), Handbook of emotional intelligence. San Francisco, CA: Jossey-Bass.
- Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. (June, 2001). Emotional intelligence and academic achievement. Presentation at the annual meeting of the Canadian Psychological Association, Quebec City, Quebec.

Table 1
Means and standard deviations on the EQ-I:Short by
Group (return vs. withdrew).

EQ-i: Short Scale	Return		Withdrew	
	Mean	Sd	Mean	Sd
Interpersonal	44.87	4.00	41.93	6.30*
Intrapersonal	38.99	5.74	34.61	7.88
Adaptability	26.42	3.94	23.91	5.01
Stress Tolerance	41.09	5.68	37.87	5.90*
Total EI	151.36	12.84	138.11	17.11*

* $p < .01$

Table 2
Classification results from the discriminant function
analysis
with emotional intelligence variables (return vs
withdrew).

Actual Status	N	Predicted Status	
		Return	Withdrew
Return	67	46	21
Withdrew	67	20	47
Total	134	66	68

Table 3
Means and standard deviations on the EQ-I:Short by
Group (return vs. abandon).

EQ-i: Short Scale	Return		Abandon	
	Mean	Sd	Mean	Sd
Interpersonal	45.88	2.68	41.08	7.04*
Intrapersonal	39.36	5.82	35.32	8.23*
Adaptability	26.48	3.71	24.28	4.87*
Stress Tolerance	41.80	5.06	37.44	6.53*
Total EI	153.52	11.24	138.12	18.08*

* $p < .01$

Table 4
Classification results from the discriminant function
analysis
with emotional intelligence variables (return vs abandon).

Actual Status	N	Predicted Status	
		Return	Abandon
Return	25	22	3
Abandon	25	8	17
Total	50	30	20