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Exploring the Differences in Emotional Competency Across Subject Domains for Irish First Year Undergraduate Students

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Abstract

This study generated composite emotional competency profiles for Irish first year undergraduate students in four separate subject areas and tested for statistical significance between student groups. A total sample of 307 participants took part in this research as follows; n = 119 social care, n = 108 business, n = 42 computing, n = 38 engineering. Results revealed significant differences between Social Care and all other student groups for the interpersonal skills composite scale and for two of the three sub-scales from which it is computed, empathy and social responsibility. With respect to the third sub-scale from which the interpersonal skills composite scale is computed, interpersonal relationships, social care students had statistically higher scores than computing and engineering students and business students also had statistically higher scores than computing students. Results are discussed with reference to curriculum design, student support services and the design of interventions for at-risk students.

1. Introduction

The world's first psychological laboratory was opened by Wilhelm Wundt in 1879 and one of the first challenges faced by researchers in this area was to establish psychology as a credible science. In order for this to occur, human experience and thought needed to be quantified and the development of rigorous measurement techniques (psychometrics) became an important focus of early psychological research. Specific to the study of human intelligence, the psychometric movement, allowed for the first time, for intelligence to be measured and this naturally led to the development of standardised tests of intelligence. Traditionally, intelligence was considered a unitary, cognitive construct and intelligence tests focused on cognitive abilities, as these were the aspects of human thought which were most amenable to measurement. The study and measurement of cognitive intelligence has yielded robust and practical results and a number of studies have found that higher levels of cognitive intelligence confers advantages across a number of social, health and academic domains (Gottfredson 1998, Neisser, Boodoo, Bouchard, Boykin, Brody, Ceci, Halpern, Loehlin, Perloff, Sternberg and Urbina 1996, Batty, Shipley, Gale, Mortensen and Deary 2008).

The psychometric approach has also been criticised on a number of grounds, principally with respect to its focus on cognitive abilities and the assumption that intelligence is a unitary construct. Recently several theorists have argued that rather than being a singular construct, intelligence is in fact comprised of a number of separate but related constructs and that we should speak not of intelligence in the singular, but of multiple intelligences and focus on both cognitive and non-cognitive aspects of human reasoning (Bar-On 2000, Gardner 1983, Sternberg 1985). Recent developments with respect to the design, measurement and application of tests of non-cognitive intelligence have also led their proponents to argue that non-cognitive aspects of human intelligence such as emotional or social intelligence can now be measured as readily as cognitive aspects can.

2. Emotional intelligence

There is a growing body of evidence which suggests that although IQ tests do measure skills which are important to learning in school, they do not predict general life outcomes. Specifically, as IQ tests were originally designed to predict academic success, many critics argue that they measure fixed intelligence and this renders them unsuitable for application beyond the confines of academia i.e. in social or 'real-world' situations (Bar-On 1997, 2006, Cherniss 2000, Ciarrochi, Forgas and Mayer 2006, Emmerling and Goleman 2003, Gardner 1983, 1993, Goleman 1995, Parker, Summerfeldt, Hogan and Majeski 2004, Parker, Creque, Barnhart, Harris, Majeski, Wood, Bond. and Hogan 2004, Petrides, Frederickson, and Furnham 2004, Roeser, Van Der Wolf and Strobel 2001, Zigler and Seitz 1982). In today's global economy, employers are also seeking graduates who possess not only academic knowledge but inter and intrapersonal skills.

Both educationalists and industrialists alike have therefore come to realise the value of devising predictive tests aimed at assessing and predicting life skills and emotional awareness as there is a growing body of evidence that beyond a certain minimal requisite level of cognitive intelligence, emotional intelligence (EI) [14]is a stronger predictor of life success, business acumen and indeed personal satisfaction (Goleman 2000, Parker, Hogan, Eastabrook, Oke and Wood 2006, Schutte and Malouf 2002, Mestre, Guil, Lopes, Salovey and Gil-Olarte 2006, Schutte, Malouff, Thorsteinsson, Bhuliar, and Rooke 2007, Swart 1996 and Yost and Tucker 2000).

2.1 Emotional intelligence and education

Within the educational arena, researchers have begun to speak of 'Social and Emotional Learning' (SEL), which is essentially an applied field of study within the area of EI and specifically pertains to the development and examination of educational strategies for the promotion of emotional intelligence and positive developmental outcomes. Zins, Payton, Weissberg and O'Brien (2007), provide a good overview of research in this area and list a number of studies which have found positive associations between EI and academic attainment in children.

In the USA, the 'Committee for Children', and the 'Collaborative for Academic Social and Emotional Learning' (CASEL), are both non-profit making organisations which are dedicated to the promotion of SEL in the classroom. The committee for children in particular, have developed a number of programmes for school children that teach various aspects of SEL in regular class sessions throughout the school year. Their programmes have been successfully running for a number of years in twenty one countries worldwide.

One particular programme, 'Second Step' for example is designed to teach empathy and anger management and in this regard, Elias, Kress and Hunter (2004) claim that, the real challenge for an educator is that as the classroom is a complex social environment, children are emotionally distracted in many ways from learning. They

[14] Theorists in this area employ the terms emotional competency and emotional intelligence interchangeably, therefore the same convention shall be adopted throughout this article and both terms shall also be used synonymously.

believe that this obstacle to learning can be overcome by simultaneously incorporating aspects of social-emotional learning into the standard curricula taught to students and also fostering school environments that encourage the development of healthy and mature social interactions. In fact a range of research studies have found a positive relationship between academic attainment and EI (Austin, Evans, Goldwater and Potter 2005, Myers and Tucker 2005, Roeser, Van Der Wolf and Strobel 2001, Schutte and Malouf 2002, Swart 1996, Yost and Tucker 2000, Zeidner, Shani-Zinovich, Matthews, and Roberts 2005). A number of researchers have also studied potential mechanisms to help students increase their level of EI and examined the costs and benefits of doing so. Edwards, Mumford and Serra-Roldan (2007) argue for example that the provision of positive personal attention can be a simple way of countering some of the disadvantages that may pertain to at-risk students.

Petrides, Frederickson and Furnham (2004) have argued that the relationship between EI and IQ may not be directly linear and that there may in fact be a stronger advantage for students who have lower IQ scores but who have higher EI scores. In other words, students with fewer cognitive resources are more likely to feel stressed and having higher levels of emotional resources may help them to cope. Research has also specifically examined the impact of non-cognitive factors on academic attainment for students from socially disadvantaged families. In this regard, Izard, Fine, Schultz, Mostow, Ackerman and Youngstrom (2001) found that for children as young as five years old from socially disadvantaged families, levels of emotional intelligence, strongly predicted higher levels of social skills in third grade (approximately five years later). This research suggests that providing EI coaching at the earliest opportunity can serve a preventative function and have a positive and lasting impact for at risk students.

Specific to higher education, Kingston (2008) found an inverse relationship between drop-out rates and coping skills. Boyatzis, Cowan and Kolb (1995), delivered an EI instructional programme to a group of MBA students in the United States and found that improvements in EI competencies were sustained over a five year period post graduation. More recently, Boyatzis (2008), conducted a twenty year review of attempts to embed aspects of emotional competency in the curricula taught to students on the same MBA programme and concluded that not only do such efforts impact positively on the development of emotional competencies but in fact have a knock-on positive impact on the development of cognitive abilities.

2.2 Irish Perspectives on Emotional Intelligence

Aspects of emotional competencies are incorporated into the core curricula of Irish students at both primary and secondary level through the teaching of 'Relationship and Sexuality Education' (RSE) at primary level and 'Social, Personal and Health Education' (SPHE) at secondary level. A recent review of the implementation of the SPHE curriculum was conducted by the SPHE support service in 2008. Findings suggest that both teachers and students find this subject worthwhile and valuable but that due to it being non-examinable, insufficient classroom time is devoted to it. Specifically the report found that *'students express the view that SPHE is helpful to them in dealing with difficult situations'* (p7) and that this curriculum promotes self-esteem and contributes to students' emotional health. The review further found that although as stated above, the syllabus is taught only to junior certificate students, that parents, teachers and students all supported the continuation of SPHE to senior cycle.

There is some evidence to suggest that the discontinuation of the SPHE syllabus to senior cycle coincides with a decrease in young adults levels of emotional competencies. The 'State of the Nations Children' report produced by the Irish Department of Health and Children in 2008, found for example that the percentage of children who reported feeling 'happy always or very often with the way I am' was 74.8% for 9 year olds but dropped to 49.3% for 15-17 year olds. The percentage of surveyed children who reported being 'happy with my life at present' also dropped from 95% for 9 year olds to 88.5% for 15-17 year olds. One cannot conclude from these findings that there is a causative relationship between the two however this research does seem to suggest that young adults experience some difficulty with respect to emotional management and self concept and continued focus on the development of emotional competencies may therefore be of benefit in this regard.

With respect to third level students, Parker and Broderick (2008) conducted an international comparative study of the relationship between emotional competency and academic attainment for college students in America, Canada and Ireland. Students had their emotional competencies tested at the beginning of their first year of study and again at the end of their studies, just prior to graduation. When students were grouped according to GPA, in all three countries students with higher GPA's (i.e. more academically successful students) had statistically significant higher EI scores than those with lower GPA's.

Although, there has not been much research conducted in an Irish context with respect to emotional competency and academic attainment, available evidence does suggest that incorporating aspects of emotional competency coaching in the curricula that are taught to younger students gleans positive results and that there is value in continuing such coaching to senior cycle and beyond. Further research is also required to investigate more fully from an Irish perspective the relationship between emotional competency and academic attainment at third level.

3. Methodology

3.1 Participants

All incoming first year students aged eighteen years of age or older who registered for courses beginning in September 2009 at the Institute of Technology Blanchardstown (ITB) in four distinct subject areas (Social Care, Business, Engineering and Computing) were eligible for participation in this research. A total of 307 students chose to participate (n = 119 Social Care, n = 108 Business, n = 42 Computing, n = 38 Engineering).

3.2 Materials

The Bar-On EQ-i has been chosen for use in this research as although it has not been extensively employed in an Irish context, it has been employed internationally and has been found to have strong internal reliability and predictive validity.

Further details pertaining to the construction and validity of the test are now provided. The EQ-i is a self report measure with 133 items, consisting of short sentences to which respondents indicate the level to which they believe each sentence describes them on a five point scale, ranging from 'Very seldom or not true of me' (1), to 'Very often true of me or true of me'(5). Once the test has been completed, a total EQ score is

generated as well as composite scores in five principle domains (Intrapersonal, Interpersonal, Stress-Management, Adaptability and General Mood). Each of the principle domains are further comprised of scores in a range of sub-categories and the following table lists the categories associated with each domain.

Composite scale	Sub-scale
Interpersonal	Empathy Social Responsibility Interpersonal Relationships
Intrapersonal	Self-Regard Emotional Self Awareness Assertiveness Self Actualisation Independence
Stress Management	Stress Tolerance Impulse Control
Adaptability	Reality Testing Flexibility Problem Solving
General Mood	Optimism Happiness

Table 1: Composite scales and sub-scales of the Bar-On EQ-i.

Bar-On 2004, found the sub-scales of the EQ-i to have strong internal reliability, yielding alpha coefficients of consistently greater than .90 and test-retest coefficients were also reasonable across a six month interval. The test was also shown to have good predictive validity in a number of domains and the EQ-i has been employed in a number of areas to successfully predict social ability and performance in a range of settings. Bar-On (2006) provides a good summary of both his own research in this regard and also summarises findings from other researchers worldwide who have confirmed the validity of this measure in a range of settings over the past number of years.

One of the principle debates which is central to the development of measures of EI, is whether as the name suggests emotional intelligence is in fact a form of intelligence, an ability which may have a strong genetic component and may as a result therefore be difficult to improve or change, or whether EI is a trait, similar to personality, which may arguably be more amenable to social learning and more readily changed through experiential learning. The Bar-On model adopts a trait approach to the study of emotional intelligence and considers EI to be largely skill based.

3.3 Procedure

A short presentation was given to students in participating courses at induction during the first week of term, where the rationale and objectives of the study were explained to them and they were given the opportunity to ask any questions they had pertaining to the study or their involvement in this research. Students were also presented with an information sheet outlining in writing the information delivered in the presentation and

consent was received in writing from all participants. Students were clearly informed that participation was on a voluntary basis. Once consent was received from students, they were given an online version of the EQ-i and all participants completed the test. In line with both best practise and institute policy, ethical clearance was sought and granted prior to the commencement of this research.

4. Results

Descriptive statistics are provided in table 2 for all composite scales and sub-scales of the EQ-i for each subject group. Average total EQ scores are highest for social care students and lowest for computing students.

With respect to specific composite scale and sub-scale scores, average scores are highest for social care students in all composite scales and sub-scales, with the exception of independence and self regard, for which business students have highest average scores, stress management and flexibility for which engineering students have highest average scores and stress tolerance for which computing students have highest average scores.

There is more variability with respect to lowest average scores, with computing students achieving lowest average scores for three composite scales (intrapersonal, interpersonal and general mood) and six sub-scales (self actualisation, social responsibility, interpersonal relationships, flexibility, optimism and happiness). Engineering students achieved lowest average scores in emotional self awareness, assertiveness, empathy, reality testing and problem solving, business students achieved lowest scores in stress tolerance and impulse control and social care students for self regard and independence.

This data is summarised in Table 3 and has been presented pictorially in Figure 1.

To analyse these scores for statistical significance across subject areas, a series of one-way ANOVA's was conducted for total EQ and for each composite scale. Where significance was found for any composite scale, further ANOVA's were conducted for each of the sub-scales associated with it. Significance was not found for total EQ $F(3, 303) = 2.499$, $p = .06$, or for four of the five composite scales, intrapersonal $F(3,303) = .63$, $p = .596$, stress management $F(3,303) = .421$, $p = .738$, adaptability $F(3,303) = 1.032$, $p = .375$ or general mood $F(3,303) = .73$, $p = .535$.

For the composite interpersonal scale, scores differed significantly across subject areas $F(3,303) = 19.99$, $p = .000$. Tukey post hoc comparisons of the four groups indicated that social care students (M 103.82 95%CI [101.6, 106.05]) had statistically higher scores than students in all other groups, computing (M 87.4 95%CI [81.81, 93]) $p = .000$, engineering (M 88.53 95%CI [82.78, 94.27]) $p = .000$ and business (M 93.94 95%CI [91.14, 96.75]) $p = .000$. No significant differences were found between any other groups at the .05 level.

Table 2: Averages, standard deviations and standard errors for all students in each EQ domain and sub-category for all subject areas.

DOMAIN	MEASUREMENT	TOTAL (N =307)	SOCIAL CARE (N = 119)	BUSINESS (N = 108)	COMPUTING (N = 42)	ENGINEERING (N = 38)
Total EQ	Average Score	91.93	94.43	91.2	88.14	89.92
	Standard Deviation	14.24	12.97	13.46	15.91	16.69
	Standard Error	.81	1.18	1.3	2.43	2.67
Intrapersonal	Average Score	**93.54**	**93.85**	**94.47**	**91.37**	**91.61**
	Standard Deviation	14.61	14.14	13.63	16.15	16.66
	Standard Error	.83	1.29	1.3	2.46	2.67
Self Regard	Average Score	97.6	94.93	99.95	96.19	99.43
	Standard Deviation	16.11	16.54	15.84	16.98	13.51
	Standard Error	.92	1.51	1.52	2.59	2.16
Emotional Self Awareness	Average Score	95.4	97.77	95.31	92.7	90.38
	Standard Deviation	15.05	14.06	14.22	15.73	17.84
	Standard Error	.86	1.28	1.36	2.4	2.86
Assertiveness	Average Score	96.41	97.1	96.2	96.63	95.46
	Standard Deviation	13.5	13.3	12.48	15.13	15.08
	Standard Error	.77	1.22	1.2	2.31	2.41
Independence	Average Score	90.86	89.8	91.95	89.98	90.79
	Standard Deviation	15.57	16.4	14.02	16.82	16.09
	Standard Error	.89	1.5	1.34	2.56	2.58
Self Actualisation	Average Score	93.17	95.83	92.56	89.39	90.33
	Standard Deviation	15.85	15.51	15.92	16.19	14.88
	Standard Error	.9	1.42	1.52	2.47	2.38
Interpersonal	Average Score	**96.21**	**103.82**	**94.01**	**87.72**	**88.85**
	Standard Deviation	16	12.27	14.66	17.85	17.36
	Standard Error	.91	1.12	1.4	2.72	2.78
Empathy	Average Score	94.29	103.1	90.57	87.79	86.61
	Standard Deviation	18.37	15.6	17.37	19.97	17.65
	Standard Error	1.05	1.43	1.66	3.04	2.83
Social Responsibility	Average Score	91.79	101.79	86.59	83.35	86.18
	Standard Deviation	17.4	12.7	16.4	19.41	16.35
	Standard Error	.99	1.16	1.57	2.96	2.62
Interpersonal Relationships	Average Score	99.98	103.42	101.03	92.86	94
	Standard Deviation	16.24	15.2	14.85	17.62	17.45
	Standard Error	.93	1.4	1.42	2.69	2.79
Stress Management	Average Score	**92.55**	**93.29**	**91.26**	**92.19**	**93.61**
	Standard Deviation	15.22	14.7	14.62	17.9	15.31
	Standard Error	.87	1.35	1.4	2.73	2.45
Stress Tolerance	Average Score	93.95	93.2	93.1	96.77	95.61
	Standard Deviation	16.34	1.38	17.82	16.68	14.99
	Standard Error	.93	15.01	1.71	2.54	2.4
Impulse Control	Average Score	92.91	95.98	89.23	91.84	93.79
	Standard Deviation	16.69	14.93	17.9	18.45	14.64
	Standard Error	.95	1.37	1.71	2.81	2.34
Adaptability	Average Score	**88.98**	**90.8**	**87.51**	**87.56**	**88.49**
	Standard Deviation	14.65	13.67	14.59	15	16.78
	Standard Error	.84	1.25	1.4	2.29	2.69
Reality Testing	Average Score	89.59	91.3	88.61	88.95	88.54
	Standard Deviation	15.35	14.44	15.07	14.77	18.81
	Standard Error	.88	1.32	1.44	2.25	3.01
Flexibility	Average Score	95	95.63	94	92.7	96.85
	Standard Deviation	14.8	13.4	14.68	16.4	17.45
	Standard Error	.84	1.23	1.4	2.5	2.79
Problem Solving	Average Score	88.55	90.6	86.96	87.98	86.26
	Standard Deviation	15.32	14.23	15.79	15.77	16.36
	Standard Error	.87	1.3	1.51	2.4	2.62
General Mood	Average Score	**96.15**	**97**	**96.22**	**92.56**	**96.49**
	Standard Deviation	16.71	14.34	18.92	18.16	14.76
	Standard Error	.95	1.31	1.81	2.77	2.36
Optimism	Average Score	93.05	92.39	94.4	91.6	92.33
	Standard Deviation	15.66	15.47	14.55	19.55	14.16
	Standard Error	.89	1.42	1.39	2.98	2.27
Happiness	Average Score	100.5	101.72	101.2	94.72	100.38
	Standard Deviation	15.83	14.82	16.5	16.58	14.95
	Standard Error	.90	1.36	1.58	2.53	2.39

Table 3: Highest and Lowest scores for each domain and sub-category of the EQ-i.

DOMAIN	SOCIAL CARE	BUSINESS	COMPUTING	ENGINEERING
Total EQ	Highest		Lowest	
Intrapersonal		**Highest**	**Lowest**	
Self Regard	Lowest	Highest		
Emotional Self Awareness	Highest			Lowest
Assertiveness	Highest	Lowest		
Independence	Lowest	Highest		
Self Actualisation	Highest		Lowest	
Interpersonal	**Highest**		**Lowest**	
Empathy	Highest			Lowest
Social Responsibility	Highest		Lowest	
Interpersonal Relationships	Highest		Lowest	
Stress Management		**Lowest**		**Highest**
Stress Tolerance		Lowest	Highest	
Impulse Control	Highest	Lowest		
Adaptability	**Highest**			**Lowest**
Reality Testing	Highest			Lowest
Flexibility	Highest		Lowest	
Problem Solving	Highest			Lowest
General Mood	**Highest**		**Lowest**	
Optimism		Highest	Lowest	
Happiness	Highest		Lowest	

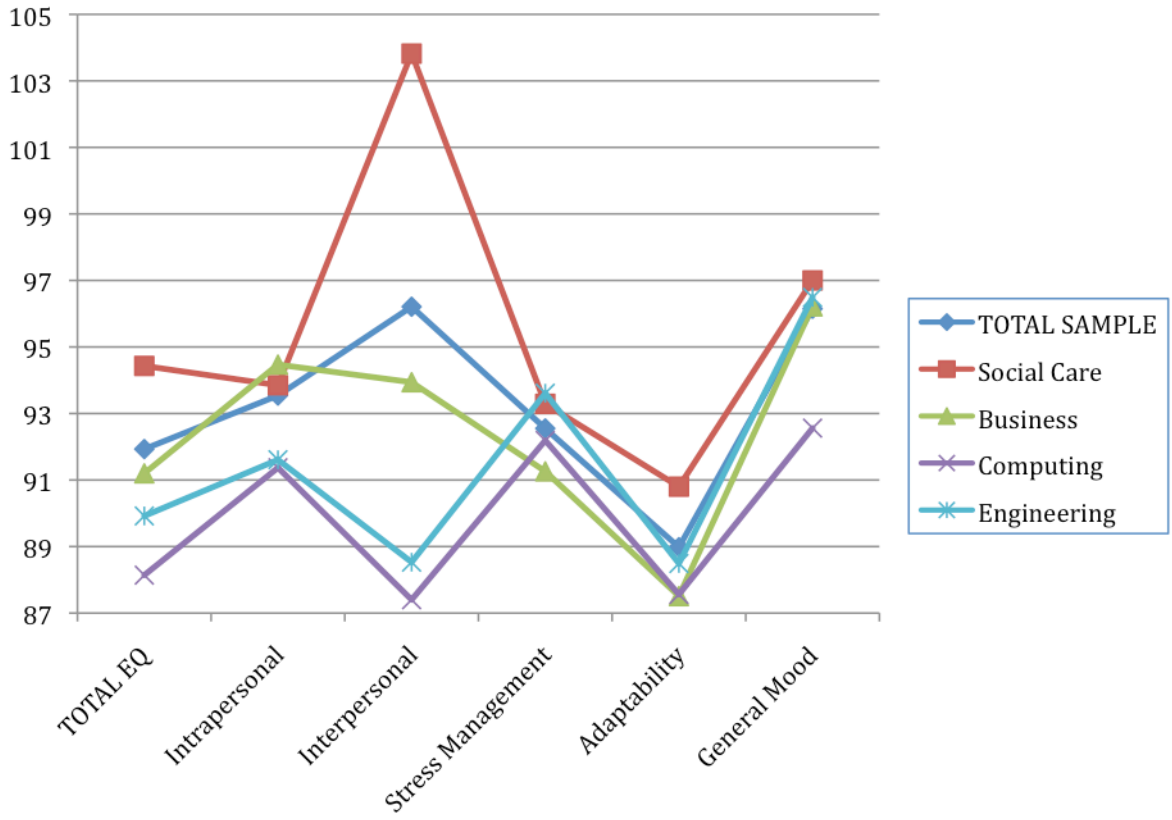

Figure 1: Scores for each principle domain for all student groups.

For the empathy sub-scale, scores also differed significantly across subject areas $F(3,303) = 18.262$, $p = .000$. Post hoc comparisons for this sub-scale also revealed that social care students (M 103.11 95%CI [100.28, 105.94]) had statistically higher scores than students in all other groups, computing (M 87.12 95%CI [80.98, 93.26]) $p = .000$, engineering (M 85.84 95%CI [80.19, 91.5]) $p = .000$ and business (M 90.33 95%CI [87.04, 93.63]) $p = .000$. No significant differences were found between any other groups at the .05 level.

The same pattern was repeated with respect to the social responsibility sub-scale with scores again differing significantly across subject areas $F(3,303) = 27.502$, $p = .000$. Post hoc comparisons again indicated that social care students (M 101.79 95%CI [99.49, 104.09]) had statistically higher scores that students in all other groups, computing (M 82.83 95%CI [76.8, 88.86]) $p = .000$, engineering (M 85.68 95%CI [80.33, 91.03]) $p = .000$ and business (M 86.4 95%CI [83.57, 89.53]) $p = .000$. Again no significant differences were found between any other groups at the .05 level.

For the interpersonal relationships sub-scale a slightly different pattern emerged. Scores differed significantly across subject areas $F(3,303) = 27.502$, $p = .000$ and post hoc comparisons revealed that social care students (M 103.42. 95%CI [100.66, 106.18]) had significantly higher scores than computing (M 92.81. 95%CI [87.25, 98.36]) $p = .001$ and engineering (M 93.97 95%CI [88.16, 99.78]) $p = .008$ students. For this sub-scale however, business students (M 101.08. 95%CI [98.24, 103.93]) were also found to have significantly higher scores than computing students $p = .022$.

4.1 Summary of findings

There are some significant differences between the emotional competency profiles for the student groups that were included in this study. Social Care students have the highest overall levels of emotional intelligence (although statistical significance was not found) and the highest scores for three of the five composite scales and twelve of the fifteen sub-scales. Social Care students have significantly higher levels of interpersonal skills than students in other subject areas. Computing students had lowest overall scores and were also lowest in three of the five composite scales and nine of the fifteen sub-scales. Computing students also had the highest scores for one of the sub-scales. Engineering students had the lowest scores for one composite and for four sub-scales and the highest scores for one of the composite scales. For business students, a varied pattern emerged. These students had highest scores in one composite and three sub-scales and had lowest scores for one composite and three sub-scales.

5. Discussion

The results outlined above support the need for emotional competency coaching for first year undergraduate students in all subject areas as although significant differences were found across groups, the profile for every student group included both higher and lower scores. It is important to reiterate therefore that as per the literature review above, research suggests that emotional competencies are not absolute and can be improved through coaching i.e. that they are at least partly ability based. Group profiles should also be considered in context, as in some instances even higher scores can be misleading and may in fact denote poorer as opposed to higher emotional competencies. Engineering students for example have the highest levels of stress management which, on the surface, appears positive however, they also possess the

lowest levels of adaptability, reality testing and problem solving. This may mean that at times, stress may appear to be managed effectively when it is not in fact *perceived* i.e. in some instances stressors or problems may be ignored.

These findings have important implications for curriculum design, for student support services and for the design of interventions aimed specifically at supporting at risk students. Arguably, one of the most useful aspects of research of this kind is that whilst emotional competency profiling draws attention to student's emotional weaknesses, it also highlights their emotional strengths. In this regard, Edwards, Mumford and Serra-Roldan (2007) argue that in the past, the emphasis has been on delineating the negative predictors of school related outcomes and therefore

> "*Determining which variables 'positively' influence the trajectories of these students' school-related outcomes has important implications for developing successful intervention and prevention programs in all countries and among all cultures."* (p30).

In recent years, educators and psychologists have begun to speak about the education of the 'whole' child and argue that it is only when social-emotional and academic factors are combined that this can occur (Elias and Harriett, 2006). This argument pertains as much to third-level students and adult learners as to younger students and based on these current findings, there appears to be a strong argument in favour of including learning outcomes on all third level programmes aimed at encouraging emotional and social development.

It is important to note prior to doing so however that one of the principle difficulties which educationalists encounter is in fact clarifying what exactly education is and what it should entail. Sharp, Ward and Hankin (2006), ask for example, whether formal education should focus solely on the development of cognitive abilities, or should educators encourage the development of democratic thought, morality or self-awareness and if so, to what extent? There is clearly both a need for and a benefit from encouraging student's emotional and social development however what is not clear is where the responsibility lies for the provision of such skills and how such development should best be achieved? There are for example a number of ways in which interventions aimed at encouraging emotional development can be delivered; via the provision of emotional competency coaching, through the infusion of aspects of emotional competencies in the curricula that are taught to students or perhaps through offering stand alone modules in this area either on a mandatory or an optional basis. Boyatzis (2009) argues that where attempts are made to foster emotional competency in educational settings it is important to adopt a holistic approach. Coaching for example may be important particularly where self-assessment of emotional intelligence occurs, as students may not believe that they possess particular competencies until they have the opportunity to put them into practise, therefore developing *and* demonstrating such competencies may be important.

As a majority of the principle tests of emotional intelligence and a majority of the research that has been conducted with respect to the application of such tests has involved western populations, some researchers have recently begun to question whether such tests and such research may be culturally biased. Researchers have established some time ago that the basic range of human emotions are experienced

universally (Izard 1971), however there are considerable intercultural differences with respect to the manner in which emotions are labelled and expressed (Elfenbein and Ambady 2003). Elfenbein and Ambady also found that people can more accurately label the emotions of those from members of their own culture than of those from other cultures. This may mean that in multicultural classroom settings both students and teachers may experience some difficulty expressing emotion and labelling the emotions of others. Whilst reviewing current trends in social emotional learning Hoffman (2009) notes in this regard that given such cultural differences, it may be important to assess the extent to which current tests of emotional intelligence and current interventions may need to be adapted to become less culturally biased.

In conclusion, there is merit in further investigating this area as a number of important questions and issues are yet to be resolved. As very little research has been conducted in an Irish context with respect to better understanding the relationship between emotional competency and academic attainment, this study will hopefully help to build a foundation from which further research may be conducted.

5.1 Limitations and directions for further research

A dearth of research has been conducted with respect to emotional competency and academic attainment in Ireland. Although this study appears therefore to support the need for emotional competency coaching for undergraduate students, it contains a number of limitations which may limit its generalisability. Most importantly, this research has been conducted in one specific third level institution and similar research will need to be conducted with other student cohorts to ensure these findings are not specific to this particular group.

The Bar-On model has received some criticism as a self-report measure and future research may seek to corroborate the findings from this study with objectively rated measures of EI. As mentioned above, there is also some debate as to whether emotional intelligence is trait or ability based and researchers are not fully in agreement as to which approach should be adopted. Future research may also seek to employ alternative models of EI to substantiate the findings from this study. It is important however to point out that a majority of theorists do recognise that to some extent both genetic and social factors will impact the development and expression of emotional intelligence and that when both personality and IQ are controlled for, research shows that emotional intelligence does emerge as a unique construct (Van Rooy and Viswesvaran 2004). Finally, this study has been conducted as part of an ongoing research project. Now that students EI competencies have been profiled, ongoing research will test the assertion that providing emotional competency coaching can improve student's EI scores. What seems certain is that future research in this area is of great value and will benefit students, educationalists and researchers alike.

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