Global Journal of Vocational and Technical Education

ISSN: 2437-1890 Vol. 3 (1), pp. 058-068, April, 2015.

http://www.globalscienceresearchjournals.org/

Case Study

Appraisal of the key factors behind the decision making of the Saudi high schools' graduates to enroll at the colleges of technology

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Accepted 15 April, 2015

Abstract

This article aimed at investigating the human and the socio-behavioral factors which motivate Saudi high schools' graduates to enroll at the Jeddah College of Technology (J.C.T), Saudi Arabia. A proportionate stratified random sample of 340 students who attended the J.C.T six terms program in (2011/2012) has been drawn and asked to rate the impact of a host of fourteen factors over their decision making to join up the J.C.T. In the Part I of this study, we report on seven factors, namely, the parents' aspiration, the family professional success, the location proximity, peers influence, the society esteem, fear of theoretical courses and the job availability at graduation. The sample drawn has managed students that emanate from 11 sections (sub-strata) and, readily, administrated into four independent Depts., i.e., Management & Tourism, Mechanical Technology, Electrical Technology and Civil & Architecture. As we purposed to compare findings seemingly and at a large scope, the study has considered three pooling schemes (strata) wherein students were grouped as per: i) Depts., ii) living location (inside versus outside Jeddah city), iii) and, students seniority at the J.C.T. As for the study concern, the students enrolling in terms I and VI have been disregarded as it we will argued further. And, given a pooling scheme, the correlation between the students' decision making to enroll at the J.C.T and the study factors, has been appraised using the nonparametric Chi-square test.

Keywords: Decision making, tertiary vocational education, vocational education and training (V.E.T).

INTRODUCTION

For decades, the secondary and the tertiary VET sectors have acquired ongoing attention and investment in the research and the national program organizations (Nevriye, Y. et al. 2009, Martin, H. 2012). This has been further sustained by the drastic change/enhancement in the nationals' VET policies and the heavy governments' budgets which have been allocated in this regard. Furthermore, because the vocational tertiary/secondary sectors have expended and liberalized continually, more public and private interveners were involved seeking to meet the endless quest of well trained and qualified manpower for the industry, trade and the service fields. In Saudi Arabia, the Technical and Vocational Training Corporation (T.V.T.C) managed both the secondary and the tertiary VET sectors since 1980. The secondary sector has been administrated in the industrial high schools whereas the tertiary sector was managed by the colleges of technology. In 2011/2012, the T.V.T.C totaled 113 unmixed males and females institutions; 63 industrial high schools and 50 colleges of technology and did account for a population of 39328 males and 1269 females. As for the tertiary VET sector, the T.V.T.C

Table 1: 2005-2008 public expenditure *per* student for tertiary public and private education sectors

Country	Year					Mean (2005-2008)	Std. Dev. (2005-2008)
	2005	2006	2007	2008	2009		
New Zealand	25.16	25.91	28.09	28.25	-	26.85	1.55
Hong Kong	59.70	57.20	38.47	28.62	-	46.00	14.97
Malaysia	-	60.72	50.28	34.40	60.72	48.47	13.25
U.K	31.62	28.76	24.33	22.20	-	26.73	4.25
North America	23.07	24.96	21.71	21.15	-	22.72	1.70
Korea, Rep	8.68	9.51	9.04	10.14	-	9.34	0.63
Tunisia	50.13	48.62	49.82	46.14	-	48.68	1.81
Norway	49.10	44.85	47.25	46.80	-	47.00	1.74
O.E.C.D.	**25.16**	**26.46**	**25.07**	**26.19**	**-**	25.72	0.71
Finland	34.37	33.36	31.65	32.46	-	32.96	1.17
France	34.47	34.61	36.07	37.00	-	35.54	1.21
Iran	23.50	30.29	27.92	20.84	-	25.64	4.26
Spain	22.67	23.42	25.07	27.26	-	24.61	2.03
Australia	21.50	20.57	20.21	19.85	-	20.53	0.71
Denmark	55.50	53.73	53.64	52.14	-	53.75	1.37

provides 38 specialties and the average teachers/students ratio was about 1:14.

In 2012/2011, the T.V.T.C has been allocated a public expenditure budget which amounted to 1278.744 Million (USD) (4 % more than in 2011/2010 and 8.11 % more than in 2010/2009). According to the Saudi Central Department of Statistics & Information, the spending *per* student in 2010/2011 as regards the general governmental and private education sectors was 4558 (USD), however, it attained 6073 (USD) for the governmental and private VET sectors. Likewise; worldwide the public expenditure has charted the same upward slopping trend (e.g., O.C.D.E., North America, etc.). Yet, for a couple of the developed countries, the tendency has been less contrasted in that regard, partly, due to the heavy involvement of the private sector in financing the general and the VET programs. Table 1 shows the total public expenditure *per* student for the general and VET public and private tertiary sectors as a percentage of the G.D.P *per* capita (World Bank source).

To date, much work has been carried out to assess the students' decision making process as for the high school graduates enrolling in the tertiary education institutions (Fernandez, J. L. 2010). Because of the prompt pace at which the policies and the education programs change to meet national and international labor market standards, high schools' graduates have been coming up against a problematic issue whenever choosing the 'best' institution to enroll in for career making. Earlier, O'Neil et al. (1979) suggested a career decision making model which has appraised the vocational behavior of students wherein six factors have been considered, namely, the individual, the societal, the familial, the socio-economic, the situational and the psychosocial-emotional determinants. The factors impact was assessed as to the sex role socialization and the career decision making process. Later, new empirical and formal models have attempted to shape the influence of the economic and/or socio-behavioral factors on the students' decision to enroll in the VET and general education sectors. These models have fallen into three major classes (Fernandez, J. L. 2010): i) economic; ii) sociological; iii) and, hybrid models.

The economic models -also referred to as human capital models- emphasize the human capital investment which relates to the students' decision making to choose the 'ideal' curriculum/institution to enroll in. It was agreed that the economic models emphasized, rather, the students' intent to minimize the tuition fees/perceived profits ratio. In Elwood et al. (2000), Avery et al. (2004) and Long (2004), the human capital models have been developed to address the association between the institution choice and a host of economic predictors. Elwood et al. (2000) stressed the influence of the family income upon the institution selection process. Avery et al. (2004) studied the impact of the financial aid afforded by the government and the education institutions to motivate students to join up their programs. Long (2004) applied conditional logistic choice model to ascertain colleges decision changes over time.

Table 2: Proportionate stratified random sample *as per* Depts. and J.C.T program terms

		M & T Dept.	*M.T Dept.*	*E. T Dept.*	*C & A Dept.*	
Program Terms	***Term II***	42	39	14	19	**114**
	Term III	30	26	10	5	**71**
	Term IV	24	24	15	8	**71**
	Term V	25	29	17	13	**84**
Stratum size (Dept.)		**121**	**118**	**56**	**45**	
Sample size		**340**				

The sociological models, however, pay much attention to the student's socio-behavioral factors which may legitimize the alternative choices one may have as for a particular institution/program. Accordingly, the parental influence, the high school G.P.A, the location proximity and the society esteem, to cite some, are interesting factors which need be considered. Earlier, Hearn (1984), Hossler et al. (1999) highlighted the traditional status achievement as starting point of the major sociological models. MacDonough (1997) and Hossler et al., (1999) argued that, likewise the economic models, the social and cultural capitals stimulate productivity and boost student's aspirations. They also advocated that the social and the cultural capitals are mutually interacting and, to a large scale, they are related with the social networks.

Even though, the human capital and the socio-cultural models have greatly contributed to shape the students' strategies *vis-à-vis* the institutions selection process, still some lack remains as reported by Manski et al. (1983). A more efficient approach to address such an issue is by combining models in that regard both the economic and the socio-cultural factors were associated, contingently. Jackson (1982), Chapman (1981), and Hanson et al.(1989), among others, devised methods which coped with such an approach.

The paper falls in the hybrid paradigm and seeks to appraise the statistical association of a host of socio-economic factors with the students' decision making enrolling at the J.C.T. As we have quoted beforehand, part I of this study will consider the following factors, the parents' aspiration, the family professional success, the location proximity, peers influence, the society esteem, fear of theoretical courses and the job availability at graduation. For the sake of scope, we investigated three pooling schemes of the students being surveyed, i.e., as per Depts., seniority, and living location.

Henceforth, the paper text will be structured as it follows. Section 2 establishes the study experimental frame and draws on important descriptive statistics. Section 3 discusses the research findings relating to the Chi-square tests in accordance to the students pooling schemes. Also, a formal ranking method in set forth in order to fitly apprise the prevalence of the factor/students' decision making association one another. Finally, section 4 will recap important findings which have come out the study analysis.

EXPERIMENTAL WORK

The study has been concerned with the students' population attending the J.C.T six terms (II through V) program. A questionnaire-based approach has been consented to know how the students' decision making do correlate with one another of the study factors. The magnitude of the responses was ranked according to the five-point Likert scale (Rensis L. 1932), namely, totally agree, mostly agree, neutral, mostly disagree and totally disagree. For the population representation of the students at the J.C.T, we employed a Proportionate Stratified Random Sampling (P.S.R.S) technique. The questionnaire has been administered to 340 candidates who have been P.S.R.S sampled from a population of 2359 students enrolling in term II through V. As we claimed earlier, the study has disregarded students being registered in term I because they have a little familiarity with the socio-professional environment of the J.C.T. Similarly, the students of term VI have been also discounted in that they were attending internship trainings at the study time. Table 2 displays the student's counts as per Depts. and program terms.

Presently, the M. & T. will stand for Management & Tourism Department. M.T. for Mechanical Technology Department., E.T. for Electrical Technology Department. and, C. & A. for Civil & Architecture Department.

The study survey has shown that 42% of the students were aged 18 to 20 years and 57.6% were 20 years old or higher. Only 9.4% of the students live outside the Jeddah city. With regard to the secondary school, 64.0% of the students hold a science major diploma from a general secondary high school and only 18.2% have an industrial major diploma. The remaining proportion of the students did emanate from the theology or the commercial fields, in general. Regardless of the original

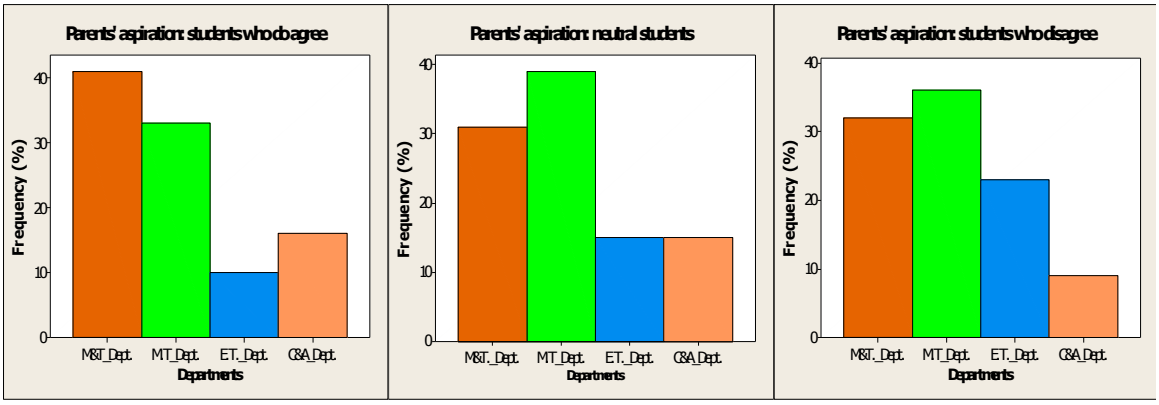

Figure 1. Students' responses frequencies regarding the "parents' aspiration" factor

secondary schools, the students high school G.P.A(s) accounts for 20.3% scoring between 60/100 and 75/100; 55% between 75/100 and 85/100 and, 22.3% having G.P.A(s) 85/100 to 95/100. It is noteworthy that only 0.6% of the students who have been sampled have G.P.A(s) 95/100 and above.

Now, concerning the family incomes, we discriminated five monthly salary classes: 17.0% of the students' families earned less than 800 USD; 25.9% earned between 800 USD and 1600 USD; 19.1% from 1600 USD to 2666 USD; 24.4% from 2666 USD to 4000 USD and finally, 11.1% of the students' families received more than 4000 USD. Given the Saudi average middle class income of 2400USD (2011/2012), almost 62% of the students' families fall in the middle social class.

DATA ANALYSIS AND FINDINGS

Basically, the nonparametric Chi-square test which has been employed in this study provides means to assess the hypothetical association between the categorical factors. Given a significance level of 5%, we set out (H_0) hypothesizing that the study factors, one another, are not correlated (statistically independent) with the students' decision-making. We calculate, then, a χ^2 statistics and position it relatively to the rejection zone to infer about the statistical significance of the difference between the observed and the expected values (i.e., find out whether the difference between the observed and expected values is due to pure chance, solely).

The students' responses according to the five-point Likert scaling could be viewed as ordinal, decreasingly, totally agree, mostly agree, neutral, mostly disagree and totally disagree. Hereinafter, for the Chi-square test and given the threshold of 5% level, the test significance level may fall in one of the following; marginal (10%≤p), fair (5%≤p≤10%), good (1%≤p≤5%), high (1‰≤p≤1%) or excellent (p≤1‰). The statistical analysis and the data survey will be performed using the Minitab14™ software.

Students pooling as per Depts.

In this section we pooled students into Depts. (4 strata). Because of the safeguard Chi-square assumption, namely, the expected values must be greater than 5, the students' count of "totally agree" and "mostly agree" were toted up and reinstated "agree". Likewise; the students' count of "totally disagree" and "mostly disagree" were toted up and reinstated "disagree". Notice, this assumption will hold true for §section 3.1, solely.

Appendix A (a) depicts the count and the percentage of the students responses as for the "parents' aspiration" factor. The students responses count when represented in the histogram (see Figure 1), indicates that the proportion of the students responses which emanate from the E.T. Dept. shows a slightly upwards trend as we move from "agree" through "disagree" via the "neutral" responses. Conversely, the trend was decreasing as for the C. & A. Dept. The variation of the students responses regarding the remaining Depts. was, rather, flat concave/convex. At 5% of significance level, the Chi-square test p-value equals 0.034 suggesting good association. Therefore, the "parents' aspiration" factor is likely to impinge the students' decision making to join up the J.C.T. And, the "parent's aspiration" and the J.C.T enrollment are mutually correlated. One cell, however, has expected count of 4.32 and does contribute 0.107 to the 13.616 total chi-square (tolerable at some extent).

Appendix A (c) shows the counts and the percentage of the students' responses as to the "location proximity" factor. The histogram shown in Figures 2 related to the students counts given in Appendix A (c) and indicates that the proportion of the students response of the M.T. and E.T. Depts. increases as we move from "agree" through "disagree" via the "neutral" responses. However,

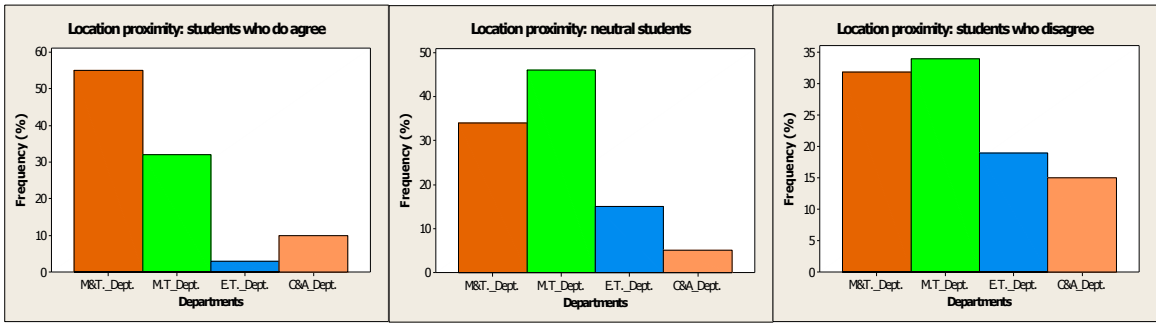

Figure 2: Students' responses frequencies regarding the "location proximity" factor

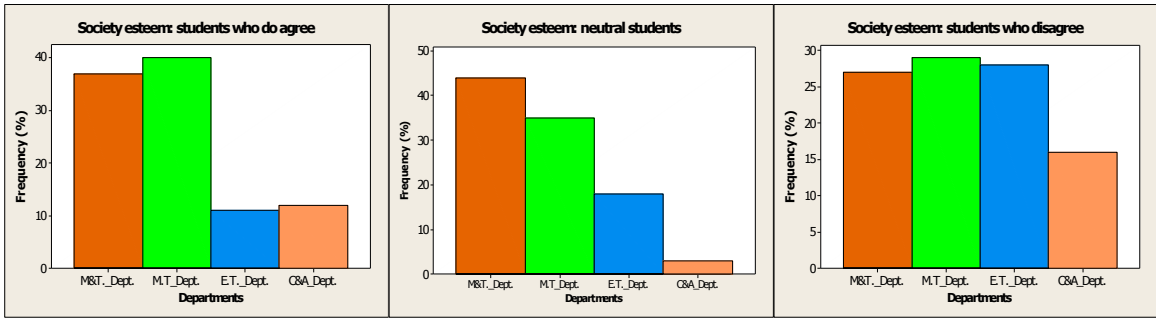

Figure 3 Students' responses frequencies regarding the "society esteem" factor

the trend is flat concave regarding both the M. & T. and the C. & A. Depts. At 5% of significance level, the Chi-square p-value equals 0.003 suggesting high significance of the test. The students' responses as sorted by Depts. for the influence the "location proximity" may have on their decision making to enroll at the J.C.T is, manifestly, not due to random variation, solely. The "location proximity" and the J.C.T enrollment are highly correlated.

Appendix A (e) depicts the counts and the percentage of the students' responses regarding the "society esteem" factor. The students responses enrolling at the C. & A. and M.T. Depts. follows nearly a flat concave pattern when moving from "agree" through "disagree" via the "neutral" responses (see histogram in Figure 3). The trend as for the E.T is increasingly slopping and the proportion of the students' responses which emanate from the M. & T. Dept. are stationary. At 5% of significance level, the Chi-square p-value equals 0.024 which denotes a good association. The student's responses as sorted by Depts. for the influence the "society esteem" factor may have on them regarding the J.C.T. enrollment is not due to random variation, solely. On account of, the "society esteem" factor and the students' decision making to join up the J.C.T are found correlated.

Appendix A (b) shows the count of the students' responses about the "family professional success" factor. Given 95% of C.I, the Chi-square p-value equals 0.090 indicating a fair significance of the test. As a result, we fail to reject the null hypothesis of no association between the student's decision making to join up the J.C.T and the "family professional success" factor. Likewise; the Chi-square test which relates to the "job availability at graduation" factor (see Appendix A (g)) has a p-value of 0.079 and advises a fair significance. Hence, at 95 % of C.I., both the "family professional success" and the "job availability at graduation" factors were found irrelevant to the students' decision making to enroll at the J.C.T.

The Chi-square tests for the remaining factors, namely, "peers influence" and "fear of theoretical courses" have p-values of 0.421 and 0.199, respectively, pointing out that we fail to reject the null hypothesis of no association between the students decision making to join up the J.C.T and these. Table 3 gives the Chi-squares and the p-values of the study factors when students were pooled as per Depts.

Students pooling as per seniority

Presently, the purpose is to investigate the hypothetical association between the study factors, one another, and the students' decision making to enroll at the J.C.T wherein the students were pooled according to the seniority scheme. Two strata have been considered,

Table 3: Chi squares and p-values of factors tests of association regarding the pooling scheme

Chi square test as per pooling scheme		Factors						
		Parents' aspiration	Family Professional success	Location proximity	Peers influence	Society esteem	Fear of theoretical courses	Job availability at graduation
Pooling as per Depts.	p-value	0.034*	0.090(F)	0.003**	0.421(M)	0.024*	0,199(M)	0.079(F)
	Chi-square	13.616°	10.937	19.835	6.022	14.583	8.575	11.323
Pooling as per living location	p-value	0.978(M)	0.024*	0.018*	0.591(M)	0.783(M)	0.399(M)	0.620(M)
	Chi-square	0.449	11.244	11.863°	2.808	1.742	4.051	2.640°
Pooling as per seniority	p-value	0.525(M)	0.339(M)	0.541(M)	0.080(F)	0.17(M)	0.371(M)	0.029*
	Chi-square	3.199	4.532	3.103	8.326	6.413	4.266	10.771

°Cell with expected count<5; (M) Marg. Sig.(p≤1); (F)Fair Sig. (p≤0.10); *Good Sig.(p≤0.05); **High Sig.(p≤0.01); ***Excellent Sig.(p≤0.001).

namely, junior (terms II & III students) and elder (terms IV & V students).

Appendix B (g) depicts the count and the percentage of the students' responses pertaining to the "job availability at graduation" factor. The variation of the students' responses among the junior and the elders features, rather, a 'saw tooth' pretense as we track the students responses, "totally agree", "mostly agree", "neutral", "mostly disagree", and "totally disagree", sequentially. Given 5% of signifiance level, the Chi-square p-value equals 0.029 suggesting a good significance level of the test. Hence, the responses as sorted by seniority for the influence the "job availability at graduation" may have on the students' decision making to enroll at the J.C.T cannot be attributed to random variation, solely. The "job availability at graduation" is, therefore, correlated with the students' decision making.

Appendix B (d) shows the count of the students' responses as for the "peers influence" factor. The Chi-square p-value is 0.080 and it points out a fair significance of the test. Clearly, at 95% of C.I., we fail to reject the null hypothesis of no association between the students' decision making to join up the J.C.T and the "peers influence" factor.

The Chi-square tests when applied to the remaining factors, namely, the "parents' aspiration", the "familial professional success", the "location proximity", the "society esteem" and "fear of theoretical courses" were inconclusive at 5% of the significance level. Table 3 shows the p-values and the Chi-squares of the study factors when students were pooled as per seniority.

Students pooling as per living location

In this section, we seek to investigate the statistical association between the study factors, one another, and the students' decision making to join up the J.C.T. The students have been pooled as to their living location, thus, two strata may be considered, i.e., inside Jeddah city versus outside Jeddah city. As in the foregoing, the students responses were decreasingly labeled, totally agree, mostly agree, neutral, mostly disagree and totally disagree.

Appendix C (b) displays the counts and the percentage of the students' responses as to the "family professional success" factor. The proportion of the students responses both living inside and outside the Jeddah city features a 'saw tooth' like pattern as we cross the responses "totally agree", "mostly agree", "neutral", "mostly disagree" and, "totally disagree, in order. Given 5% of significance level, the Chi-square p-value equals 0.024 suggesting a good significance of the test. The students' responses as to the association of the "family professional success" factor with the students decision making to join up the J.C.T cannot be attributed to random variation, solely. Likewise; at 5% of type I error, the Chi-square test regarding the "location proximity" factor revealed conclusive (p-value equals 0.018 ≤ 5%). One cell, however, has expected counts 3.31 and contributed 0.029 to 11.863 of the total Chi-square (tolerable at some extent).

For the remaining factors, namely, the "parents' aspiration", the "peers influence", the "society esteem", "fear of theoretical courses" and the "job availability at graduation", the associated Chi-square tests were insignificant at 95% of C.I. Table 3 depicts the Chi-squares and the p-values of the study factors when students were pooled as per their living location.

Factors Ranking Method

To this point, we have investigated correlates of the study factors one another and the students' decision making to enroll at the J.C.T for the three pooling schemes as cited beforehand. Since for an association factor/students

Table 4: Global factors ranking

	Parents' aspiration	Family professional success	Location proximity	Peers influence	Society esteem	Fear of theoretical courses	Job availability at graduation
Pooling as per Depts.	2	1	3	-	2	-	1
Pooling as per living location	-	2	2	-	-	-	-
Pooling as per seniority	-	-	-	1	-	-	2
Pooling scheme weight	3	1	3+1	0	3	-	2
Grand weight	7	4	9	1	5	-	5
Rank	2rd	3rd	1st	4th	2nd	Dull factor	2nd

decision making, the related Chi-square test may turn out significant for one scheme and insignificant for another and, at 5% level, the test significance may position in either way; marginal (10%≤p), fair (5%≤p≤10%), good (1%≤p≤5%), high (1‰≤p≤1%) or excellent (p≤1‰), a formal method has been devised to assign a global weight to each factor, appropriately. The method has considered, i) the pooling scheme, ii) the significance level of the Chi-square test (p-value level), iii) and, the number of schemes wherein the association Chi-square test was found significant, that is, good, high or excellent. Because the students at the J.C.T were formerly administrated into Departments. and sections, the pooling scheme "as per Departments." has been given the prime importance. It is seconded by the "seniority" and the "living location" schemes, respectively. Accordingly, a significant factor/students decision making association that is, good, high or excellent, was assigned 3 marks weight if pooling was as per Departments., 2 marks weight if pooling as per seniority and, 1 mark weight if students were pooled by the living location. Apart from the pooling scheme, for a Chi-square test of a factor/decision making association, each factor being involved has been assigned a weight which reflects the association test significance level, correspondingly, i) a 4 marks weight is meant for a factor which underlies an association having an excellent Chi-square significance level, ii) 3 marks weight if high significance level, iii) 2 marks weight if good significance level, iv) 1 mark weight for fair significance level, v) and ultimately, 0 mark weight whenever the associated Chi-square test significance is merely marginal. Table 4 presents the grand weight of each factor as well as its prevalence/ranking. Notice, a factor ranked 1st is considered the most important vis-à-vis the students' decision making to join up the J.C.T and so forth. For the case being, the "location proximity" was found the prime factor which enters in play in the students' decision making to enroll at the J.C.T. It is coequally seconded by the "parents aspiration", the "society esteem" and the "job availability at graduation" factors.

CONCLUDING REMARKS

The paper has addressed correlates between seven socio-economic factors and the decision making of the Saudi high schools graduates to enroll at the J.C.T in 2011/2012. For the students pooling, three schemes have been considered (i.e., pooling as per Depts., by seniority and by living location). The study has appointed the following issues.

i. 55% of the students arrived at the J.C.T with a high school G.P.A(s) 75/100 to 85/100 and 22.9% of them have G.P.A(s) greater than 85/100. Surprisingly, only 0.6% of the students being surveyed has G.P.A(s) higher than 95/100. To a certain degree, this is revealing of the middling fulfillment of the students enrolling at the J.C.T.

ii. Only 18% of the students enrolling at the J.C.T were issued from the secondary industrial schools which means that the majority (82%) of the J.C.T population does emanate from the general secondary sector with a little professional background. This explains the individual difference among students graduating from the J.C.T as it has been argued in Trabelsi et al. 2010. It is highly recommended to reverse the trend so that more admissions from the industrial schools could be fulfilled.

iii. Almost 62% of the students who enrolled at the J.C.T were issued from social middle class families.

iv. Adversely to what we presumed, the "location proximity" factor was found the most influential factor vis-à-vis the students' decision making to join up the J.C.T. Once more, this pronounces the empathic lack of the professional profiles of the students enrolling at the J.C.T. The "parents aspiration", the "society esteem" and the "job availability at graduation" factors came coequally second in terms of prevalence. The study has also

pointed out that the “fear of theoretical course” factor does not intervene anyhow in the students' decision making.

As we adverted beforehand, the study has stressed the need of reviewing the admission criteria and the managerial strategy which have been applied to date at the J.C.T. This may partly explain the passable training capabilities of the student graduating from the J.C.T. Also, the paper findings hearten us to broaden the scope of the investigation so that others colleges of technology having similar/dissimilar cultural, socio-economic and professional environments could be reached for sake of assessment and benchmarking.

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Appendix A. Students' responses count *as per* Depts.

(a) Parents' aspiration				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count(%)	Count(%)	Count(%)
	M &T Dept.	65/41	45/32	10/31
	M.T. Dept.	53/33	52/36	13/39
	E.T. Dept.	16/10	33/23	5/15
	C & A Dept.	26/16	13/9	5/15
(b) Family professional success				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count	Count	Count
	M &T Dept.	48	53	17
	M.T. Dept.	44	57	17
	E.T. Dept.	13	27	14
	C & A Dept.	9	26	9
(c) Location proximity				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count(%)	Count(%)	Count(%)
	M &T Dept.	33/55	74/32	13/34
	M.T. Dept.	19/32	80/34	18/46
	E.T. Dept.	2/3	46/19	6/15
	C & A Dept.	6/10	35/15	2/5
(d) Peers influence				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count	Count	Count
	M &T Dept.	58	45	18
	M.T. Dept.	45	55	18
	E.T. Dept.	18	31	7
	C & A Dept.	18	20	6
(e) Society esteem				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count(%)	Count(%)	Count(%)
	M &T Dept.	70/37	22/27	28/44
	M.T. Dept.	74/40	22/29	22/35
	E.T. Dept.	21/11	22/28	12/18
	C & A Dept.	23/12	13/16	9/3
(f) Fear of theoretical courses				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count	Count	Count
	M &T Dept.	35	57	27
	M.T. Dept.	26	66	26
	E.T. Dept.	15	32	9
	C & A Dept.	15	15	14
(g) Job availability at graduation				
J.C.T. Join up		*Agree*	*Disagree*	*Neutral*
		Count	Count	Count
	M &T Dept.	79	18	24
	M.T. Dept.	77	15	25
	E.T. Dept.	26	17	13
	C & A Dept.	24	10	11

Appendix B. Students' responses count *as per* seniority.

(a) Parents' aspiration						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	30	63	41	34	14
	Term IV+V.	22	44	41	28	18
(b) Family professional success						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	22	43	44	40	32
	Term IV+V.	10	35	48	36	24
(c) Location proximity						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	10	20	51	80	21
	Term IV+V.	14	38	63	90	31
(d) Peers influence						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	21	66	34	37	26
	Term IV+V.	13	44	49	29	20
(e) Society esteem						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	31	68	22	14	48
	Term IV+V.	31	53	25	19	27
(f) Fear of theoretical courses						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Term II+III.	20	33	53	38	40
	Term IV+V.	18	17	41	41	36
(g) Job availability at graduation						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally ddisagree*	*Neutral*
		Count(%)	Count(%)	Count(%)	Count(%)	Count(%)
	Term II+III.	72/62	45/51	8/35	15/39	44/60
	Term IV+V.	45/38	43/49	15/65	23/61	29/40

Appendix C. Students' responses count *as per* living location.

(a) Parents' aspiration						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Living inside Jeddah city	43	86	67	48	27
	Living outside Jeddah city	9	22	15	13	6
(b) Family professional success						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count(%)	Count(%)	Count(%)	Count(%)	Count(%)
	Living inside Jeddah city	31/92	62/77	67/75	56/75	53/93
	Living outside Jeddah city	3/8	18/23	22/25	18/25	4/7
(c) Location proximity						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count(%)	Count(%)	Count(%)	Count(%)	Count(%)
	Living inside Jeddah city	14/82	39/91	70/80	109/74	37/95
	Living outside Jeddah city	3/18	4/9	18/20	38/26	2/5
(d) Peers influence						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Living inside Jeddah city	28	82	71	49	43
	Living outside Jeddah city	6	23	16	15	6
(e) Society esteem						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Living inside Jeddah city	50	103	34	27	59
	Living outside Jeddah city	12	23	12	6	12
(f) Fear of theoretical courses						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Living inside Jeddah city	31	45	73	59	66
	Living outside Jeddah city	8	7	21	17	10
(g) Job availability at graduation						
J.C.T. Join up		*Totally agree*	*Mostly agree*	*Mostly disagree*	*Totally disagree*	*Neutral*
		Count	Count	Count	Count	Count
	Living inside Jeddah city	88	79	17	28	61
	Living outside Jeddah city	24	15	6	9	12