Comparing Academically Gifted and Non-Gifted Students' Supportive Environments in Jordan

Mustafa Qaseem Hielat and Ahmad Mohammad Al-Shabatat

***Abstract*—** Jordan exerts many efforts to nurture their academically gifted students in special schools since 2001. During the past nine years of launching these schools, their learning and excellence environments were believed to be distinguished compared to public schools. This study investigated the environments of gifted students compared with other non-gifted, using a survey instrument that measures the dimensions of family, peers, teachers, school' support, society, and resources —dimensions rooted deeply in supporting gifted education, learning, and achievement. A total number of 109 were selected from excellence schools for academically gifted students, and 119 non-gifted students were selected from public schools. Around 8.3% of the non-gifted students reported that they "Never" received any support from their surrounding environments, 14.9% reported "Seldom" support, 23.7% reported " Often" support, 26.0% reported "Frequent" support, and 32.8% reported "Very frequent" support. Where the gifted students reported more "Never" support than the non-gifted did with 11.3%, "Seldom" support with 15.4%, "Often" support with 26.6%, "Frequent" support with 29.0%, and reported "Very frequent" support less than the non-gifted students with 23.6%. Unexpectedly, statistical differences were found between the two groups favoring non-gifted students in perception of their surrounding environments in specific dimensions, namely, school' support, teachers, and society. No statistical differences were found in the other dimensions of the survey, namely, family, peers, and resources. As the differences were found in teachers, school' support, and society, the nurturing environments for the excellence schools need to be revised to adopt more creative teaching styles, rich school atmosphere and infrastructures, interactive guiding for the students and their parents, promoting for the excellence environments, and re-build successful identification models. Thus, families, schools, and society should increase their cooperation, communication, and awareness of the gifted supportive environments. However, more studies to investigate other aspects of promoting academic giftedness and excellence are recommended.

***Keywords*—**Academic giftedness, Supportive environment, Excellence schools, Gifted grouping, Gifted nurturing.

I. Introduction

ENVIRONMENT plays an essential role as an incubator hold the energy, direction, and feedback which give the gifted and non-gifted opportunities to manifest their potentials, and support constructing connections between the fluid intelligence and crystallized intelligence through social interfaces [1]. However, gifted and non-gifted students require social context that enables them to develop, nurture, and support their aptitudes with various levels. The child surrounding environments such as family, peers, school, and community, beside the social, economical, and political institutions can help to determine the field of talent that society expect to be achieved [2]. However, researchers advocating the environment or nurturing account of talent development promoted the belief that appropriate environmental conditions could lead to the development of giftedness to become into a specific talent. Gifted' dedication to their activities is typically accompanied by great sacrifices for both the individuals themselves and their families, they are surrounded by others, who support and nurture their talent. Further, families, peers, and teachers play an essential role in the development of expertise [3], [4]. However, this development could occur among the average or non-gifted students through such support of the environments to push their expertise development forward to the edge of giftedness, or to pull the development of gifted students backward to the edge of ordinarily expertise with the absence of that support.

Environment was studied through two levels; micro-level (e.g. family, personality givers, socioeconomic) that children interact with their families, peers and school [5], [6]. Second is the macro-level (e.g. demographic, sociological) which helps to shape environments as a larger socio-historical milieu [7]. Bloom [8] demonstrates that the role of families is vital in nurturing gifted students. In his study, the participating individuals defined their families as greatly child-centered in which parents offer efforts to support their talent development. For example, they would work more than one job to pay for private skating lessons, or make extra efforts in order to be closer to training facilities. Indeed, as Csikzentmihalyi [3] stated that "when the child's abilities are truly prodigious, parental and social investments need to be prodigious as well" (p. 26). Therefore, parents must provide the right nurture stimulation at the right time according to the genetic trait of the child in order to give a greater chance for the child to achieve giftedness [9].

Competitive and supportive peer groups can serve to promote the intrinsic value of school and the educational process in its members [10]. The influence of the peers is quite considerable outside the classroom. Peers have an influential

Mustafa Qaseem Hielat is now working as an assistant professor in Al-Balqa Applied University, Princess Alia College. Amman, Jordan (Fax: 00962-65686741, e-mail: mustafa_heilat@yahoo.com).

Ahmad Mohammad Al-Shabatat is now working as an assistant professor in Al-Baha University, Education College. Saudi Arabia (Phone: 0096550924285, e-mail: Shabatat@gmail.com).

effect on attitudes and concepts [11]. Children's peers also support the development of talent [8]. However, talented children often tend to spend their time alone and with parents more than with than non-talented children, because they feel isolated from mainstream peers [3], [4]. Moreover, talented' peers themselves are varied in terms of their developmental and social goals.

Teachers also play an important role in the development of talent [3], [8]. Instructional environments affect the ways in which children are motivated to participate and excel in their activities. Teaching styles characterized by clear rules for achieving distinction, controlled decision-making, and public performance evaluations promote extrinsic motivation in children. On the other hand, teaching styles that highlight student participation in evaluations of success and decision-making processes encourage intrinsic motivation and autonomy [12].

A. Grouping academically gifted students

Several strategies can be used to promote educational excellence. These include establishing supportive mission statements, building appropriate curriculum resources and materials, individualizing instruction to optimize student learning and providing leadership models. These strategies can also be supplemented through parent and community involvement [13]. Forming instructional groups of gifted students is the most effective way in the nurturing process by applying differentiated curriculum [14]. Gifted need some form of grouping by ability so that their curriculum may be appropriately broadened and extended. Rogers [15] demonstrates programming and grouping options which can be implemented; full time gifted programs demonstrate the strongest benefits, followed by cluster grouping within heterogeneous classes; acceleration of curriculum through such methods as grade telescoping, regrouping for enriched learning in specific subjects, cross grade grouping or non-graded classrooms; enrichment pullout programs, and within class ability grouping.

B. King Abdullah II Schools of Excellence

According to Al- Shabatat [16], King Abdullah II Schools of Excellence can be considered a programming option for the academically gifted students in Jordan. They are public co-education schools for academically gifted students. The first school was established in Zarqa city by the beginning of 2000 /2001 (with 553 students), then the JMOE build a school every two years to be six schools by the year 2010 with a total number of (1935) students. The other five schools where in Irbid (with 551 students), Salt (327 students), Tafielah (81 students), Aqaba (198 students), and Ajloun (225 students) as shown in Figure 1.

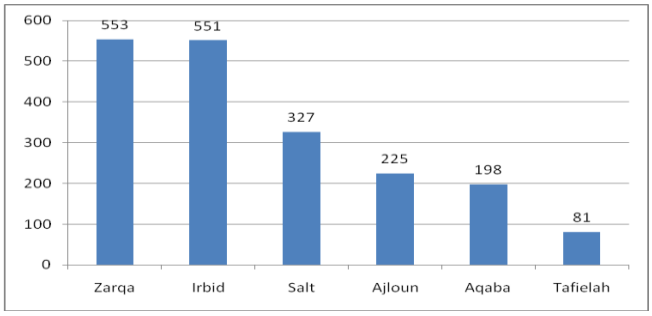

Fig.1King Abdullah II Schools for Excellence by Educational Directories

The objectives of these schools were to help gifted students develop their abilities, skills and personalities, and develop their leadership and self-learning skills to be innovative leaders in their society. The students are selected based on four fundamental criteria, namely, the general aggregation for the students should be 95% and above, test for the Academic readiness, IQ test (135 and above), and personal interview. On the other hand, JMOE selects the best teachers who show high levels of teaching and personal competencies to work in these [17].

C. Academically gifted students

Sternberg [18] identifies three kinds of giftedness including analytic, synthetic and practical giftedness. The identification includes assessment through observation of a student's ability in these three areas. Teachers may then design opportunities for students demonstrating analytical, synthetical and/or practical abilities. According to [18], people with analytical giftedness can analyze and understand problem elements, and this kind of giftedness might be tested by traditional tests for intelligence, such as testing analogies, synonyms and matrix problems. The second type is synthetic giftedness, which might be noted on the people who are creative or tend to deal with discovering and inventing. Unlike the first kind of giftedness, this kind might not be measured by the traditional tests of intelligence. The third type of giftedness is practical giftedness, people who are practitioners have a propensity to apply and implement what have been analyzed or synthesized, with an investment of environment situations. The analytical abilities were investigated in this study by measuring the effects of general abilities g and the environmental factors on this element of intellectual giftedness.

Research on gifted and talented programs in Jordan is seldom, a study was conducted by [19] to evaluate the efficiency of King Abdullah II schools for excellence administration with a total number of (198) respondents participated in the study. The results showed that there were no significant differences between the administrations of the excellence and the regular public schools which affected the entire process of nurturing gifted and talented students. Al Momany [20] conducted a study to evaluate gifted and talented programs in terms of the staff performance, services quality, resources availability, and the nature of the physical

environment that holds these programs. The samples of this study consisted of (446) gifted students, (93) gifted student' teachers, (13) principals, and (240) parents. The results came out to indicate that the gifted and talented programs in Jordan needs to be improved due to the misconception of giftedness and talent, weakness of identification procedures for the gifted and talented students, and the lack of supportive environments.

In Saudi Arabia, Al Kasi [21] conducted a study to explore the status of gifted and talented programs. He concluded that there was a poor support from the programs administrations, and the idea of grouping gifted and talented students was not welcomed as stated by the sample of the study. Another similar study conducted by [22] in Kuwait to evaluate talented programs administrated by the Secretariat of Special Education in Kuwait. Interestingly, the results showed that this program could expose the students to frustration.

II. METHODS

A. Participants

The study involved one hundred and nine academically gifted students from King Abdullah II schools for excellence as academically gifted students and one hundred and nineteen non-gifted students from public schools in Jordan. Students are selected in grade 7th by the end of December in every scholastic year from all the educational directorates according to their academic aggregation with no less than 90% in the basic subjects in grade 6th and 7th (given 50%), a check list for the behavioral characteristics filled by the class pioneer teacher, basic subjects' teachers, educational supervisor, and the school principals (given 10%), IQ test (given (30%), students' special abilities (given (10%), and personal interviews conducted by a committee formed by JMOE.

B. Supportive Environment Scale

Supportive environment scale which was developed by [23] was used in this study to identify surrounding environments support perceived by students using Likert scale (1-5) ranging from "very frequent" to "never". All the items were structured of informative sentences aim at measuring the amount or strength of value that the respondents have regarding their environment elements (family, peers, teachers, school, society, and resources). The internal consistency measuring the reliability of the environment factors using Cronbach's Alpha was ranging from 0.71 to 0.83 and the overall coefficient for the questionnaire was 0.89. These values had shown high reliability indices which support the appropriateness of the instrument as shown in Table 2.

TABLE 2
SUMMARY OF INTERNAL CONSISTENCY INDICES FOR THE SIX FACTORS OF THE ENVIRONMENT QUESTIONNAIRE

Factor	Valid Items	Chronbach's Alpha
Resources	6	0.71
Family	6	0.83
Peers	6	0.74
School	6	0.75
Society	6	0.75
Teachers	6	0.79
Total	36	0.89

III. RESULTS

A total percentage of 8.3% of the non-gifted students reported that they "Never" received any support from their surrounding environments, 14.9% reported "Seldom" support, 23.7% reported "Often" support, 26.0% reported "Frequent" support, and 32.8% reported "Very frequent" support. Where the gifted students reported more "Never" support than the non-gifted did with 11.3%, "Seldom" support with 15.4%, "Often" support with 26.6%, "Frequent" support with 29.0%, and reported "Very frequent" support less than the non-gifted students with 23.6% as shown in Table 3.

TABLE 3
FREQUENCIES FOR THE GIFTED AND NON-GIFTED SUPPORT RATE

Support Rate	Non-gifted		Gifted	
	Frequency	%	Frequency	%
Never	347	8.3	420	11.3
Seldom	620	14.9	569	15.4
Often	988	23.7	985	26.6
Frequently	1082	26.0	1075	29.0
Very Frequently	1366	32.8	875	23.6
Total	4165	100	3706	100

It is important to test the assumptions for T test and ANOVA statistics before running the analysis. The results of Levene's Test for the homogeneity of variance of comparing the variables across the sample groups for each variable indicated that homogeneity of variance was met for all variables. As $p > 0.05$ for all variables, the results show that the groups were homogenous as shown in Table 4.

TABLE 4
TEST OF HOMOGENEITY OF VARIANCES FOR THE VARIABLES

Variables	Levene Statistic	df1	df2	Sig.
Resources	0.483	2	225	0.618
Family	0.075	2	225	0.927
Peers	2.525	2	225	0.082
School	2.281	2	225	0.105
Teachers	1.057	2	225	0.349
Society	0.009	2	225	0.991
Environment	0.065	2	225	0.937

An independent-samples t-test was conducted to compare

gifted and non-gifted students for their environments in the excellence and public schools. Non-gifted reported (M=21.6, SD=4.67) and the gifted (M=19.5, SD=5.09) on the dimension "Teachers"; t (1, 226) = -3.290, p = 0.001, for the non-gifted (M=20.7, SD=4.37) and the gifted (M=18.7, SD=3.93) on the dimension "School' support"; t (1, 226) = -3.559, p = 0.000, for the non-gifted (M=20.1, SD=4.20) and the gifted (M=18.4, SD=4.01) on the dimension "Society"; t (1, 226) = -3.112, p = 0.002, for the non-gifted (M=128.0, SD=19.11) and the gifted (M=121.1, SD=20.35) on the overall environment measure; t (1, 226) = -2.633, p = 0.009. For the non-gifted (M=24.2, SD=3.88) and the gifted (M=23.5, SD=4.29) on the dimension "Family"; t (1, 226) = -1.418, p = 0.158. For the non-gifted (M=21.7, SD=3.88) and the gifted (M=21.1, SD=3.95) on the dimension "Peers"; t (1, 226) = -1.168, p = 0.244. For the non-gifted (M=19.7, SD=4.93) and the gifted (M=19.9, SD=5.04) on the dimension "Peers"; t (1, 226) = 0.424, p = 0.672 as shown in Table 5.

TABLE 5
INDEPENDENT-SAMPLE T-TEST RESULTS

		Group Statistics			Levene's Test for Equality of Variances		t-test for Equality of Means		
Variables	**School Type**	**N**	**Mean**	**Std. Deviation**	**F**	**Sig.**	**t**	**df**	**Sig. (2-tailed)**
Family	Excellence School	109	23.5	4.29	3.224	0.074	-1.418	226	0.158
	General School	119	24.2	3.88			-1.412	218.3	
Peers	Excellence School	109	21.1	3.95	0.010	0.921	-1.168	226	0.244
	General School	119	21.7	3.88			-1.167	223.5	
Teachers	Excellence School	109	19.5	5.09	0.078	0.780	-3.290	226	0.001
	General School	119	21.6	4.67			-3.278	219.3	
School	Excellence School	109	18.7	3.93	0.493	0.483	-3.559	226	0.000
	General School	119	20.7	4.37			-3.575	225.9	
Resources	Excellence School	109	19.9	5.04	0.064	0.801	0.424	226	0.672
	General School	119	19.7	4.93			0.424	223.3	
Society	Smart School	109	18.4	4.01	0.368	0.545	-3.112	226	0.002
	General School	119	20.1	4.20			-3.119	225.6	
Environment	Excellence School	109	121.1	20.35	1.294	0.256	-2.633	226	0.009
	General School	119	128.0	19.11			-2.626	221.0	

*. The mean difference is significant at the 0.05 level.

Results showed that there were significant differences favored the non-gifted students over the gifted in their means of the support perceived from teachers, school, society, and the overall supportive environment measure. On the other hand, no significant differences were found between the gifted and non-gifted for their families' environments, peers, and resources. In other words, gifted and gifted students have equal support from their families and peers, and have similar resources.

IV. Discussion and Conclusion

Results showed that the non-gifted students reported that they get support from their teachers, schools, and societies more than the gifted students do. These results are consistent with [21] study; it can be explained by the frustration feelings of the gifted students when they were grouped in special schools. Also teacher, schools, and society give gifted students high expectations which make them anxious and restricted while achieving their assignments and tasks leading them to low achievement motivation [1]. However, the other half of the results of this study showed that gifted and gifted students have equal support from their families and peers, and have similar resources. Such results can be attributed to the weak awareness of gifted students' families and peers of gifted needs, interests, and problems. Additionally, the results can be explained by the common notion among gifted' families and peers that the gifted students need no one and can stand by themselves. These results are consistent with the studies of [19], [20], and [22]. However, results contradict to [14] research on grouping gifted students to the reason that the gifted programs in Jordan and Arab world are relatively new and marginalized by many parties of the community.

Talent development is supported by several factors such as good teachers, potential support, sport clubs, socialization, playful activities with guidance, support from parents, and stimulation of interest. Environment gives the gifted opportunities to manifest gifted potentials and to supports individuals' aptitudes to be nurtured through various interfaces. Additionally, giftedness requires social context that allows individuals' abilities to be flourished. As the differences were found in teachers, school' support, and society, the nurturing environments for the excellence schools need to be revised to adopt more creative teaching styles, rich school atmosphere and infrastructures, interactive guiding for the students and their parents, promoting for the excellence environments, and re-build

successful identification models. Thus, families, schools, and society should increase their cooperation, communication, and awareness of the gifted supportive environments. However, more studies to investigate other aspects of promoting academic giftedness and excellence are recommended.

REFERENCES

[1] Al-Shabatat, A., Abbas, M. & Ismail, H. (2010). The Direct and Indirect Effects of the Achievement Motivation on Nurturing Intellectual Giftedness. *International Journal of Behavioral, Cognitive, Educational and Psychological Sciences* 2 (3), 158-166.

[2] Tannenbaum, A. J. (1991). The social psychology of giftedness. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (27-44). Needham Heights, MA: Allyn and Bacon.

[3] Csikzentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: The roots of success and failure*. Cambridge, England: Cambridge University Press.

[4] Winner, E. (1996). *Gifted children: Myths and realities*. New York: Basic Books.

[5] Amabile, T. M. (1983). *The social psychology of creativity*. New York: Springer-Verlag New York Incorporated.

[6] Csikzentmihalyi, M., & Rathunde, K. (1998). The development of the person: An experiential perspective on the ontogenesis of psychological complexity. In R. M. Lerner (Ed.), *Handbook of child psychology*. Vol. 1: Theoretical models of human development (5th ed., 635-684). New York: Wiley.

[7] Li, J. (1997). Creativity in horizontal and vertical domains. *Creativity Research Journal*, 10, 107-132.

[8] Bloom, B. S. (1985). *Developing talent in young people*. New York, Ballantine.

[9] Haensly, P. (2004). Parenting gifted children. *Gifted Child Today*, 27, 1, 31.

[10] Ryan, A. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development*, 72, 1135-1150.

[11] Guimond, S. (1999). Attitude change during college: normative or informational social influence, *Social Psychology of Education*, 2, 237 - 261.

[12] Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation to succeed. In W. Damon & N. Eisenberg (Eds.*), Handbook of child psychology*, (5th ed.), 3, 1017-1095. New York, NY: Wiley.

[13] VanTassel-Baska, J. (1997). *Guide to teaching a problem-based science curriculum.* Dubuque, IA: Kendall/Hunt Publishing Co.

[14] VanTassel-Baska, J. (2003). Content-based curriculum for high-ability learners: An introduction. In J. VanTassel-Baska & C. Little (Eds.). (pp. 1-24). *Content-based curriculum for high-ability learners*. Waco, TX: Prufrock Press.

[15] Rogers, K. B. (2002). *Re-forming gifted education: Matching the program to the child. Scottsdale*, AZ: Great Potential Press Inc.

[16] Al-Shabatat, A. M. (2011). Gifted and talented education in Jordan: A spotlight on programs and activities. *Talent Talks*, 2(2), 7-10.

[17] Jordanian Ministry of Education, JMOE. (2008). Gifted and talented programs [online] (accessed 20th December 2010). Available from the World Wide Web: http://www.moe.gov.jo/-Departments/Departm-entsMenuDetails.aspx?MenuID=319&DepartmentID=17

[18] Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence.* New York: Cambridge University Press.

[19] Al Azzam, D. (2006). Evaluation of King Abdullah II Schools for Excellence administrations from their staff point view. *Unpublished Master's Thesis*. Al-Yarmouk University. Jordan

[20] Al Momany, S. (2006). Evaluation of the gifted students' programs in Jordan. *Unpublished Master's Thesis*. University of Jordan. Jordan.

[21] Al Kasi, A. (2004). The status of nurturing gifted students in some educational regions from supervisors' point views in Saudi Arabia. *Unpublished Master's Thesis*. Um Al-Qura University. Saudi Arabia.

[22] Al Sror, N. (2001). *Evaluation of the talented program in Kuwait*. Field study for the general secretariat of special education. Kuwait.

[23] Al-Shabatat, A., Abbas, M. & Ismail, H. (2009). The Direct and Indirect Effects of the Environmental Factors on the Intellectual Giftedness. *International journal of special education*. 24 (3), 121-131.