

Differences in Achievement Motivation and Academic and Social Self-concept in Gifted Students of Higher Education

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Abstract

The purpose of this study is to identify groups of gifted university students that differ in their self-concept and achievement motivation. For this, 80 students who achieved scores of the 95th percentile or higher in the Raven's Progressive Matrices test were selected. Two groups were identified in terms of their social self-concept and the competitiveness-oriented achievement motivation variables. The first group (*Protected*) gathered 51 (63.7%) gifted students who exhibited high levels of social self-concept and a low level of competitiveness-oriented achievement motivation with respect to the second group (*At-risk*), which gathered 29 (36.3%) gifted students. It was concluded that *Protected* students possess affective resources that strengthen their social and academic development, whereas *At-risk* students' variables represent vulnerability factors.

Keywords: *affective resources; academic self-concept; social self-concept; achievement motivation*

1. Introduction

Equity in education is achieved when the social, cultural and material conditions necessary for all students to reach an appropriate educational level to their learning potential are facilitated (Latin American Lab in Evaluation of Educational Quality [Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación], 1997; Schmelkes, 1996; Zúñiga, 2007). Actions aimed at achieving educational equity in Mexico focus on students with social, cultural, economic and cognitive vulnerabilities, with some degree of negligence for students who require special support by virtue of their high intellectual capabilities (Sánchez & Ramírez, 2013; Yáñez & Valdés, 2012).

Coverage of educational services for gifted students in Mexico is limited. The Secretariat of Public Education (Secretaría de Educación Pública [SEP]) reported that 165,865 gifted students were attended in 2012 which is about 22% of their potential population (Acle, 2013). Apart from this limited coverage, other factors affect the attention for gifted students, such as: (a) low stringency in the identification process, (b) lack of systematicity in care practices, (c) care is focused almost exclusively on primary education, and (d) scarce research on the topic (Cortés, 2010; Sánchez & Ramírez, 2013; Valadez et al., 2014; Valdés, Arreola, & Montoya, 2012).

Care for gifted students in Mexico remains limited despite the interest and increasing investment in supporting the improvement of these students in developed countries, where they are acknowledged as a valuable resource for the upbringing of human capital and for the economic development based on knowledge opportunities (Huggins & Izushi, 2007; Organization for Economic Co-operation and Development [OCDE], 2007; Romer, 1990).

Gifted students' potential is associated with certain characteristics that distinguish them, such as: (a) intelligence well above the average, (b) speed and quality of learning processes, (c) efficient cognitive self-regulation, (d) high

motivation to learn, and (e) high creativity (Alonso, 2003; Robinson & Clinkenbeard, 2008; Shore & Kanevsky, 1993). While their skills ease their talent development, this process can be either favored or hindered by their socioemotional and educational contexts, family and social factors involved in the configuration of their exceptional intellectual condition (Gagné, 2012; Plucker & Stocking, 2001; Richards, Encel, & Shute, 2003).

Having said that, the analysis of gifted students' development must consider the principle of unity of the cognitive, affective and social processes (Vygostky, 1980). From this perspective, research and intervention must consider the complex interactions between the cognitive and affective processes and the social context where gifted students perform, which make each student a unique individual beyond the similarities they may have with others who share this condition of exceptionality (Eddles-Hirsch, Vialle, McCormick, & Rogers, 2012; Gagné, 2012; Renzulli & Reis, 2013).

Several studies show the importance of emotional functioning in gifted students' cognitive development (Richards et al., 2003; Plucker & Stocking, 2001). These emotional configurations can become resources for fostering talent development, like increased persistence in academic tasks and better self-regulation of learning processes (Rubenstein, Siegle, Reis, McCoach, & Burton, 2012; Zúñiga, 2007).

Achievement motivation, an important emotional element for gifted students' talent development, is associated with a greater effort in achieving success in academic tasks (Byrne & Shavelson, 1996; Clemons, 2008; Pfeiffer, Petscher, & Kumtepe, 2008; Tang & Neber, 2008) as well as the involvement in those academic tasks which entail higher levels of challenge and intellectual effort (Al-Shabatat, Abbas, & Ismail, 2010; Blumen, 2008; Banks & Woolfson, 2008; Lau, Liem, & Nie, 2008). This type of motivation can be directed in turn by two different factors: (a) competitiveness, causes increased interest and effort in the student to make evident that he has better academic skills than his peers, and (b) mastery, which involves a high commitment in mastering what is being learned, preference for intellectually challenging tasks and the pursuit of perfection in their completion (Albaili, 2003; Fletcher & Speirs Neumeister, 2012; Valdés, Urías, Torres, Carlos, & Montoya, 2012).

It should be noted that achievement motivation is more effective for learning when it is guided by mastery, as it is associated with greater self-regulation and the use of deep learning strategies, which are in turn related to a better understanding and greater cognitive efforts (Graham & Golan, 1991; Schunk, 1997; Trigwell, Ashwin, & Millan, 2013).

Self-concept, the second emotional variable in this study, is a multidimensional construct that comprises the individual's visualization of himself and his skills to function in the personal, social, family and professional scope (Byrne & Shavelson, 1996; Esnaola, Goñi, & Madariaga, 2008; Gómez-Vela, Verdugo, & González-Gil, 2007; Javeed, 2012). Due to its relevance on the individual's development this study addresses the academic and social self-concepts in a particular way.

Academic self-concept refers to the individual's perception about his or her ability to perform in school activities that involve cognitive aspects (McInerney, Cheng, Mok, & Lam, 2012; Véliz & Apodaca, 2012a). Research into this construct evidence that high academic self-concept is related to better academic performance (Ghazvini, 2011; Wouters, Germeijs, Colpin, & Verschueren, 2011).

On the other hand, social self-concept is the individual's perception in regards to his or her competence to establish social relationships (Goñi & Fernández, 2007). This construct is related to the social acceptance achieved by the individual and with the quality of his interpersonal relationships (Norman, Ramsay, Roberts, & Martray, 2000). Notably, the findings in this regard have been contradictory on gifted students, while some authors note that social self-concept is lower in gifted students when compared with average students' (Silverman, 1990; Winne, Woodlands, & Wong, 1982), others report no difference between the two groups of students or even that social self-concept is better in gifted students (Colangelo, Kelly, & Schrepfer, 1987; Norman et al., 2000; Kelly & Jordan, 1990).

To address the importance of emotional factors in the academic and personal development of gifted students, the aim of this study was to identify different groups among gifted university students in terms of their achievement motivation and their academic and social self-concepts to learn if these emotional factors can act as resources that foster academic and personal development.

The following question was the starting point for this research: Can achievement motivation and academic and social self-concepts help identify different groups among gifted university students?

It was hypothesized that there are groups among gifted university students with different profiles regarding their self-concept and achievement motivation.

2. Method

2.1 Participants

The measurement scale from the Raven's Progressive Matrices test was administered to 558 freshmen students of all careers of Health Sciences at a University in the center of Mexico. Subsequently, 80 students were identified as gifted for obtaining scores of the 95th percentile or higher on the test.

The mean age of these gifted students was 18.3 (SD = 1.7 years), of which 43 (54%) were female and 37 (46%) were male. Most of them (72%) came from public high schools and their most frequently chosen careers at university were Psychology (39.3%) and Medicine (39.3%).

2.2 Measures

2.2.1 Academic Self-Concept Sub-Scale (Shavelson, Hubner, & Stanton, 1976)

It consisted of seven items (e.g.: I feel comfortable with people of my age). It was answered with a five point Likert-type scale, ranging from 1 (never) to 5 (always). The Cronbach's Alpha resulting reliability coefficient was 0.71.

2.2.2 Social Self-Concept Sub-Scale (Shavelson, Hubner, & Stanton, 1976)

It consisted of four items (e.g.: I feel comfortable with people of my age). It was answered with a five point Likert-type scale, ranging from 1 (never) to 5 (always). The resulting reliability coefficient was 0.72.

2.2.3 Achievement Motivation Scale (Valdés et al., 2012)

The scale consisted of 17 items, grouped in two dimensions: achievement motivation associated with competitiveness, which evaluates the interest in outrivaling peers in academic performance (e.g.: I dislike others being better than me in a subject-matter), and achievement motivation associated with mastery, in which the tendency to get involved in challenging academic tasks and performance perfection is measured (e.g.: I am satisfied only until my tasks are well done).

Both subscales were answered using a five point Likert-type scale, ranging from 1 (never) to 5 (always). The reliability for both sub-scales measured with Cronbach's Alpha was 0.90 for the competition dimension and 0.83 for the mastery dimension.

2.3 Procedure

In order to collect the data, an informed consent was obtained from the institution's managers and teachers. Afterwards, the students' voluntary participation was requested guaranteeing complete confidentiality.

The non-hierarchical cluster analysis technique *K-means* and univariate statistical inferentials were employed for the analysis, supported by the use of the Statistical Package for Social Sciences –software- (SPSS, Version 21).

3. Results

The study results show that social self-concept and competitiveness-oriented achievement motivation significantly distinguish two groups. The first group (Protected) consisted of 51 (63.7%) gifted students who possessed high social and academic self-concepts, high mastery-oriented achievement motivation and low competitiveness-oriented achievement motivation. The second group (At-risk) consisted of 29 (36.3%) gifted students who presented high academic and social self-concept, and high competitiveness-oriented and mastery-oriented achievement motivations.

It is interesting to note that gifted students of the first group obtained a lower competitiveness-oriented achievement motivation and a higher social self-concept in comparison to the second group (see Table 1).

Table 1. Between-groups Differences for Achievement Motivation and Self-concept measures

	Protected (<i>n</i> = 51)		At-risk (<i>n</i> = 29)		<i>F</i> (3, 77)	<i>p</i>
	<i>M</i>	<i>DS</i>	<i>M</i>	<i>DS</i>		
Competitiveness-oriented Achievement Motivation	1.51	.48	3.26	.45	144.06	<.001
Social Self-concept	4.36	.55	3.75	.75	5.072	.026
Mastery-oriented Achievement Motivation	4.34	.47	4.01	.48	3.053	.086
Academic Self-concept	3.97	.48	3.90	.63	.285	.595

p < .01.

3.1 Groups Comparison Regarding Gender

By means of a χ^2 test, it was found that in the group named *Protected* the proportion of women is higher than men, contrary to what happens in *At-risk* where the men are greater in number (see Table 2).

Table 2. Prevalence of Groups in Male students (n = 37) and Female Students (n = 43)

Groups	Male students		Female students		$\chi^2(1)$
	n	%	n	%	
Protected	16	28.5	35	62.5	5.769**
At-risk	21	72.4	8	27.6	4.525**

* $p < .05$. ** $p < .01$.

4. Conclusions

Gifted students can be classified in two groups with different profiles regarding their social self-concept and their competitiveness-oriented achievement motivation. This provides additional evidence for studies that point out that gifted students do not constitute a group with similar characteristics in the various aspects of homogeneous development (Rimm, 2008; Valdés, Sánchez, & Yáñez, 2013).

Students from the protected group, who constitute the majority, have affective resources that are related to a better academic development and an increased personal well-being (Bain & Bell, 2004; Neihart, Reis, Robinson, & Moon, 2002). These results are similar to the findings in other studies that report that gifted students, as a group, show an adequate emotional development (Greene, 2003; Reis & Renzulli, 2004).

Furthermore, it was noted that students from the at-risk group display emotional characteristics that put their personal and academic development vulnerable like a low social self-concept, which is associated with difficulties in personal adjustment, social integration, and a decrease in social well-being (Fuentes, García, Gracia, & Lila, 2011; Garalgordobil & Durá, 2006; Veliz & Apodaca, 2012b). Another risky aspect in this group is the high levels of competitiveness-oriented achievement motivation, which could negatively affect effective study due to the use of superficial learning strategies (Graham & Golan, 1991; Schunk, 1997; Trigwell et al., 2012).

A relevant finding in this study was that the group which had better psychological resources had a larger proportion of females than the other group. Even though this study does not allow precise conclusions in this regard, it is suggested that this finding provides evidence that academic achievements during high-school are not fully valued as a criteria of social success by male students (Valdés, Sánchez, & Yáñez, 2013).

The findings in this research confirm the existence of differences in emotional development among gifted university students, and also show the importance of studying this aspect in the development of care programs for gifted students.

Finally, it is necessary to point out the limitations of this research due to its basically descriptive approach, which does not prove its hypothesis regarding the origin of the differences found in the emotional development of students from both groups, which could be suggested for later studies.

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