AXIOLOGICAL PROFILES OF STUDENTS FROM THREE UNIVERSITY CAREERS: 
DISCRIMINANT FUNCTIONS OF THREE INTERPRETATION 
OF THE SCHWARTZ’ S THEORY

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ABSTRACT

The present study aims to describe axiological profiles of students of psychology, business-administration and engineering from a private university of Buenos Aires, Argentina (n = 211). The axiological differences are analyzed on the three proposal interpretation according to Schwartz´s values. The results show that students prioritized those axiological dimensions which include values of universalism and benevolence, and they attribute less importance. The three interpretations discriminate the axiological profiles of the students according to the career, although with a limited capacity. It´s seen a discrepancy between the dimensions that contain the values of universalism and benevolence, and the value of power. Also, the axiological differentiation from career´s profile is related to the impact of gender on them.

Key words: Discriminant Analysis, Career´s Profile, Gender, Values

Introduction

Human values are defined as desirable and transitional goals, which vary according to the importance assigned subjectively by an individual and guide the selection and evaluation of behaviors, people and events (Schwartz, 1992, 2001; Schwartz & Bilsky, 1987; Smith & Schwartz, 1996).

The values are derived from the analysis of universal aspects and basic issues that all groups and individuals face to regulate social functioning at three levels: (a) satisfaction of biological needs; (b) satisfaction of requirements for coordinated social interaction; and (c) compliance with the requirements for the suitable performance, survival and well-being of the groups (Schwartz, 1992; Zlobina, 2004).

Schwartz (1992) built a theoretical model of ten basic universal values which are:

- **Power**: Search for position and social prestige, control or dominion over people or resources. Some specific aspects that define it are the social power, authority, wealth, the preservation of the public image, among others.

- **Achievement**: Pursuit of personal success to demonstrate competence on the basis of cultural norms and social standards. Some specific values associated with this dimension are being successful, able, ambitious, have influence, among others.

- **Hedonism**: Pleasure and sensorial gratification of the person. It is closely related to the enjoyment of life.
• **Stimulation**: Appreciation of the exciting life, variety, novelty and challenges in life.

• **Self Direction**: Independence of thought and action. It is associated with values such as creativity, freedom, choice of own goals, among others.

• **Universalism**: Understanding, appreciation, tolerance and protection for the well-being of all people and nature. Specifically the values that represent it are appreciation for the wisdom, the search for social justice, equality, peace in the world, protection of the environment.

• **Benevolence**: Concern about the welfare of the people with whom one is in frequent contact, i.e., with the people that it interacts on a daily basis. Specific values associated with this dimension are honesty, loyalty, responsibility, support, forgiveness to others, among others.

• **Tradition**: Respect, commitment and acceptance of ideas and customs imposed by culture or religion on the person. The specific values associated with this dimension are humility, devotion and respect for the traditions, among others.

• **Conformity**: Limitation of actions, inclinations and impulses that can disrupt, disturb or harm others and violate social norms or expectations. The definition emphasizes the aspects of self-limitation in everyday interaction with people nearby, such as being polite, obedient, disciplined, honoring parents and older.

• **Security**: Motivational orientation based on the search for security, harmony and stability in society, in interpersonal relationships and in one self. Considered specifically it values the family’s safety and national security, social order, among others.

The proposed values are arranged in a circular structure reflecting conflict relations and congruence between them. The types of values in competition emanate in directions opposite the Center and compatible types are coming along the circle. In this way, it means that behind the values there are motivations that promote actions that can complement or oppose the completion of others and have effects at the practical, psychological and social level (Schwartz, 1992).

In a first reading, Schwartz (1992) grouped these values in two bipolar dimensions. On the one hand, one consisting of self-transcendence values (universalism and benevolence) and, in opposition to the values of self-promotion (power and achievement), being the first of those who allude to the interests of a person according to others, while others relate to the interests of a person on the basis of its own. On the other hand, a second dimension consisting of the set of values of conservation (tradition, conformity and safety) and those so-called openness to change (self direction, stimulation and hedonism).

Subsequently, it is proposed a second reading which gathers ten motivational types depending on whether values are focused on itself or on other people. The first would be those that regulate the expression of interests and personal characteristics (self direction, stimulation, hedonism, achievement and power), and the second would be those who regulate the relations with each other and the effects on them (universalism, benevolence, tradition, conformity and security). Finally, a third reading, which brings together the ten same values, as they express the auto stretch without concern, also called values of growth (self-direction, universalism, benevolence, stimulation and hedonism) in opposition to those who express self-protecting with concern (security, power, achievement, conformity and tradition). As the theory assumes that the values are a motivational continuous, it raises that the last two readings are compatible and interchangeable with the first reading, and original version of the theory (Fontaine, Poortinga, Delbeke & Schwartz, 2008).

Various empirical studies, most of them carried out confirm the theoretical proposal of Schwartz (Smith & Schwartz, 1996). In this line, research conducted with samples of University students; report that they tend to value more the dimensions of self-transcendence and openness to change in comparison with the dimensions of self promotion and conservation (Bilbao, Techio & Páez, 2007; Delfino & Zubieta, 2011; Espinosa, Ferrandiz & Röttenbacher, 2011). Notwithstanding the foregoing, there are differences in the axiological priorities of university students according to the career that they study, finding major differences between the technological and humanist careers (Carrasco & Osses, 2008; Cuts, Arraiz, Bueno, Escudero & Sabiron, 2008; Feather, 1998; Giacomino &
Values, career and gender

Relations between axiological profiles associated with races are similar to those observed between axiological profiles and gender. These similarities seem to have originated at the time that women are inserted in university education and establish careers designed especially for women and for men. In a first period, women inserted in careers such as education, psychology and Social work, especially in the area of human sciences or health (Razo, 2008). This situation is due to cultural patterns (Eagly & Karau, 2002), to the socialization of gender roles (Gilligan, 1982; Hagstrom & Kjellberg, 2007; Morales & Cuadrado, 2004), the working environment where the career develops (Razo, 2008) and the expected salaries for each sex, leaving the men with more socially profitable works (García, 2002).

Over time women were incorporated into all University careers representing more than 50% of the students, however, his income remained lower in the technical or engineering careers, conceptualized as typically male (García, 2002).

The above, is consistent with the defined profiles for students of different careers. In that sense, psychology students require special knowledge, develop skills, attitudes and values to understand, diagnose and intervene in the satisfaction of needs and solving psychological problems in diverse, complex and changing scenarios. They must possess social sensitivity and helping attitude that are stereotypical attributes predominantly associated with women and the feminine gender (Aragón, 2011).

For their part, MBA students are formed in order to a general and integral profile which allows them to manage any organization. They orient themselves to be licensed in
the area of economic science, professional in business and non-profit activities. Extending the improvement of the quality and price of production and services, promotion and the increase of wealth, resource optimization and maximization of profits (Pontificia Universidad Católica Argentina, 2012).

Engineering careers vary according to the specialization chosen and the spectrum is wide. There are specializations that include large scale constructions as civil or industrial engineering, others that recreate constructions or a scheduling system on a smaller scale as electronic engineering. However, all of them have in common the need to project and implement operational models or structures, planning, directing and monitoring projects to be able to translate from buildings, bridges and airports to systems of communication (Pontificia Universidad Católica Argentina, 2012). The two last analyzed careers relate to stereotypical attributes associated to men and masculinity as for example the ability to manage and lead projects.

On the basis of the above, the present investigation seeks to describe and analyze if there are axiological profiles differentiated between students of the careers in Psychology, Business Administration and Engineering from a private university from the city of Buenos Aires (Argentina). Additionally, it seeks to identify the discriminant functions and the discriminative capacity of three readings or conceptual approaches proposed on the model of Schwartz.

Method

Participants

The Sample is composed of 211 regular students (51.2% female) of a private University of the city of Buenos Aires, students of Psychology (34.6%), Engineering (33.2%) and Business Administration (32.2%). The average age is 21.40 years (From: 2.58, Min.: 17 years, Max.: 27 years).

The distribution of sex by career presents statistically significant differences, with a greater presence of women in the career of psychology and a greater presence of men in engineering and business administration, respectively.

<table>
<thead>
<tr>
<th>Career</th>
<th>Sex</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Psychology</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td>Business Administration</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>Engineering</td>
<td>52</td>
<td>18</td>
</tr>
</tbody>
</table>

χ² = 61.63, gl = 2, p < .001

Measures and instruments

• Socio-demographic Data: A registration form was applied where the sex, age and career of the participants was asked.

• Schwartz values questionnaire (2001): the version validated by Castro Solano and Nader (2006) for Argentina was used. This questionnaire includes statements about desirable means and ends in life that guide social conduct. It is a scale consisting of 40 phrases describing characteristics of persons. For example, it seems important to have new ideas and be creative, likes to do things properly and original.

The first reading of the model proposes ten motivational goals that are organized into four dimensions: self-transcendence (α = .77), self-promotion (α = .64), preservation (α = .66) and openness to change (α = .61). Second reading organizes ten motivational goals in two dimensions which are: self-centered values (α = .54) and values centered on the others (α = .72). The
third reading brings together ten motivational goals in two dimensions according to the criteria of growth ($\alpha = .70$) and self-protection ($\alpha = .66$).

**Procedure**

In terms of assessment procedures, once the relevant permissions to perform surveys are ordered, it was proceeded to inform students about the research and were invited to participate voluntarily in the same, ensuring anonymity on the information provided, which would be used only for academic purposes.

The administration of questionnaires was performed collectively, in classrooms during the recess of the courses where there were facilities for the collection of information. Finally, it was proceeded to load data for further processing and statistical analysis.

**Results**

**First reading: Model 4 dimensions or general goals**

The results show that participants prioritize first self-transcendence values ($M = 4.14; DE = .56$), secondly the values of openness to change ($M = 3.94; DE = .56$), in third place the values of conservation ($M = 3.34; DE = .62$) And finally, the values of self-promotion ($M = 3.34; DE = .62$).

Subsequently, a discriminant analysis was processed to classify students according to their axiological priorities by career.

The values of conservation, self-transcendence and self-promotion differ significantly among themselves to the students of psychology, business administration, and engineering. Differences between careers are not appreciated by the dimension of openness to change.

**Second reading: Self-centered values model versus other-centered values model**

Considering the second reading, the results show that the study participants prioritized the values focused on each other in comparison to the self-centric values ($t (211) = 8.109, p < .001$) $M$ other $= 3.74; DE = .49$. $M$ self $= 3.39; DE = .50$.

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The discriminant analysis for this model according to the career, shows that both dimensions differ significantly to the students of Psychology, Business Administration, and Engineering.

This discriminant analysis showed two functions. The first and most important of the functions, explains a 67.3% of variance and was significant (Wilks’ Lambda = .774, $\chi^2 = 53.08$, gl = 4, $p < .001$). Business Administration students scored higher on others-centered values, followed by students of Psychology and Engineering, respectively ($r$ with the function = 1); In addition, MBA students also scored higher on self centered values, followed by students of Engineering and Psychology, respectively ($r$ with the function = .210).

Table 3

<table>
<thead>
<tr>
<th>Values</th>
<th>Psychology</th>
<th>Business Administration</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-54.761</td>
<td>-56.577</td>
<td>-48.369</td>
</tr>
<tr>
<td>Self Transcendence</td>
<td>12.789</td>
<td>11.464</td>
<td>10.961</td>
</tr>
<tr>
<td>Self Promotion</td>
<td>4.641</td>
<td>5.588</td>
<td>5.089</td>
</tr>
<tr>
<td>Conservation</td>
<td>3.354</td>
<td>4.482</td>
<td>3.012</td>
</tr>
<tr>
<td>Openness to change</td>
<td>7.099</td>
<td>7.303</td>
<td>7.367</td>
</tr>
</tbody>
</table>

Table 4

<table>
<thead>
<tr>
<th>Values</th>
<th>Psychology</th>
<th>Business Administration</th>
<th>Engineering</th>
<th>Wilks’ Lambda</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self centered</td>
<td>3.25 (.54)</td>
<td>3.60 (.40)</td>
<td>3.35 (.49)</td>
<td>.914</td>
<td>9.784</td>
<td>.001</td>
</tr>
<tr>
<td>Other centered</td>
<td>3.86 (.40)</td>
<td>3.89 (.39)</td>
<td>3.47 (.56)</td>
<td>.844</td>
<td>19.237</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table 5

<table>
<thead>
<tr>
<th>Values</th>
<th>Psychology</th>
<th>Business Administration</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-48.987</td>
<td>-53.484</td>
<td>-44.108</td>
</tr>
<tr>
<td>Self centered</td>
<td>10.359</td>
<td>11.901</td>
<td>11.232</td>
</tr>
<tr>
<td>Other centered</td>
<td>16.087</td>
<td>15.883</td>
<td>13.968</td>
</tr>
</tbody>
</table>
The career classification function coefficients obtained with this second reading of Schwartz model, allow to correctly assign the 52.1% of participants in the study.

This discriminant analysis showed two functions. The first and most important of the functions, explains a 67.3% of variance and was significant (Wilks’ Lambda = .774, $\chi^2 = 53.08$, $gl = 4$, $p < .001$). Business Administration students scored higher on others-centered values, followed by students of Psychology and Engineering, respectively ($r$ with the function = 1); In addition, MBA students also scored higher on self centered values, followed by students of Engineering and Psychology, respectively ($r$ with the function = .210).

The career classification function coefficients obtained with this second reading of Schwartz model, allow to correctly assign the 52.1% of participants in the study.

### Table 6

**Descriptive values prioritized by career - third reading**

<table>
<thead>
<tr>
<th>Values</th>
<th>Psychology</th>
<th>Business Administration</th>
<th>Engineering</th>
<th>Wilks’ Lambda</th>
<th>$F$</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth</td>
<td>4.14 (.42)</td>
<td>4.04 (.39)</td>
<td>3.86 (.54)</td>
<td>.937</td>
<td>6.983</td>
<td>.001</td>
</tr>
<tr>
<td>Self Protection</td>
<td>3.00 (.53)</td>
<td>3.48 (.43)</td>
<td>2.97 (.55)</td>
<td>.825</td>
<td>22.125</td>
<td>.001</td>
</tr>
</tbody>
</table>

**Third reading: Model of values of personal growth versus values of self-protection**

Considering the third reading, the results show that the study participants nested values of growth above the values of self-protection ($t (211) = 19.511$, $p < .001$. $M$ growth = 4.02; $DE = .47$. $M$ Self protection = 3.15; $DE = .55$).

The discriminant analysis for this model according to the career of the students shows that both types of values differ significantly to students of Psychology, Business Administration, and Engineering.

### Table 7

**Coefficients of the function of classification by race - third reading**

<table>
<thead>
<tr>
<th>Values</th>
<th>Psychology</th>
<th>Business Administration</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-51.598</td>
<td>-54.410</td>
<td>-46.397</td>
</tr>
<tr>
<td>Growth</td>
<td>18.132</td>
<td>17.200</td>
<td>16.749</td>
</tr>
<tr>
<td>Self Protection</td>
<td>8.603</td>
<td>10.646</td>
<td>8.715</td>
</tr>
</tbody>
</table>
Discussion

First reading: 4 dimensions Model or general objectives

Considering the first reading of Schwartz model, the results show that overall, the most important values for the participants in the study fall within the dimension of self-transcendence. This leads to suppose that the prevalence of these values is linked to university education (Bilbao et al., 2007; Delfino & Zubieta, 2011; Espinosa et al., 2011).

However, despite that this dimension’s prioritization has been the largest in the three students careers reported in this research, it is important to mention that the relative strength of these values vary between them, being significantly higher in the Psychology career, as it has been, it could be considered a women’s career (Aragón, 2011). The second axiological dimension valued by the participants of the study, is the openness to change. This dimension does not present significant intra-group differences, being the only dimension that does not discriminate among careers. This seems to relate to the fact that the openness to change is a dimension that characterizes populations with high levels of formal education, because at this level, education systems attract people with high motivation of knowledge and tend to promote reflection and critical thinking (Smith & Schwartz, 1996).

The conservation dimension stands third in the participants’ hierarchy of values and discriminates the axiological priorities between careers. Managers scored highest in this dimension, and this would be consistent with the function of the career administrator which manages systems and organizations in order to preserve them in the best way. Psychology students are the second highest scoring group present in this dimension, which seems to relate to the genre that is associated with the career, considering that women tend to present scores higher than men in conservationism and the career of Psychology has a female profile (Schwartz & Rubel-Lifschitz, 2005).

Second reading: Model of self centered values versus other-centered values

Second reading contrasts self-centered values with other-centered values, with a predominance of the latter on the first. Similarly with the first reading of Schwartz model, the predominant domain is the one in which the values of universalism and benevolence are, which is consistent with the profile of college students, educated in tolerance and acceptance of others. In this regard, these values discriminate according to the career that is studied and similar to the first reading, this differentiation by career of values focused on others seems to be inversely related to individualistic self-centric values.

Students of Psychology report major discrepancies between scores of other-centered values versus values focused on the self, which means a greater prioritization of interest and well-being of an extensive network of people before an interest and well-being associated with the self. In the case of Management students and Engineering students, the discrepancy between both dimensions is minor, so these people value the well-being of others in their environment, highly prioritize welfare and individual satisfaction, which is consistent with the concerned definition of the careers and more masculine profile definition; In contrast to the career of Psychology which refers to characteristics associated with the female gender involving a greater empathy and care for the other (Aragon, 2011; Myyry & Helkama, 2001; Verkasalo et al., 1994).

Third reading: Model of values of personal growth versus values of self-protection

This conceptual approach shows a greater prioritization of the dimension of personal growth, containing the same values as the dimensions of self-transcendence and openness to change from the first reading proposal. In this scenario, it could be guessed, as in the case of the first model, that students tend to prioritize aspects related to those dimensions that are associated with greater tolerance, respect and openness towards diversity and toward others, attributes that appear to be consistent with what the University educational systems intended to achieve, when comprehensive training is about (Lyons et al., 2005; Schwartz & Rubel-Lifschitz, 2005; Schwartz & Rubel-Lifschitz, 2009; Silfver, 2007).

Similarly to the earlier proposed readings, this reading also allows to identify significant differences of axiological profiles of students according to the career they pursue. These differences can be explained considering the relative importance of the values of self-protection. Thus, the highest relative score of Psychology students in the values of...
personal growth and the largest discrepancy of these values with self-defense is consistent with the profile described for this career. Self-protection values are higher in Management students and this is related to a lower relative assessment of the values of personal growth. In the case of Engineering students, scores in the dimensions of personal growth and self-protection are the lowest of the three careers. However, the distance between both types of values is less intense that in Psychology, suggesting a lower tolerance and aperture, but also a lower interest in conservation.

**Discriminating ability of each reading**

In the light of the obtained results, the three readings can differ significantly depending on career, to the students who participated in the study. Whereas the discriminant functions obtained by reading and their respective capabilities of classification; show that ratings are poor by making use of any of the three approaches. It further notes that classification is similar in the three proposals. Considering the psychometric characteristics of the same and better light performance of the first approach, it would be advisable to continue using this. Because it is conceptually more accessible and the results from it are easier to interpret. In that sense, the second and third reading seem to force the classic structure proposed by Schwartz (1992), making groupings of values whose joint interpretation becomes more complex and this seems to corroborate in low levels of reliability obtained in dimensions according to these approaches and in slightly lower levels of classification that they possess.

**References**


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