

Values And Attitudes in Children and Adolescents: The Ecuadorian Case

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ABSTRACT:

Despite the importance of moral development for an adequate maturation and adaptation of the individual to his/her social environment, especially for children and adolescents, there is hardly any psychological and educational literature addressing the attitudes and value structures at these stages in Ecuador. Starting from an instrument originally developed for Spanish population, the responses provided by an Ecuadorian sample, representative at the national level, were analysed. In order to reduce the original number of items (198) and obtain a scale with optimal psychometric properties, those items with low consistency and/or discriminative power were deleted, and the underlying components were determined by means of exploratory factor analysis, employing principal components and oblique rotation. Once determined the final scale (69 items), together with the resulting value structure, the solution obtained was submitted to several analyses and tests. Firstly, the internal consistency of the scale was assessed (Cronbach's $\alpha = .828$). Secondly, the invariance according sex and cohort was checked, finding minimal differences in both cases. Finally, multidimensional scaling and cluster analyses were performed, in order to verify its similarity with other structures found in the international literature; more precisely, with the value structure developed by Schwartz. Results showed that Ecuadorian children and adolescents are alike with respect to their values, but there are also important differences between their value structure and the classical structure by Schwartz. Moreover, our results also showed the existence of important deficiencies, both at the academic and the social and familiar levels, which would need to be addressed, especially with respect to values related to personal development. (Schwartz, 1992; Schwartz, 2012; Schwartz & Bilsky, 1987).

Keywords: Values; attitudes; family influence; social adjustment; educational indicators.

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1. INTRODUCTION

The concept of value has been widely used in the psychological and educational literature as one of the fundamental aspects that guide people in their

life decisions (Gordon, 2003, p. 152; Sagiv & Roccas, 2021). Although there is no unanimity in its definition, nor have clear boundaries been drawn between values and other constructs such as attitudes, beliefs or norms, its main

characteristics have been well described by classical definitions that enjoy general acceptance. One of these classic definitions was put forward by Rokeach: "a value is a stable belief over time that a specific mode of behavior or existential purpose is personally or socially preferable to an inverse or opposite form of behavior or existential purpose" (Rokeach, 1973, p. 5). Thus, values are inscribed within the individual, but they are based on social expectations, and act as normative beliefs that guide the subject's behavior (Fishbein & Ajzen, 1975). Unlike attitudes or norms, values are more general, both in their nature and in their applicability. In Schwartz's words, values are "desirable general goals that serve as guiding principles of varying importance in people's lives" (Schwartz, 1992, p. 3). Likewise, values are arranged hierarchically and idiosyncratically, so that "although the nature of values and their structure may be universal, individuals and groups may differ substantially in the relative importance they attach to values. That is, individuals and groups have different 'priorities' or 'hierarchies' of values" (Schwartz, 2012, p. 3). Recent research continues to confirm the cross-cultural validity of Schwartz's theory of values and its applicability in adolescents and contemporary educational contexts (Schwartz et al., 2021; Cieciuch & Schwartz, 2022).

The case of childhood and adolescence is especially important from the point of view of moral development, where both moral and intellectual education occurs, and its evolution through various stages throughout growth (Dewey, 1996; Dewey, 1998). Moral development affects the child at the behavioral level (e.g., developing cooperative or prosocial behavior), cognitive (moral reasoning and moral awareness), or emotional (personal well-being) (Bardaji, 1990). On a theoretical level, two of the most influential models of moral development have been Piaget's model, originally published in 1932, and its subsequent development by Kohlberg in the 1950s (Piaget, 1984; Kohlberg, 1992). Both authors, with slight differences, propose a progressive evolution from a heteronomous or conventional morality, opposed to the egocentrism of the child and imposed from

above, to an autonomous or post-conventional morality, more flexible, individual and rational. Both theories have since received various criticisms, among which we highlight two: (1) that the stages of moral reasoning are not as universal as both theories assume, but are highly dependent on culture (e.g. Miller & Bersoff, 1992; Jensen, 2020); (2) that children's moral orientations can be altered, and even reversed. This critique was made from the perspective of social learning theory and supported by experimental data (Bandura & McDonald, 1963; Cowan, Langer, Heavenrich, & Nathanson, 1969), as well as by the work of Rokeach (1971), who revealed the malleability of the subjects' values in the face of evidence of inconsistency between them and their own attitudes and behaviors. This last result not only supports the idea that values are not unchangeable, but also that there is a clear interdependence between them, attitudes and behaviour. Recent studies have reinforced this perspective by demonstrating that school, family, and digital experiences significantly influence moral and axiological formation during adolescence (Killen & Dahl, 2021; Malti & Krettenauer, 2022).

Another very influential model within the field of value study has been the one proposed by Schwartz, which consisted of 10 fundamental values in his initial approach (Schwartz & Bilsky, 1987; Schwartz, 1992), which were later increased to 19 (Schwartz, et al., 2012). Although it is not a model of moral development per se, it has also been tested and validated in children (Döring, et al., 2015). As in the case of Piaget and Rokeach, Schwartz proposes the universality of values, both geographically and evolutionarily, although, as already mentioned, he admits the existence of individual or group differences in terms of their hierarchy. Unlike other models or theories of values, Schwartz's proposes a spatial arrangement of values in the form of a circle, in such a way that related values are located close to each other in their perimeter (the case, for example, of Stimulation and Hedonism, or Benevolence and Universalism), and the less compatible values are located at opposite points of the same (case, for example, of Self-direction and Security, or

Conformity and Stimulation). Recent studies have confirmed the structural consistency of this model in multicultural samples and Latin American adolescents (Vecchione et al., 2022; Schwartz, 2023).

In the case of our research, the study of the value structure of children and adolescents in Ecuador was proposed, including values themselves, but also attitudes and behaviors of the subjects. In the case of the latter, this was carried out including family, school, leisure and free time activities so that they were valued by the subjects. The purpose of including these 3 aspects was to allow associating with each value the attitudes and activities that are compatible with it, thus obtaining a richer description of it. Likewise, and in order to start from a cultural context as similar as possible to the Ecuadorian one, for adaptation purposes, the study carried out in Spain by Penas (2008), based in turn on that of Pérez, Cánovas and Gervilla (1999), was taken as the basis for our study. However, and in order to facilitate comparability with models that have been intensively tested in cultures and languages other than Hispanic, the results were treated and analyzed according to Schwartz's model, and compared with it. Recent research recommends precisely the cross-cultural adaptation of axiological instruments to strengthen the contextual and comparative validity of studies in Latin American adolescents (Daniel et al., 2020; Cieciuch et al., 2021). Thus, the objectives of this research are threefold:

To obtain a representative scale of the values, attitudes and associated activities corresponding to Ecuadorian children and adolescents.

To analyse the structure of values of this scale, as well as its invariance with respect to sex and age.

To investigate the similarities and differences found in our sample with respect to studies carried out in other countries.

2. SAMPLE

A representative sample of the population of children and adolescents in Ecuador was taken. Simple stratified random sampling was used for sample selection based on sex, geographical

distribution and type of school (public, subsidized, secular private and religious private), assuming a sampling error of 2% and a reliability level of 95%. Our final sample, after filtering lost data and questionnaires with errors, was slightly lower than estimated ($N = 2034$ vs. $N = 2,200$), *although quite faithful to the population distribution in terms of stratification variables. The group of children (8-11 years old) was made up of schoolchildren from 4th to 6th grade of basic education; On the other hand, the group of adolescents (12-15 years old) was made up of students from 7th to 9th grade of Basic Education. Both groups obtained a similar representation in the sample, although slightly higher for adolescents ($N = 1083$; 53.2%) than for children ($N = 951$; 46.8%).*

3. INSTRUMENTS

For the collection of information, the questionnaire "Values and lifestyles" was used, partially based, in turn, on the one developed by (Penas, 2008) Pérez, Cánovas, and Gervilla (1999). The questionnaire consisted of 224 items, of which 198 dealt with the practice of values, attitudes and activities. A Likert-type response scale was used in all items with 4 alternatives that, in the case of attitudes and values, indicated the degree of agreement with the statement expressed in the item, or the degree of importance given to the value considered, respectively (1= "Nothing"; 2= "Little"; 3= "Quite a lot; 4= "A lot"). In the case of activities, the scale represented the frequency with which the activity mentioned in the item was carried out (1 = "Never or almost never"; 2 = "Several times a month"; 3 = "Several times a week"; 4 = "Daily"). The questionnaire was adapted in its wording to the Ecuadorian context, presenting it to two experts in linguistics, who modified 32 terms used in the original version that were not familiar to schoolchildren in Ecuador.

Once the instrument was linguistically validated, a pilot test was carried out with schoolchildren from two institutions, one public and the other private, with children between 8 and 10 years old and adolescents between 11 and 13 years old. This pilot test allowed modifying some additional terms in the items, in order to increase the simplicity and clarity of the questions. Four

interviewers were then trained for the application with the final sample, which was collected in 40 centers distributed throughout the country.

4. METHOD

4.1. Procedure

Data collection was carried out in agreement with the educational institutions included in the study. Due to the high number of items, in the case of children the application needed an average of 90 minutes, with an intermediate break of 20 minutes. In the case of adolescents, the average time required was much shorter (45 minutes). Both groups received instructions on how to complete the questionnaire, and sociodemographic data and 4 previous test questions were used to familiarize them with the instrument. Subsequently, the questionnaires were reviewed to verify the integrity and quality of the responses, eliminating incomplete or incorrectly completed questionnaires.

4.2. Data analysis

The first objective was to develop an improved and shorter version of the initial sample of items used, for which an exploratory data reduction strategy based entirely on statistical criteria was chosen. Thus, once the adequacy of the sample of subjects was verified, those items that showed low consistency and/or low discriminative power were eliminated. Next, the construct validity of the scale was analyzed by exploratory factor analysis (EFA), eliminating those items with low loads in all components, as well as those factors constituted by a single isolated item. In order to check the adequacy of the data to the model, the KMO indices were calculated, as well as the Bartlett sphericity test. An oblique rotation method was selected, in order to allow the subsequent analysis of the components obtained by multidimensional scaling. Once a parsimonious solution was reached, the internal consistency of the resulting scale was calculated using Cronbach's alpha coefficient. The factor scores corresponding to each subject in each of

the selected components were then saved as variables for use in subsequent analyses.

The scores obtained by the subjects in each component were subjected to analyses of variance (ANOVA), in order to verify the existence of differences in them according to sex, cohort (children *vs.* adolescents), or the interaction between the two.

Next, the components selected by the EFA were subjected to a multidimensional scaling analysis (MDS), in order to obtain a spatial representation of the relationships between the components, which would allow us to make comparisons with similar models developed for other countries. The Simplex method was used as the initial boot configuration; that is, it was not raised a priori what the position of the different components in multidimensional space should be. The fit of the solution provided was evaluated based on the normalized crude stress, as well as by the Tucker congruence coefficient. A two-dimensional solution was selected, which is the dimensionality assumed for this type of value structure models (cf. Schwartz & Bilsky, 1987; Schwartz, 1992).

Finally, and in order to detect more general value structures, a cluster analysis of the components was carried out, using various agglomeration methods (intergroup linkage, intragroup linkage, nearest neighbor, farthest neighbor, centroid clustering, median clustering, and Ward method).

5. RESULTS

Table 1 shows the distribution of the sample according to the stratification variables. The most remarkable feature is the total absence of private centers, both secular and religious, in the Oriente region, the poorest region of the country, where this type of center is almost non-existent. Likewise, there is a representation of close to 70% of public schools, while the other types of centers each obtain a representation close to 10%, similar to the existing educational offer in the country.

Table 1. Distribution of the sample according to the stratification variables.

		Region								
		Coast		Sierra		Orient		Total		
		Sex		Sex		Sex		Sex		
		Women	Male	Women	Male	Women	Male	Women	Male	
Type of centre	N	347	222	306	395	50	60	703	677	
	Public	% row	61,0%	39,0%	43,7%	56,3%	45,5%	54,5%	50,9%	49,1%
		% col.	66,1%	53,2%	71,3%	75,2%	75,8%	83,3%	68,9%	66,8%
	N	52	56	22	36	16	12	90	104	
	Concerted	% row	48,1%	51,9%	37,9%	62,1%	57,1%	42,9%	46,4%	53,6%
		% col.	9,9%	13,4%	5,1%	6,9%	24,2%	16,7%	8,8%	10,3%
	N	62	63	63	68	0	0	125	131	
	Private	% row	49,6%	50,4%	48,1%	51,9%	0,0%	0,0%	48,8%	51,2%
	Religious	% col.	11,8%	15,1%	14,7%	13,0%	0,0%	0,0%	12,3%	12,9%
	N	64	76	38	26	0	0	102	102	
	Private Lay	% row	45,7%	54,3%	59,4%	40,6%	0,0%	0,0%	50,0%	50,0%
		% col.	12,2%	18,2%	8,9%	5,0%	0,0%	0,0%	10,0%	10,1%
N	525	417	429	525	66	72	1020	1014		
Total	% row	55,7%	44,3%	45,0%	55,0%	47,8%	52,2%	50,1%	49,9%	
	% col.	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	

The sociodemographic information collected in the questionnaire also took into account the sector where the educational center was located. 82.6% of the centers were located in an urban or semi-urban sector, while the remaining 17.4% corresponded to centers located in the rural sector. This distribution is also similar to that existing in the general population.

At the family level, it was found that 56.3% of the subjects came from nuclear families, 20.5% from single-parent families, 16.3% from extended families, and 6.8% from other types of families (fundamentally, families where they live with guardians other than their own parents). The relative abundance of these last two types of family is due, on the one hand, to the incorporation into the family of the descendants of one's own children, or of other relatives (extended family), as well as to the problem of emigration, where one or both parents are absent, and the children live with other relatives (other

types of family). The mean number of children per family was very similar to that of the total sample for all family types ($M= 3.34$; $sd= 1.68$).

At the academic level, Table 2 shows the official grades obtained by both cohorts. The most striking fact is the total absence of failures among children, and almost total among adolescents, as well as a preponderance of the "very good" rating among children and, to a lesser extent, among adolescents. The reason for these results is the little relevance attributed to grades and grades in the Ecuadorian education system, to the point that the Organic Law of Intercultural Education (LOEI), in its article 184, specifies that "Student evaluation processes should not always include the issuance of grades or grades" (LOEI, 2015, pág. 52). For all these reasons, school grades cannot be considered a true reflection of student performance and will not be considered in our study.

Table 2. Academic performance results (grades) for the cohorts of children and adolescents.

		Cohort					
		Children		Teens		Total	
		N	% col.	N	% col.	N	% col.
Academic Performance	Insufficient	0	0,0%	3	0,3%	3	0,2%
	Regular	33	3,6%	58	5,4%	91	4,6%
	Good	141	15,3%	366	34,1%	507	25,5%
	Very Good	469	51,0%	419	39,1%	888	44,6%
	Excellent	276	30,0%	226	21,1%	502	25,2%

Regarding the items of the questionnaire corresponding to values, attitudes and lifestyles, of the total of 198 initial items, those that showed low consistency and/or low discriminative power were eliminated. Subsequently, applying an AFE through principal components, those items with low factor loads were eliminated, until no item showed loads lower than .20. Likewise, the factor structure of the scale was also simplified by eliminating those factors constituted by a single item, as well as the factors that cannot be interpreted because they are composed of disparate items. As a result of this process, a final scale was obtained composed of 69 items organized into 20 factors with eigenvalues greater than 1, which explained 54.08% of the total variance of the scale. Regarding the adequacy of the solution obtained, the *KMO* index provided a value of .869 for our sample, which can be

considered acceptable. Bartlett's sphericity test confirmed the adequacy of the data for the EFA ($\chi^2 = 19532.034$; *g. l.* = 2346; $p < .001$). The internal consistency of the final 69-item scale was also checked by calculating Cronbach's alpha coefficient, which provided a satisfactory value (.828), with slightly better results for the sample of children (.840) than for the sample of adolescents (.805).

To interpret the 20 components obtained, the content of the items associated with each component, their weight within it, and the type of relationship (direct or inverse) of each item with its component were taken into account. Table 3 shows the components obtained once labeled, their saturations in the form of percentage of explained variance, as well as the items that compose them.

Table 3. Factorial solution with oblique rotation: 20 components, associated items, and factorial load of each item in its component. Next to each component, in parentheses, the percentage of variance explained by it is shown (total variance explained: 54.079%).

Component	Items	Saturation
1. Family and school support (11,350%)	My parents respect my opinions	,586
	My parents treat me well	,584
	When things go wrong, my family always supports me	,583
	When I have problems, I ask my parents for help	,555
	The family can be trusted	,506
	My parents care about me	,499
	My parents treat us siblings the same	,495
	Family helps	,404
	When I do something well my parents notice it and are satisfied	,373
	My parents give me something when I get good grades	,367
	When I do something right, my teachers tell me	,331
	Teachers encourage more study	,307

2. Consumerism (6.587%)	For me it is important to wear clothes from well-known and It's important to me to wear fashionable clothes It's important to me to have trendy records in my house Clothes from well-known brands make me feel better It's important to me that my parents have an expensive car It's important to me to have a lot of things, even if I don't use them When I want to buy a toy I prefer to go to a big store	,702 ,700 ,672 ,628 ,507 ,449 ,422
3. No hygiene (3.165%)	People should shower every day You should brush your teeth before going to bed	-,788 -,715
4. Concern (2,733%)	I'm worried about staying on the bench in some matter I'm worried about seeing my father or mother sad I'm worried that one of my siblings or friends has a problem	,790 ,780 ,779
5. Breaking Rules (2.609%)	I like to achieve what I set out to do, even if it's by cheating I like to be better at sports than at study I like to have a gang	,704 ,673 ,484
6. Non-sport (2.442%)	I like to push myself to the maximum when I do sports I prefer to do sports to be physically well I like to play football, basketball..., even if we lose I like to compete playing I like to play for the sake of playing, no matter who wins	-,656 -,628 -,618 -,611 -,598
7. Liking school (2.336%)	I'd rather go to school than be at home I like school I get very bored when I'm not in school I'm better at home than at school	,713 ,548 ,513 -,491
8. No parental authority	My mother is always right My father is always right	-,830 -,828
9. Liability (2.183%)	For me it is important to be correct, to behave well in class For me it is important to get good grades For me it is important to do what my parents say For me it is important to work in class It's important to me to have money to save	,700 ,699 ,645 ,552 ,537
10. Order (1.995%)	Making my bed at home Help set or clear the table at home	,791 ,756
11. Religiosity (1.918%)	Go to Mass On Sundays you have to go to mass	,836 ,783
12. Nature (1.822%)	The best holidays are spent in the countryside For me it is important to go to the countryside and enjoy nature	,835 ,649
13. Family Disc (1.699%)	Parents punish their children a lot My friends do things that my parents won't let me do	,749 ,680
14. Sexism (1,692%)	Going to work is a man's thing Cooking is a woman's thing	,798 ,781
15. Unfriendship (1,639%)	I like to help someone find friends I don't mind lending my homework, notes or diagrams I trust my siblings or friends when I have problems My colleagues respect my opinions	-,686 -,670 -,448 -,396
16. Materialism (1.607%)	Money is the most important thing in the world There is no happiness without money	,727 ,726
17. Sociability (1,553%)	I'd rather be alone in my room than with my family in the living I'd rather stay at home than go out with my parents	-,739 -,728

18. Taste for reading	Read for entertainment for a while	,723
	It's important to me to read entertainment books at some point	,602
19. Attachment (1,481%)	It's important to me that my parents play with me	,669
	It's important for me to talk to my parents for a while at some point	,639
	It's important for me to be with my parents on the weekends	,453
20. Rebellion (1,459%)	The elderly don't understand anything	,716
	Everybody's bad	,620
	The world belongs to young people	,542

The first two components (*Family and School Support* and *Consumerism*) showed a much greater importance than the rest, with 11.35% and 6.59% of variance explained, respectively; the rest of the factors contributed with percentages of variance ranging from 3% to 1.5%. We describe below the most outstanding features of the 20 selected components.

In the first place, following the classic scheme of Rokeach (1973), some instrumental values of a moral type appear, but in the form of anti-values in some cases; thus we have, for example: *Order*, or *Taste for reading*, but also: *Breaking rules* or *Rebellion* (as opposed to *Obedience*), or *Concern* (as opposed to *Joy*). As for the instrumental values of competition, the situation is similar. Thus, we have, for example: *Responsibility*, but also: *No hygiene* (vs. *Cleanliness*). As for the terminal values of a personal type, we find: *Religiosity*, *Liking for School*, *Attachment* or *Family and School Support*, but also: *No Friendship* or *Sexism*. Finally, in the case of terminal values of a social type, we find: *Taste for nature* or *Sociability*, but also: *Family discipline* (as opposed to *Freedom*), or *No parental authority*.

Now taking Schwartz's model, whose applicability to children or adolescents has been well documented (cf. Schwartz, 1992; Döring, et al., 2015), we also find similar problems. If we take into account the 10 values considered stable in this scheme, we observe that several of the components obtained in our analysis do not belong to any of these 10 values. The exceptions would be the following:

- The *Taste for Nature component* could be assimilated to the value *Universalism*.
- The *Religiosity component* could be assimilated to the value *Tradition*.

- The components *Sociability*, *Order*, *Taste for school* and *Taste for reading* could be assimilated to the value *Conformity*.
- The components *Attachment* and *Family and School Support* could be assimilated to the value *Security*.
- The components *Materialism* and *Consumerism* could be assimilated to the value *Power*.
- The *Responsibility component* could be assimilated to the Self-Direction value.

Thus, only 6 of the 10 values of the Schwartz model seem to be represented among our 20 components, while other values are not represented. It is possible that some components are inversely related to these other values. For example, the components: *No sport*, *Family discipline* or *Concern*, could be interpreted as the antithesis of the value *Hedonism*; in the same way, the components: *No friendship*, *No parental authority* or *No hygiene*, could be interpreted, in turn, as the antithesis of the value *Benevolence*. Even so, from these results it could be argued that perhaps our scale has not been able to reflect some values of the model (such as *Achievement* or *Stimulation*), although questions of this type were included in the original sample of items.

But, in addition, there is the complementary case that other of our components could fit into Schwartz's model, but as anti-values (e.g.: *Rebellion*, *Sexism* or *Breaking rules*, which we could consider anti-values of *Universalism*). In summary, our results have not found some of the values that Schwartz's theory considers universal both temporally and geographically, and have instead provided others not mentioned in the literature.

Before examining the factor structure found in more detail, the existence of significant

differences in each of the factors was verified according to sex, cohort, or the interaction between the two, by means of analyses of variance (ANOVA). The results showed the existence of significant effects in 15 of the 20 components. Within the former, only in one case (*Liking school*) were there differences according to sex, with slightly higher averages for girls, which seems to confirm that there is invariance in terms of this factor. The other 14 effects found were due to the cohort. No interaction effects were found. Despite the large number of effects found, the inspection of the corresponding means indicated that, as in the case of sex, the differences were in all cases of small magnitude, and not always in the expected direction. For example, in components such as *Worry*, *Breaking Rules*, *Sexism*, or *Rebellion*, children obtained higher averages than adolescents, while in components such as *Order* or *Sociability*, the highest averages corresponded to adolescents. These results could indicate a worse situation for children than for adolescents, with a greater presence of anti-values in the former than in the latter.

Given the differences between our factor structure and the components usually found in this type of study, a multidimensional scaling analysis (MDS) was carried out based on the factorial scores obtained by the subjects in each of the 20 components found, selecting a 2-dimensional model to facilitate comparability with the Schwartz model. Given the large number of effects due to the cohort found in the previous analyses, a metric analysis of individual differences was selected, taking this as the grouping variable. The MDS was carried out using the PROXSCAL program, and the solution obtained showed a very good fit, with a normalized gross stress of only .091 (explained dispersion = .909), and a high Tucker congruence coefficient (.954). These results reinforce the adequacy of a two-dimensional model for our purposes. Likewise, and in line with the small magnitude of the differences found by the ANOVA, the weights assigned to each of the two cohorts in the MDS solution were practically identical, both in the first dimension (children =

.454; adolescents = .476) and in the second dimension (children = .478; adolescents = .450), which reinforces our first impression that the differences between children and adolescents in their value structure are of small magnitude. Thus, the graphical representation of the 20 components in the MDS solution space shown in Figure 1 corresponds to the space common to both cohorts. (Döring, y otros, 2015) (Busing, Commandeur, & Heiser, 1997)

As you might expect, the positions of the 20 components on the two-dimensional map reflect a roughly circular structure, also called a circumplex or *Circumplex*, in which the different components are related to each other to different degrees, in such a way that the most closely related are arranged in adjacent or close positions within the circle, and those less related are at opposite poles of the circle, as is the case with Schwartz's model. However, when examining this structure in detail, we find a problem similar to the one encountered when interpreting these components from the saturations provided by factor analysis: some components are clearly associated with some of the values of the Schwartz model, while others seem rather anti-values, and others are difficult to interpret. To help in the interpretation of this solution, a cluster analysis was carried out, using various agglomeration methods, which provided very similar solutions: the 20 components are organized into 2 main groups (4 in the Schwartz model), which we could call (Schwartz, 1992) *Values* (located on the right in Figure 1), and *Anti-values* (located on the left). In turn, each of these two groups is subdivided into 3 subgroups. In the case of *Values*, these 3 subgroups were labeled as *Compliance*, *Universalism/Tradition* y *Safety/Self-direction* (from top to bottom, on the right side of Figure 1). Thus, in this case 5 of the Schwartz values appear, but reduced to 3 components, two of which have a mixed content.

The case of *Anti-Values* is even more complex: the 3 subgroups identified by the cluster analysis were labeled as *Non-Benevolence*, *Non-Hedonism*, and *Power*. Thus, only one of the anti-values (*Power*) is akin to Schwartz's model, but includes additional components, such as *Sexism* or *Breaking*

Rules. On the other hand, the other two subgroups are the negative version of the corresponding values in that model.

In addition, in none of these 6 subgroups or clusters do two values of the Schwartz model obtain representation: the *Stimulation* and the *Achievement*. This characteristic was already detected when interpreting the factorial solution, but both the MDS analysis and the cluster analysis confirm its absence in our model. This

result is contrary to the universality found in previous studies, both in terms of the structure of values and in terms of their composition, in children and adults. In addition, the structure found reduces the number of values, either by their non-existence or by the fusion of these into more general subgroups, while increasing the number of anti-values, creating subgroups oriented in the opposite direction to the original values ((Schwartz, 1992; Döring, y otros, 2015) *Non-benevolence* y *No hedonism*).

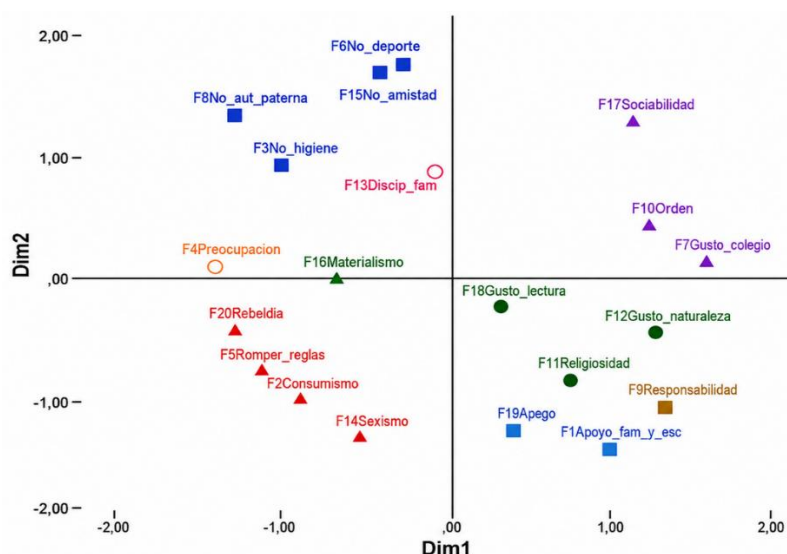


Figure 1. Two-dimensional MDS model for the 20 components of factor analysis, together with the 6 clusters detected by cluster analysis. Clockwise: $\triangle$ *Conformity*; $\bullet$ *Universalism/Tradition*; $\square$ *Safety/Self-direction*; $\blacktriangle$ *Power*; $\circ$ *Not hedonism*; $\blacksquare$ *Not benevolence*.

Thus, we will delve into the interpretation of these two subgroups by analyzing the individual responses of the items that compose them. For comparison purposes, we will indicate in parentheses the corresponding percentages available in the study by Penas (2008), although this was carried out only with Galician adolescents. In the case of the components of the

anti-value *Non-Hedonism* (*Family Worry* and *Discipline*), Table 4 shows that between 23% and 30% of the subjects showed responses at the negative pole of the scale, thus indicating that between 1/4 and 1/3 of the subjects suffer from excessive worry and/or excessive family discipline at home (about 1/10 in the Sorrows study).

Table 4. Subjects' responses to the items corresponding to the components *Worry* (rows 1 to 3) and *Family Discipline* (rows 4 and 5).

	Degree of agreement/importance			
	Nothing	Little	Quite	A lot
I'm worried about staying on the bench in some matter	59,3%	16,2%	8,6%	15,8%
I'm worried about seeing my father or mother sad	51,5%	17,2%	10,6%	20,8%
I'm worried that one of my siblings/friends has a problem	45,7%	23,0%	14,2%	17,1%
Parents punish their children a lot	26,5%	48,6%	13,5%	11,4%
My friends do things that my parents won't let me do	42,5%	34,1%	13,2%	10,2%

In the case of the components of the non-benevolence anti-value (see Table 5), the case of the *non-friendship* component is particularly striking, where about 40% of the subjects are not willing to help someone find friends (about 20% in the Sorrows study), more than 60% disagree with giving homework or notes (less than 50% in

the Sorrows study). around 35% do not trust their siblings or friends too much when they have problems (just over 10% in the Penas study), and almost 40% believe that their peers do not respect their opinions (around 20% in the Penas study).

Table 5. Responses of the subjects to the items corresponding to the components *No hygiene* (rows 1 and 2), *No sport* (rows 3 to 7), *No parental authority* (rows 8 and 9), and *No friendship* (rows 10 to 13).

	Degree of agreement/importance			
	Nothing	Little	Quite	A lot
People should shower every day	2,1%	5,6%	21,1%	71,2%
You should brush your teeth before going to bed	3,0%	3,4%	19,0%	74,5%
I like to push myself to the maximum when I do sports	8,0%	19,6%	30,8%	41,6%
I prefer to do sports to be physically well	8,4%	18,7%	29,5%	43,5%
I like to play football, basketball..., even if we lose	10,5%	17,1%	26,5%	45,9%
I like to compete playing	13,3%	25,9%	28,4%	32,5%
I like to play for the sake of playing, no matter who wins	14,8%	21,9%	25,5%	37,8%
My mother is always right	4,8%	15,5%	32,3%	47,5%
My father is always right	6,8%	22,1%	31,3%	39,9%
I like to help someone find friends	9,6%	30,7%	32,1%	27,6%
I don't mind lending my homework, notes or diagrams	23,0%	40,0%	17,1%	19,9%
I trust my siblings or friends when I have problems	8,7%	25,9%	29,7%	35,6%
My colleagues respect my opinions	10,3%	29,5%	31,2%	29,0%

Finally, in the case of the anti-value *Power* (see Table 6), it is striking that about 25% of the subjects show few scruples when it comes to getting what they want (approximately 15% in the study of Penalties), percentages close to 40% that show sexist attitudes (10-12% in the study of Penalties), and almost 20% of the subjects agree that everyone is bad.

These poor results in anti-values also have their correspondence in the case of some values. For example, around 30% of the subjects indicate that their parents do not respect their opinions (20% in the Penas study); around 25% do not perceive that their teachers encourage them when they do something well (20% in the Penas study); around

30% prefer to be alone than to spend time with their family at home (just over 10% in the Penas study), or go out with their parents; Finally, between 30% and 40% show no interest in going to the countryside or being in nature.

As a summary of all the above, the value structure shown by the subjects, both children and adolescents, is simpler, both in the case of higher-order values (2 vs. 4), and in the values themselves (6 vs. 10); in addition, this structure suffers from the lack of important values, such as *Stimulation* or *Achievement*, and has a negative profile overall. The comparison of the percentages mentioned above with similar items in the study by Penas (2008) shows clear

differences in key aspects for the development and behavior of Ecuadorian schoolchildren.

Table 6. Subjects' responses to the items corresponding to the components *Consumerism* (rows 1 to 7), *Breaking rules* (rows 8 to 10), *Sexism* (rows 11 and 12), *Materialism* (rows 13 and 14), and *Rebellion* (rows 15 to 17).

	Degree of agreement/importance			
	Nothing	Little	Quite	A lot
For me it is important to wear clothes from well-known and expensive brands	35,4%	33,1%	16,1%	15,3%
It's important to me to wear fashionable clothes	25,4%	31,6%	21,2%	21,9%
It's important to me to have trendy records in my house	25,2%	33,3%	18,5%	23,0%
Clothes from well-known brands make me feel better	27,2%	29,7%	19,4%	23,7%
It's important to me that my parents have an expensive car	34,7%	31,5%	17,2%	16,6%
It's important to me to have a lot of things, even if I don't use them	32,2%	37,7%	15,6%	14,6%
When I want to buy a toy I prefer to go to a big store	17,8%	28,5%	23,5%	30,2%
To achieve what I set out to do, even if it's by cheating	50,0%	23,7%	14,4%	12,0%
I like to be better at sports than at study	30,0%	32,3%	18,7%	18,9%
I like to have a gang	69,0%	13,1%	9,3%	8,6%
Going to work is a man's thing	43,1%	19,8%	17,0%	20,0%
Cooking is a woman's thing	35,9%	20,1%	17,1%	26,9%
Money is the most important thing in the world	42,9%	34,2%	12,6%	10,4%
There is no happiness without money	45,5%	36,1%	10,3%	8,1%
The elderly don't understand anything	29,4%	38,1%	17,2%	15,2%
Everybody's bad	45,0%	36,0%	10,2%	8,8%
The world belongs to young people	41,4%	28,6%	14,5%	15,5%

6. DISCUSSION

As a summary of the results found, our sample is adequately representative, both geographically and in terms of its sociodemographic characteristics, so the information provided by our subjects adequately reflects the situation of children and adolescents in Ecuador. With regard to the analysis of the subjects' value structure itself, the tests carried out have not detected significant differences depending on the cohort, and even less so according to gender, differences that have been found in other studies. As for the value structure itself, the results offered by both factor analysis and MDS and cluster analyses confirm that this structure differs significantly from that expected in the light of the existing literature, which generally assumes its universality and its independence from culture. On the contrary, our results show clear differences in the case of children and adolescents in Ecuador. A

detailed analysis of the subjects' responses to many of the items on our scale confirms this idiosyncrasy. (Hoffman, 1975; Schwartz & Rubel, 2005; Zubieta, Fernández, & Sosa, 2012)

Thus, the value structure shown by the subjects of our sample, both children and adolescents, suffers from the lack of important values, such as *Stimulation* or *Achievement*, and presents a negative profile in others: excessive family discipline and high levels of concern, low *Benevolence* in general, and a high degree of sexism and isolation. The fact that the results of Ecuadorian children and adolescents are worse than those obtained by Spanish adolescents in the study by Penas (2008) confirms the existence of clear differences in key aspects for the development and behavior of Ecuadorian schoolchildren, and serious deficiencies in both the family and school climate, as well as in relationships with their peers.

7. CONCLUSIONS

As a conclusion to all of the above, Ecuadorian children and adolescents show value structures partially similar to those found in other studies, but with clear particularities. Given the scarcity of studies previously carried out in the country, we do not have a national reference. Even so, the differences found with other studies carried out with the same instrument in culturally close countries, such as Spain, confirm this peculiarity. This result is not as surprising as it might seem in light of the apparent unanimity found in multiple cultures. Schwartz himself has recognized the existence of almost universal differences between different cultures as a result of the conflict between opposing values. For example, the values corresponding to Self-transcendence ((Schwartz, 2006) *Universalism* or *Benevolence*) compared to those corresponding to Self-improvement (*Power* or *Achievement*); It also recognises that socio-demographic differences can lead to an increase in the importance of values such as *Compliance* or the *Security* in the face of values such as *Self-direction* or the *Stimulation*. This can happen in the case of Ecuador, where the socioeconomic level is generally low, and the culture is more collectivist: this could lead to more individualistic values such as the *Stimulation* or the *Achievement* conflict with social and cultural reality.

If we conceive of values as a reflection of the social, school and family environment of the subjects, we find particularities at all these levels. On a social level, our subjects have a low *Benevolence*, especially with regard to sexist attitudes, distrust of others, low valuation of friendship and companionship, and a certain tendency to isolation.

As for the school environment, it is possible that the absence of values such as *Stimulation* or the *Achievement* in our subjects reflects, at least in part, deficiencies derived from the educational system. In the first place, the results by school grades show that these are of little use in identifying the academic progress of the students, which has a negative impact on the aforementioned values, since this lack of definition acts as a brake that discourages the student and prevents him from knowing what he should improve on. On the

other hand, it has already been found that education tends to prioritise values that favour order in the classroom over those of personal development (García, Ortega, & Sola, 2018), a situation that seems to be worsening in Ecuador. As for the possible negative academic repercussions that this situation may have, the results of the PISA 2017 report, in which significant percentages of Ecuadorian students obtained scores below the basic level in all the competencies evaluated (50% in reading, 70% in mathematics, 52.7% in science) seem to support this idea. (Ministerio de Educación, 2018)

As for the family, probably the most important and determining environment in terms of moral development in children of this age, authoritarian parenting styles frequently appear, which do not favor the needs for direction, affection and acceptance that children need (Ortega & Mínguez, 2004; Torío, Peña, & Rodríguez, 2008). In addition, about 45% of the students interviewed come from non-nuclear families, which are usually associated with worse results in values, due not only to strictly family factors, but also socioeconomic and educational factors. (Barber & Eccles, 1992; Delgado & Ricapa, 2010)

Thus, it seems necessary and important to deepen the study of the moral development of children and adolescents in Ecuador, but also in the family, social and school factors that could be at the basis of some of the most negative results found. More specifically, the need for action on the family and school environment, and the promotion of values that encourage the personal and academic development of students, seems clear.

Finally, regarding the limitations of this study, we highlight the use of an exploratory strategy to debug the instrument, as well as the high number of items in it that were not sufficiently informative or useful to describe the value structure. This last problem is possibly due to the large number of items included in the instrument. It would be interesting to carry out a new study with internationally validated instruments, such as those developed by Schwartz, to determine

more precisely the peculiarities of the Ecuadorian case

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