Survey Research Methods (2012)
Vol.6, No.1, pp. 3-11
ISSN 1864-3361
http://www.surveymethods.org

Value Systems of Fathers, Mothers and Adolescents: Do Parents and their Children Construe Basic Values in the Same Way?

Daniela Barni
Catholic University of Milan

Ariel Knafo
Hebrew University of Jerusalem

In the literature on family transmission of values, parents' value priorities have been often compared to their children's ones in order to reveal intergenerational similarities as well as differences. Most studies have implicitly assumed that parents' and children's value systems are completely comparable; however, evidence is needed that the meaning of certain values is the same for the two generations. The general aim of this study was to examine empirically the meanings of a large set of values to parents and to their adolescent children. Participants were 381 Italian family triads (father, mother and one adolescent child), who were asked to fill in the Schwartz's Portrait Values Questionnaire. Multidimensional scaling analyses revealed that parents and adolescents distinguished a similar number of value dimensions. However, some inconsistencies emerged between parents and adolescents as far as the organization of values (congruencies and conflicts among values) was concerned. The implications of these findings for the study of value transmission were discussed.
Keywords: value systems, comparability, parents, adolescents

1 Introduction

Comparability among value systems is an underestimated issue in the psychological literature. Most studies concerning value transmission between parents and adolescents correlate values taken from two or more value systems, those of the parent and of the child; they interpret the level of correlation as being an indicator of the results of transmission, with high levels indicating a successful transmission (e.g., Homer 1993; Whitbeck and Gecas 1988). All these studies implicitly assume that parents' and adolescents' value systems are completely comparable. However, the comparability of two value systems – or more – is not self-evident. Evidence is needed that the meaning of certain values is the same for parents and for their adolescent children. Indeed, generation and age may cause structural differences that may signify differences in the meanings of values: do parents and children refer to the same things when they refer to various values? We address this question, which is a prerequisite for legitimate comparisons of value importance, with data from 381 Italian father/mother/adolescent triads.

The absence of structural similarity presents researchers with conceptual and methodological problems since there is no basis for claiming that parents and children construe values similarly (Struch, Schwartz and van der Kloot 2002). In the case of incomparability, low correlations would be impossible to interpret: do they reflect unsuccessful value transmission or different understandings of particular values by the two generations? Even a perfect correlation between importance ratings would not necessarily reflect agreement between parents and children on the same value; this would not be a sufficient condition for demonstrating a lack of differences, because it is necessary to have a clear indication of structural similarity.

Schwartz's Value Theory

Schwartz's theory of value content and structure (1992) is the reference of many studies investigating values and parent-child value congruence and is also used in the present study. The issue of comparability of value structures cannot be disregarded especially where Schwartz's theoretical position is assumed, since one of the most significant features of this theory is that it specifies a set of dynamic relations among values. Values are conceptualized and treated as parts of a system. A system is a set of elements standing in interrelation among themselves; the meaning of an element can be inferred by noting the other elements to which it is related and the concepts it is opposed to (von Bertalanffy 1975). Schwartz derived 10 motivationally distinct values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security (Table 1), which are dynamically related, exhibiting a quasi-circumplex structure (Figure 1).

The quasi-circumplex structure derives from the fact that actions taken in the pursuit of each value have psychological, practical, and social consequences which may conflict or may be compatible with the pursuit of other values. For example, actions in pursuit of change (stimulation values) are likely to undermine preservation of traditional customs (tradition values). In contrast, the pursuit of tradition values is congruent with the pursuit of conformity values. The closer any two values are in either direction around the circle, the more similar their underlying motivations; the more distant,

Contact information: Daniela Barni, Athenaeum Center for Family Studies and Research, Catholic University of Milan, e-mail: daniela.barni@unicatt.it

Table 1: Ten motivationally-based values

Power	Social status, dominance over people and resources
Achievement	Personal success according to social standards
Hedonism	Pleasure or sensuous gratification
Stimulation	Excitement, challenge, and novelty
Self-direction	Independence of thought and action
Universalism	Understanding, tolerance, and concern for the welfare of all people and nature
Benevolence	Preserving and enhancing the welfare of people to whom one is close
Tradition	Respect and commitment to cultural or religious customs and ideas
Conformity	Restraint of actions and impulses that may harm others or violate social expectations
Security	Safety and stability of society, relationships, and self

Adapted from Struch, Schwartz and van der Kloot (2002).

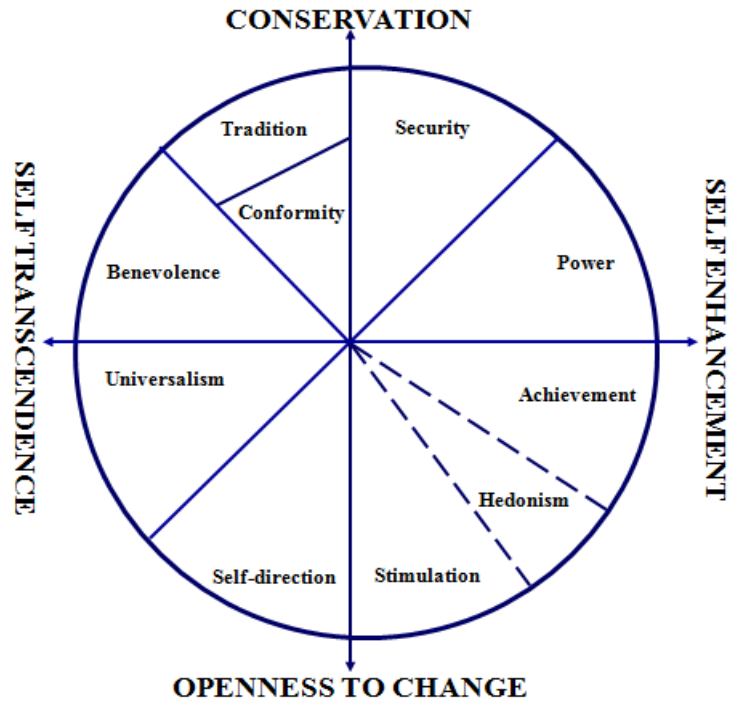

Figure 1. Model of relations among values (Schwartz, 1992)

the more antagonistic their underlying motivations. Tradition and conformity are located in a single wedge because they share the same broad motivational goal. Conformity appears closer to the center and tradition on the periphery: this signifies that tradition values conflict more strongly with the opposing values (Schwartz 1992, 2005).

At a higher level of abstraction, the oppositions between competing values can be summarized by viewing values as organized along two basic bipolar dimensions. As Figure 1 shows, one dimension contrasts openness to change values (composed of self-direction and stimulation) and conservation values (conformity, tradition, and security). This dimension captures the conflict of an emphasis on one's own independent thought and action and favouring change versus self-restriction, preservation of traditional practices, and protection of stability. The second dimension contrasts self-enhancement (power and achievement) and self-transcendence values (universalism and benevolence). The conflicting motives represented by the self enhancement-self transcendence dimension are the extent to which people enhance their personal interests (even at the expense of others) versus the extent to which people transcend selfish concerns and promote the welfare and interests of others. Hedonism cannot be assigned unequivocally to one of the higher-order values because it shares elements of both openness to change and self-enhancement (Schwartz 1992, 2005).

The elements that form the value system are ordered hierarchically: individual values/ items constitute value domains, and value domains are the components of higher order divisions (e.g., self-transcendence is comprised of benevolence and universalism). A structural comparison of two value systems or more should examine differences in all the levels of the structure. It is therefore necessary, in order to assess comparability, to decide (a) whether the components

are the same in the two structures (i.e., whether in all analyses we will find the same value domains, and whether they are composed of the same elements) and (b) whether these elements are interacting in a similar manner in all structures (i.e., whether compatibilities and conflicts among value domains are the same in all analyses).

Although Schwartz's theoretical structure of values has been confirmed in diverse methodologies (Schwartz and Boehnke 2004; Spini 2003), according to Schwartz (1992), one of the most appropriate methods for the assessment of value structures is multidimensional scaling (MDS), a family of non-metric techniques for the structural analysis of similarity data. A major advantage is that MDS often yields more readily interpretable solutions, because it organizes data in a useful manner from which "first-glance" conclusions may be drawn (Davison 1983). MDS presents a geometrical representation of the similarity coefficients based on the rank order of the similarity of variables, where distances in the map represent dissimilarities (Shye 1978). The more positive the empirical correlation between any two items, the closer together the pair of points that represent them. The spatial configuration of items is partitioned into regions, using the a-priori assignment of single items to values. Partitioning of the space is the basis for understanding the components of the value system, whereas testing the relative order of the regions in the spatial configuration yields an estimation of the dynamic relationships between the components of the system (Schwartz and Sagiv 1995).

MDS can be considered as an alternative to factor analysis. In general, the goal of these techniques is to detect meaningful underlying dimensions that allow explanation of observed similarities or dissimilarities among the investigated objects. However, these two techniques are different in terms of methodology. Factor analysis delineates linear relationships among items and factors, on one hand, and between factors, on the other; MDS is especially advantageous when relationships between factors are multiple and multidimensional (Jaworaska and Chupetiovska-Anastova 2009), as in the case of value structures.

Value Structure in Adults and Adolescents

Analyses of personal values in hundreds of adult samples generally resemble the prototypical two-dimensional structure suggested by Schwartz and presented in Figure 1. Less is known about adolescents' value structure and about possible differences compared to the value structure of adults since the few studies focused on this topic are not consistent in their results. Using the Schwartz Value Survey (SVS; Schwartz 1992), Menezes and Campos (1997) found some differences in the structure of personal values of independent samples of adults and adolescents. The two related values of benevolence and universalism were distinguishable in the adult but not in the adolescent sample. In the latter, they formed one region, comprised of all the values of self-transcendence. The authors attributed these differences to the developmental levels of their samples: in their opinion, adolescents cannot assume a collective point of view, therefore they do not distinguish between benevolence values (regarding the welfare of closely related others) and universalism values (regarding the welfare of all humanity and nature). This finding would suggest that there is no point to correlating the benevolence and universalism values of parents with those of their children; instead, it would be more reasonable to treat universalism and benevolence as a single, combined type of values in both generations.

Melech and Schwartz (2000), applying the Portrait Values Questionnaire (PVQ) (Schwartz, Lehmann and Roccas 1999), compared the value structures of adolescents of varying ages. Eleventh-grade adolescents had values very similar to the prototypical Schwartz (1992) value structure found in adult samples. Using another version of the same instrument (PVQ-29), Bubeck and Bilsky (2004) investigated the value structure of 1555 German participants aged 10 to 17. The results revealed the same 10 values as well as higherorder dimensions (openness to change vs. conservation; self-enhancement vs. self-transcendence) as described in Schwartz's theory. Even 10 to 12 year old children already possessed a value structure which was comparable to that of adults, exactly the same result obtained by Schwartz and his colleagues (2001) applying the PVQ to a sample of 13 to 14 year old girls from Uganda. Some differences with respect to the prototypical structure, however, emerged: among younger children, stimulation showed up "behind" self-direction (i.e., farther to the outside of the structure), and power behind achievement; moreover, universalism appeared behind benevolence. Thus, it may not be the number of higher-order dimensions or basic values but the type of configuration that differentiates children from adults (Bubeck and Bilsky 2004). Most recently, Döring (2010) reported a value structure that was highly faithful to the adult configuration, with PVQ data from German 8–11-year olds. The findings we cite above show mixed evidence for the structural comparability of values in adults and children. One problem with comparing adult data to adolescent data across studies is the potential for subtle variations in structure across cultures (Schwartz and Sagiv 1995), and possibly samples with different socioeconomic backgrounds (Fontaine, Poortinga, Delbeke and Schwartz 2008). Samples of parents and their adolescent children are more suitable for addressing this issue, as they are usually highly matched for cultural and socioeconomic background.

Objectives

The current study addresses the question "do parents and their adolescent children refer to the same things when they refer to various values?" empirically by examining the meanings of a large set of values to parents and adolescents. This general question is subdivided into three more specific questions:

a) Are the 10 motivationally distinct values organized on the same two basic dimensions (openness to change vs. conservation and self-enhancement vs. self-transcendence) for parents and children?

b) Do the 10 values have the same organization among

parents and children? In other words, do the conflicts and compatibilities among all 10 values yield the prototypical structure (Fig. 1) both for parents and for children?

c) Are the locations of single value items relative to other items and to the basic values similar for parents and children?[1]

2 Method

Procedure and Participants

Data were gathered from 381 Italian family triads (father, mother and one adolescent child), for a total of 1143 subjects. Families were recruited through the help of 15 high schools located in the Northern Italy.

Adolescents, whose parents consented, filled out a self-report questionnaire in their classrooms during school hours in the presence of a teacher and a researcher. They were then asked to deliver questionnaires to their parents. Questionnaires were put in two separate envelopes, one for the father and one for the mother, and parents were requested to complete the questionnaires independently. Parents filled out the questionnaires at home and were asked to return them once they were completed (response rate = 65.3%). They had the opportunity to phone researchers if any help was needed. The study was approved by the Ethics Committee of the Department of Psychology at the Catholic University of Milan.

Fathers and mothers had a mean age of 49.5 years (SD = 5.32) and 46.3 years (SD = 4.76), respectively. Ninety-five percent of parents were married (on average, for 21.9 years), 3.7% were separated, whereas 1.3% of parents were unmarried but cohabiting. Regarding parents' educational level, 41.7% of fathers and 36.1% of mothers had a low educational level (equal to or less than 8 years of education), 43.5% of fathers and 53.1% of mothers had a medium educational level, and 14.8% of fathers and 10.8% of mothers had a high level of education (more than 13 years of education). Thirty percent of families had an upper socioeconomic status, 61.0% a middle status and 9.0% a lower status, based on Hollingshead's classification (1975) of parental occupations.

Adolescents (46.2% male, 53.8% female) were between 15 and 19 years of age ($\bar{x}$ = 17.01, SD = 1.27). A large majority of them (95.3%) lived with their two biological parents; a minority lived only with their mother (3.9%) or with their father (0.8%). Fourteen percent were only-children, whereas 86% had one or more brothers or sisters ($\bar{x}$ = 1.35, SD = .66).

Measures

Socio-demographic characteristics Some questions asked for information about personal characteristics of parents (age, marital status, educational level, professional position), adolescents (gender, age, number of brothers/sisters), and family structure.

Values The Portrait Values Questionnaire (PVQ), measuring the 10 values described in Schwartz's theory, was used. The PVQ was originally developed by Schwartz and his colleagues in 1999 and has been revised several times. In the present study the 2005 version of the instrument (Schwartz 2005) was used. It includes short verbal portraits of 40 people: each one describes a person's goals, aspirations, or wishes that point implicitly to the importance of a single broad value. For example: "He/She thinks it is important to do things in the way he/she learned from his/her family. He/She wants to follow their customs and traditions" describes a person for whom tradition values are important. For each portrait, respondents are asked "How much like you is this person?". They check one of six boxes labelled: "very much like me", "like me", "somewhat like me", "a little like me", "not like me", and "not like me at all". Respondents' own values are inferred from their self-reported similarity to people who are described in terms of particular values.

Data Analysis

Multidimensional scaling (MDS) with standardized data was used in order to compare the empirically derived structures to the theoretical value structure as specified by Schwartz's model. All MDS analyses were performed using SPSS (Statistical Package for Social Sciences). We used ALSCAL, one of a variety of non-metric multidimensional scaling techniques for structural analysis of (dis-)similarity data. Compared to other methods/algorithm, ALSCAL provides more accurate results when data are noisy, which is often the case with a large number of items (Takane, Young and de Leeuw 1977). It starts with a matrix of item-item correlations (here, Pearson correlations) and assigns each item to a location in a low-dimensional space, suitable for graphing. Highly correlated items show a low distance in the graphical configurations. The distance measure was the Euclidean one and the number of dimensions was set to two because, theoretically, values are best represented in two-dimensional space (Schwartz 1992).

Together with visual inspection of the configurations, two goodness-of-fit measures, stress index (Kruskal 1964) and total variance accounted for (squared multiple correlation or RSQ) (Borg and Lingoes 1987), were used to measure the interpretability of solutions. There are no decisive rules to interpret the stress index, which indicates the proportion of the variance of the disparities not accounted for by the MDS model. As a rule of thumb, this coefficient should be less than .20 for an acceptable solution (Kruskal 1964). However, as the size of this index depends on the relation between number of items and dimensionality of space, lower goodness of fit might be acceptable if the number of items is much larger than the dimensionality. Borg and Lingoes (1987) suggested that the interpretability of the solution is more important than usually accepted thresholds for stress.

The intercorrelation matrix of 40 value items that measure each of the value structures – fathers, mothers, and adolescents – was subject to separate MDS analyses. Note

[1] In answering these questions, parent gender and child gender were originally taken into account. However, since no relevant differences were found between adolescent males and females, the results of the analyses carried out on the total group of adolescents were reported and discussed.

that for our purposes the axes had no meaning: the information provided in the configuration regards the position of items relative to one another, and not relative to the two-dimensional space. Thus, two almost-identical structures can be reflected in two configurations that are mirror images of each other.

There were three main steps in the analyses. The first step entailed examining the array of value items to identify whether the most basic aspects of relations among values proposed in the theory were present. Specifically, we assessed whether there was a region containing the openness to change values that was opposed to a region containing the conservation values and whether there was a region containing self-transcendence values, opposed to a region containing self-enhancement values.

The second step examined the order of the values, relative to one another, around the theorized motivational circle. Based on the value theory, for example, the power region should be adjacent to the security region, and the achievement region should be adjacent to the hedonism region. If value structures observed in the different contexts do not exhibit the same ordering of 10 values around the circle, comparability is problematic.

Third, we examined the array of value items, seeking to identify regions that included the value items from each of the 10 theoretically specified values. Any inconsistency – be it in the location of a specific item or in the composition of values – was to be considered as a potential structural difference, signifying a difference in meaning that requires attention. However, items located in a region adjacent to their theorized region in some of the analyses were considered to present only minor problems because such deviations may well be due to chance (Schwartz and Sagiv 1995). Schwartz (1992) has given a general rule for deciding whether a set of value points forms a contingent region that represents a distinct value type: "The region must include (1) at least 60% of the values postulated a priori to constitute that type and (2) no more than 33% of the values postulated to constitute any other single type" (p. 22).

3 Results

Figure 2 presents a schematic representation of the value structures found in the empirical analyses conducted on data from fathers, mothers, and adolescents. The stress indexes ranged from .16 (adolescents' configuration) to .21 (fathers' configuration) and the RSQs ranged from .77 (fathers) to .87 (adolescents).

Are values organized on the same two basic dimensions for parents and children? In all of the analyses, the two main dimensions of self-enhancement vs. self-transcendence and openness to change vs. conservation were found. The order of higher-order values (going clockwise) was self-enhancement, openness to change, self-transcendence and conservation.

Thus, the basic structural distinction was confirmed for both parents, fathers and mothers, and for adolescents. A difference between parents and adolescents emerged with regards to the position of hedonism: for parents, hedonism was strictly related to power and achievement, which constitute the self-enhancement pole; for adolescents, hedonism formed a separate region near stimulation and self-direction, which are values of openness to change. Nevertheless, hedonism values were in the boundary between self-enhancement and openness to change in all analyses.

Do the 10 motivationally distinct values have the same organization among parents and children? In most cases, it was possible to partition the space into the proposed 10 regions, but there were two exceptions. For mothers, universalism and benevolence were mixed and could not be separated adequately. Moreover, for adolescents it was not possible to identify the value of tradition, whose items were completely mixed with conformity.

Compared to the prototypical structure, few differences in the order of values also emerged from the analyses. For parents, both fathers and mothers, power was situated behind achievement and hedonism. As already noted, benevolence and universalism were mixed for mothers, while universalism was behind benevolence among fathers. For adolescents, the locations of benevolence and universalism were reversed: benevolence was not near tradition-conformity values, as illustrated in the prototypical structure, but near self-direction; universalism was not near self-direction values, as expected, but near conformity-tradition. Despite these slight differences, the order of values along the circle was highly similar when each of the configurations was compared to the other configurations or to the prototypical structure described by Schwartz (1992). In the comparison between parents' value structures and their children's structure, the Spearman rank-order coefficients based on the relative position of the values across the circle were greater than .97, $p < .001$.

Are the locations of single value items similar for parents and children? The vast majority of the items appeared in their hypothesized region for fathers (92%) and mothers (90%) (Table 2). The remaining items were misplaced, although all of them appeared in regions adjacent to their theorized regions. Item 16 ("It is important to him/her always to behave properly. He/She wants to avoid doing anything people would say is wrong"), originally placed in the conformity region, and Item 25 ("He/She thinks it is best to do things in traditional ways. It is important to him/her to keep up the customs he/she has learned"), theoretically placed in tradition, were empirically located in the nearby security region. Item 21 ("It is important to him/her that things be organized and clean. He/She really does not like things to be a mess"), originally located in security, turned out to be in conformity. Moreover, in mothers configuration, Item 11 ("It is important to her to make her own decisions about what she does. She likes to be free to plan and to choose her activities for herself") was empirically located in stimulation rather than self-direction.

Similarly, for adolescents, 90% of items appeared in their hypothesized region. In the adolescents' data, as was the case for parents, Item 16, which is theoretically placed in conformity, emerged in the adjacent region of security. Item 19 ("He/She strongly believes that people should care

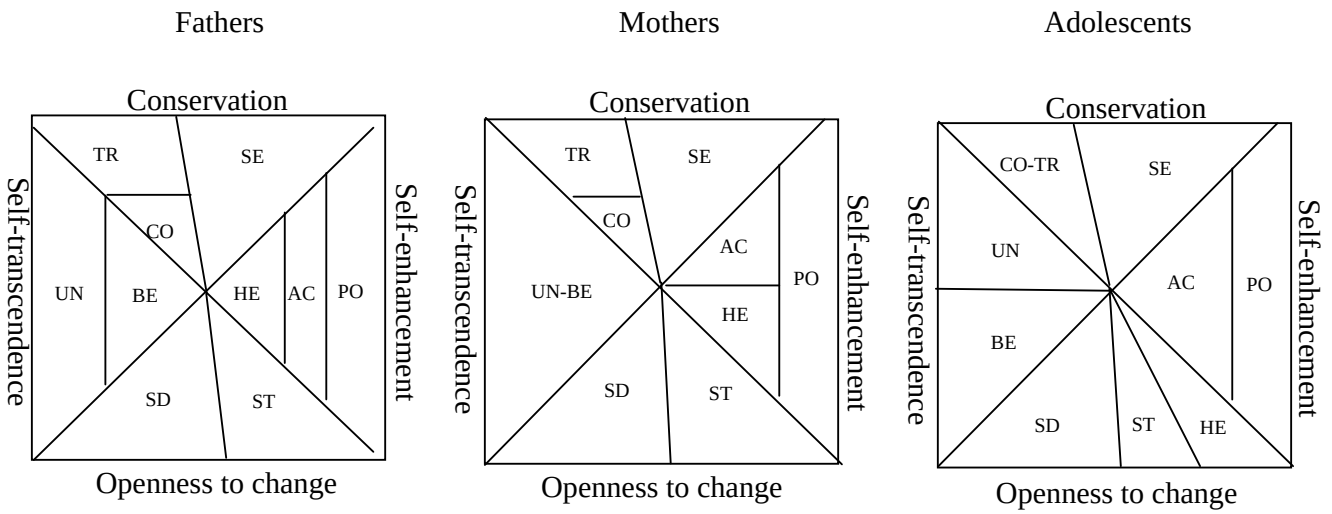

Figure 2. Schematic representation of fathers', mothers' and adolescents' value systems (CO = Conformity; SD = Self-direction; AC = Achievement; TR = Tradition; UN = Universalism; ST = Stimulation; SE= Security; BE = Benevolence; PO = Power; HE = Hedonism)

for nature. Looking after the environment is important for him/her"), originally located in universalism, was among conformity-tradition values. Item 22 ("He/She thinks it is important to be interested in things. He/She likes to be curious and to try to understand all sorts of things"), originally located among self-direction values, emerged in benevolence values. In addition, Item 38 ("It is important to him/her to be humble and modest. He/She tries not to draw attention to himself/herself") was placed in a location (specifically, universalism) different from the hypothesized one (tradition).[2]

4 Discussion

The objective of the present study was to test the comparability of adolescents' and their parents' value structures. An overall examination of the values of parents and adolescents revealed that values were arrayed for both generations on the higher order dimensions of self-enhancement versus self-transcendence and openness to change versus conservation. In other words, parents and adolescents shared the same conceptual organization of values on the two basic dimensions.

Nevertheless, it is worthwhile noting the presence of a different location for hedonism values: for parents hedonism was strictly related to the self-enhancement pole, while for adolescents it turned out to constitute a separate region and to be more connected to the values of openness to change. This reflects Schwartz's (1992) observation that hedonism values have an underlying motivation that represents both of the main value dimensions and it would suggest a different meaning of these values for the two generations. For parents, pursuit of personal pleasure and an enjoying life is a form of pursuing one's own interests. Consequently, actions in pursuit pleasure and enjoyment are perceived as being in contrast with values which promote interests of others and concern for their welfare (e.g., universalism and benevolence). This finding can be explained by the social role of parents whose role includes the need to care for the welfare of their children. In contrast, in adolescents' values, hedonism tends to be closer to the openness, independence of thought, action, and feelings, and readiness for change and stimuli in life. Thus, hedonism conflicts with values which emphasize order, self-restriction, and preservation of the past (e.g., tradition, conformity, security), but is compatible with values promoting self-transcendence. Among adolescents, hedonism is not a mean of pursuing one's own interests (to the detriment to others' welfare) but of opening oneself to novelty, change, stimuli, and others (e.g., friends).

Next, we considered the relations among the 10 motivationally distinct values. In most cases, it was possible to identify the proposed 10 regions, with two significant exceptions. The first exception was that in mothers' value structure, universalism and benevolence were mixed and these two values were located in a single wedge in fathers' structure. This result confirms, as asserted in Schwartz's theory, that universalism and benevolence strongly share the same broad motivational goal, supporting normative behavior that promotes close relationships. This is in line with the conclusions of Capanna, Vecchione and Schwartz's study (2005), which was carried out on 4583 Italian subjects (aged 17–92)

[2] In addition to the descriptive comparison, we measured the extent to which the MDS solutions found for fathers and mothers were compatible to that of adolescents (base configuration) by Weak Confirmatory MDS (Borg and Groenen 2005). We recomputed MDS for the fathers and the mothers fixing the initial structure using coordinates obtained from the adolescents and evaluated the degree of the reduction in the goodness of fit. The stress indexes increased from .21 (unconstrained model) to .27 (constrained model) and from .17 to .25, respectively for fathers and mothers. These increases in stress of the constrained and unconstrained solutions indicated slight reductions in the goodness of fit and confirmed slight differences between parents' and adolescents' configurations.

Table 2: Hypothesized and empirical locations of individual items, in fathers', mothers' and adolescents' value structures

Item	Hypothesized location	Fathers	Mothers	Adolescents
1	Self-direction	SD	SD	SD
2	Power	PO	PO	PO
3	Universalism	UN	UN-BE	UN
4	Achievement	AC	AC	AC
5	Security	SE	SE	SE
6	Stimulation	ST	ST	ST
7	Conformity	CO	CO	CO-TR
8	Universalism	UN	UN-BE	UN
9	Tradition	TR	TR	CO-TR
10	Hedonism	HE	HE	HE
11	Self-direction	SD	ST	SD
12	Benevolence	BE	UN-BE	BE
13	Achievement	AC	AC	AC
14	Security	SE	SE	SE
15	Stimulation	ST	ST	ST
16	Conformity	SE	SE	SE
17	Power	PO	PO	PO
18	Benevolence	BE	UN-BE	BE
19	Universalism	UN	UN-BE	CO-TR
20	Tradition	TR	TR	CO-TR
21	Security	CO	CO	SE
22	Self-direction	SD	SD	BE
23	Universalism	UN	UN-BE	UN
24	Achievement	AC	AC	AC
25	Tradition	SE	SE	CO-TR
26	Hedonism	HE	HE	HE
27	Benevolence	BE	UN-BE	BE
28	Conformity	CO	CO	CO-TR
29	Universalism	UN	UN-BE	UN
30	Stimulation	ST	ST	ST
31	Security	SE	SE	SE
32	Achievement	AC	AC	AC
33	Benevolence	BE	UN-BE	BE
34	Self-direction	SD	SD	SD
35	Security	SE	SE	SE
36	Conformity	CO	CO	CO-TR
37	Hedonism	HE	HE	HE
38	Tradition	TR	TR	UN
39	Power	PO	PO	PO
40	Universalism	UN	UN-BE	UN

CO = Conformity; SD = Self-direction; AC = Achievement; TR = Tradition; UN = Universalism; ST = Stimulation; SE= Security; BE = Benevolence; PO = Power; HE = Hedonism.

and showed that universalism and benevolence have a very similar meaning among Italian adults.

The second exception was that in adolescents' value structure, tradition values, which refer to respect and commitment to cultural or religious customs and ideas, turned out to be completely mixed with conformity, which promotes the restraint of actions that may violate social expectations. A possible interpretation, which would need a further examination, is that adolescents tend to perceive the respect of traditional customs and ideas – coming from the past – as a form of restraint and of obedience to social expectations.

Compared to Schwartz's theoretical model, some other small deviations emerged. In all groups – fathers, mothers and adolescents – achievement and power were arranged one behind the other, indicating that these two values were perceived as being very related. This result is consistent with that found by Bubeck and Bilsky (2004) in a sample of children and juveniles. Power, located toward the periphery, showed to be the value which conflicts more strongly with the opposing values, universalism and benevolence. Moreover, in adolescents' value structure, universalism and benevolence were switched from their hypothesized locations: the first was nearer conformity-tradition, whereas benevolence shared more elements with self-direction.

Finally, we analyzed the locations of single value items relative to other items and to the basic values. Even at this level of specificity, the three configurations were quite simi-

lar to each other and to the theoretical model. Indeed, even the few misplaced items were usually found in regions close to their hypothesized locations.

In conclusion, parents' and adolescents' value system may be compared, without any problem, with reference to the two higher-order dimensions – conservation versus openness to change and self-enhancement versus self-transcendence. On the contrary, some inconsistencies emerged between parents and children as far as the organization of values was concerned. If the inconsistencies involve the reversal – as the case of benevolence and universalism in adolescents' structure – or intermixing of two values that are adjacent according to theory – as in the case of tradition and conformity for adolescents and of universalism and benevolence for mothers – comparability can be attained by combining these values into a single, broader type. Although this sacrifices precision, it permits comparison across value systems from several informants. Thus, in the light of the results, it would be more reasonable to treat universalism and benevolence, on one hand, and conformity and tradition, on the other hand, as a single, combined value for the purpose of comparing parents and children. Furthermore, it would be preferable not to compare adolescents' hedonism values to their parents' ones since the meaning of this value appeared to be different among generations.

There were a number of limitations to the study. First, this study was conducted in a single society and some findings may be culture-dependent. Further studies, with larger and more representative samples coming from diverse countries, are needed to better understand the important issue of comparability among value systems. Second, since the method used (that is, configurational verification procedure) is sensitive for sampling fluctuations, caution is needed when generalizing our findings. Third, although the parents, who received their questionnaires at home, were required to complete the questionnaires independently, it is not possible to rule out that some reciprocal consulting occurred.

The study of comparability has several interesting implications for understanding value transmission between parents and adolescents. It is crucial to guarantee that the number, the configuration and the meaning of values are the same across generations. In absence of similarities in dimensions and structure, comparisons of value mean levels or their correlates are problematic and conclusions might be ambiguous and at worst severally biased (Davidov 2010). For instance, several studies have found a low correspondence between the importance that parents give to hedonism and the importance given to this (same?) value by adolescents (e.g., Knafo and Schwartz 2009). But, in light of the results of our study, one wonders whether the difference in rating the importance of hedonism reflects the different meanings that the two generations tend to attribute to this value. In other words, we could speculate that the low correspondence in importance of hedonism depends on the fact that parents and children are evaluating a different attribute. If so, intergenerational differences would express differences in meaning rather than in the degree of importance. Thus, future research on transmission should at first consider structural similarity between parents' and adolescents' value systems, which is a guarantee of comparability and may become informative in itself.

Acknowledgements

The work of the first author was supported by the Fondazione Ispirazione Onlus of Treviso. The work of the second author was supported by a Facet Theory Foundation fellowship.

References

Borg, I., & Groenen, P. J. F. (2005). *Modern multidimensional scaling. Theory and application*. New York: Springer.

Borg, I., & Lingoes, J. (1987). *Multidimensional similarity structure analysis*. New York: Springer.

Bubeck, M., & Bilsky, W. (2004). Value structure at an early age. *Swiss Journal of Psychology*, *63*, 31-41.

Capanna, C., Vecchione, M., & Schwartz, S. H. (2005). La misura dei valori. Un contributo alla validazione del Portrait Values Questionnaire su un campione italiano. *Bollettino di Psicologia Applicata*, *246*, 29-41.

Davidov, E. (2010). Testing for comparability of human values across countries and time with the third round of the European Social Survey. *International Journal of Comparative Sociology*, *51*, 171-191.

Davison, M. L. (1983). *Multidimensional scaling*. New York: Wiley.

Döring, A. (2010). Assessing children's values: An exploratory study. *Journal of Psychoeducational Assessment*, *28*, 564-577.

Fontaine, J. R. J., Poortinga, Y. H., Delbeke, L., & Schwartz, S. H. (2008). Structural equivalence of the value domains across cultures: Distinguishing sampling fluctuations from meaningful variation. *Journal of Cross-Cultural Psychology*, *39*, 345-365.

Hollingshead, A. B. (1975). *Four factor index of social status.* New Haven: Yale University, Department of Sociology. Unpublished manuscript.

Homer, P. H. (1993). Transmission of human values: A cross-cultural investigation of generational and reciprocal influence effects. *Genetic, Social and General Psychology Monographs*, *119*, 343-367.

Jaworaska, N., & Chupetiovska-Anastova, A. (2009). A review of multidimensional scaling (MDS) and its utility in various psychological domains. *Tutorials in Quantitative Methods for Psychology*, *5*, 1-10.

Knafo, A., & Schwartz, S. H. (2009). Accounting for parent-child value congruence: Theoretical considerations and empirical evidence. In U. Schönpflug (Ed.), *Cultural transmission. Psychological, developmental, social, and methodological aspects* (p. 240-268). New York: Cambridge University Press.

Kruskal, J. B. (1964). Multidimensional scaling by optimizing goodness of fit to a nonmetric hypothesis. *Psychometrika*, *29*, 1-27.

Melech, G., & Schwartz, S. H. (2000). *Value development in adolescence: A research report.* Jerusalem, Israel Ministry of Education.

Menezes, I., & Campos, B. (1997). The process of value-meaning construction: A cross section study. *European Journal of Social Psychology*, *27*, 55-73.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, p. 1-65). New York: Academic Press.

Schwartz, S. H. (2005). Robustness and fruitfulness of a theory of universals in individual values. In A. Tamayo & J. B. Porto (Eds.), *Valores e comportamento nas organizações* (p. 56-95). Petròpolis: Vozes.

Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, *38*, 230-255.

Schwartz, S. H., Lehmann, A., & Roccas, S. (1999). Multimethod probes of basic human values. In J. Adamopoulos & Y. Kashima (Eds.), *Social psychology and culture context: Essays in honor of Harry C. Triandis* (p. 107-123). Newbury Park, CA: Sage.

Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., & Harris, M. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, *32*, 519-542.

Schwartz, S. H., & Sagiv, L. (1995). Identifying culture specifics in the content and structure of values. *Journal of Cross-Cultural Psychology*, *26*, 92-116.

Shye, S. (1978). *Theory construction and data analysis in the behavioral sciences*. San Francisco: Jossey-Bass.

Spini, D. (2003). Measurement equivalence of 10 value types from the Schwartz Value Survey across 21 countries. *Journal of Cross-Cultural Psychology*, *34*, 3-23.

Struch, N., Schwartz, S. H., & van der Kloot, W. A. (2002). Meanings of basic values for women and men: A cross-cultural analysis. *Personality and Social Psychology Bulletin*, *28*, 16-28.

Takane, Y., Young, F. W., & de Leeuw, J. (1977). Nonmetric individual differences multidimensional scaling: An alternating least squares method with optimal scaling features. *Psychometrika*, *42*, 7-67.

von Bertalanffy, K. L. (1975). *Perspectives on General Systems Theory. Scientific-philosophical studies*. New York: George Braziller.

Whitbeck, L. B., & Gecas, V. (1988). Value attributions and value transmission between parents and children. *Journal of Marriage and Family*, *50*, 829-840.