Different Aspects in Value Research: Consequences, predictors and theoretical developments

Eldad Davidov, Institute of Sociology, University of Zurich
Visit at the University of Tartu, 3.10.12
Starting point: Schwartz 1992, 1994
Over 6000 citations with studies using the theory
A theory with 10 values that are expected to be recognized semi-universally.

Goals:
- Description of individuals, societies, their similarities and differences
- Understanding how values come about
- Understanding what consequences values have (attitudes, behavior)
- Measurement reliability and validity within and across nations/ cultures / other groups
3 questionnaires were developed (SVS, PVQ40, PVQ21)

Schwartz is doing efforts currently to improve problems found in previous measurement approaches (PVQ5X, PVQ-R1,2,3...)
Study 1: When do Values Matter? Explaining Attitudes Toward Immigration

Unpublished study submitted for publication, with Bart Meuleman, Elmar Schlüter, Shalom Schwartz and Peter Schmidt
The story: Why explain attitudes toward immigration?

Immigration has been on the rise in Europe in the last years.

Source: Estimates of the Eurostat
At the same time, there are studies indicating that also anti-foreigner sentiments have been high or on the rise in the last decades (Semyonov et al. 2006, Schlüter and Davidov 2011).

Thus, studying the causes of negative attitudes toward immigration are very relevant: They may provide tools to understand such attitudes better and might be the basis for development of policies.
How do previous studies explain negative attitudes toward immigration?

1) Some use **sociodemographic variables** (SDV), such as age, education, political orientation and income (e.g., Kunovich, 2004, Scheepers et al. 2002, Semyonov et al. 2006).
2) Others include also **macro-level variables:**
- **state policies** (Lewin-Epstein and Semyonov 2000, Semyonov et al. 2003),
- **economic threat** (economic conditions or percentage of foreign-born population, see e.g. Quillian 1995, 1996, Scheepers et al. 2002) or **media coverage** (Schlüter and Davidov 2011).
3) Recent studies have acknowledged that people also have **values**, and that these values play a **central role** in the explanation (Sagiv and Schwartz 1995, Davidov et al. 2008, Davidov and Meuleman 2012).
So far, there are no studies that explain in a theory-driven way why there are differences in the effects of values across countries.

The current study focuses on this aspect.
Important aspects in the study

- A large-scale cross-country data set is used
- The data are internationally comparable
- Measurement models of the theoretical constructs of interest are tested taking measurement errors into account
- Measurement equivalence of the theoretical constructs is tested across countries
- Less used constructs – values – are applied for the explanation
- Theory-driven hypotheses about a cross-level interaction between micro and macro levels of explanation are formulated and tested
Outline

1. Theoretical background
   - The value theory
   - Differentiation between values and attitudes
   - Hypotheses on the micro level and the cross-level interaction

2. Data and measures

3. Testing for invariance across countries

4. Results

5. Conclusions
1. Theoretical Background
The value theory

- Values are defined by Schwartz (1994: 21) as 'desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity'.

- Value is a basic, stable and abstract belief, this differentiates it from an attitude, which is much more specific (Rokeach 1968, Ajzen 2005).

- So far, Schwartz has limited the number of values to ten.
Values create a **continuum**, and dividing them is **arbitrary** and done for **empirical convenience**.

Values which are **congruent** and close to each other share an underlying similar motivation and will **correlate positively**.

Values which are **in conflict** and opposite to each other will **correlate negatively**.

Schwartz has developed several questionnaires to measure his values, one of which is the **Portrait Value Questionnaire (PVQ)**.
Structural relations among the 10 value types and the two dimensions

- Universalism
- Benevolence
- Conformity
- Tradition
- Security
- Power
- Achievement
- Hedonism
- Stimulation
- Self-Direction
- Self-enhancement
- Openness to Change
- Self-transcendence
I will focus on two values to explain negative attitudes toward immigration: **Universalism** and **conformity/tradition** (conservation).
Can values explain attitudes?

First, there are three arguments:

1. Rokeach (1968) and Ajzen (1993) define attitudes as much more specific than values: ‘an individual’s disposition to react with a certain degree of favorableness or unfavorableness to an object, behavior, person, institution, or event – or to any other discriminable aspect of the individual’s world’.

2. Only a limited number of values, but many possible attitudes exist, as large as the number of objects… (endless?)

3. Values are also considered to be more stable over time than attitudes.
‘The black-box’ (Gangl 2010; Hedström and Ylikolski 2010; Opp 2007):

What is the mechanism behind the relation between values and attitudes toward immigration policies? Values whose motivational goals are promoted or blocked by the arrival of immigrants will affect attitudes toward immigration (Ajzen 2005; Davidov et al. 2008; Davidov and Meuleman 2012).

This applies especially for two values: Universalism and conformity/tradition.
Hypotheses of the study

The mechanism of universalism:

- The motivation of universalist people according to theory is protection for the welfare of all people.
- The arrival of immigrants into the country provides an opportunity for these people to realize this value.
- Therefore, I expect a positive effect of universalism on attitudes toward immigration.

**H1:** The higher Universalism is, the more positive the attitudes toward immigration are.
The motivation behind conformity and tradition is commitment and acceptance of the customs or restraint of violating social expectations or norms.

The arrival of immigrants is a threat for people who want to realize these values, as immigrants bring along new norms and customs.

Therefore, I expect a negative effect of conformity and tradition on attitudes toward immigration.

H2: The higher conformity and tradition are the more negative the attitudes toward immigration are.
Cross-level interactions

- I expect that the values in general have a milder effect in ‘collective’ (less ‘individualistic’) societies.

- Schwartz (2006) uses for such societies the term ‘embedded’, and explains this concept in the following way:
Embedded societies emphasize status quo, solidarity and traditional order.

In embedded societies individual try to reach the shared goals of the collective rather than their own.

In less embedded societies, own goals and motivations are more prominent.

H3: The effects of values are expected to be smaller in more embedded societies.

- People living in **competitive conditions** perceive **immigrants as a threat**, because they have to fight on scarce resources.
- Competitive contextual conditions affect negative attitudes toward immigration on the country level (Scheepers et al., 2002).
- In addition, we can expect that traditional/conformist people will reject immigration even more under competitive conditions.

**H4:** The higher the proportion of immigrants in the country, the higher the country level rejection of immigration

**H5:** The higher the proportion of immigrants in the country, the stronger the negative effect of conformity and tradition
Previous studies provide support for the expectations of the effects of values on the individual level (Rokeach 1973 for the U.S.; Sagiv and Schwartz 1995 for Israel; Iser and Schmidt 2005 for Germany; Duriez et al. 2002 for the Flemish part of Belgium; Davidov et al. 2008 and Davidov and Meuleman 2012 for several European countries).
On the macro-level there is mixed evidence regarding the effect of size of immigrants (Supportive findings: Quillian 1995, 1996; Scheepers et al. 2002; No support: Semyonov et al. 2004; Strabac and Listhaug 2008; partial support: Semyonov et al. 2006).

No previous studies tested the cross-level interactions in this systematic way.
2. Data and Measures

- Analyses are based on data from the fourth round of the European Social Survey (ESS), 2008/9, which includes 26 West and East European countries, N = 46,353.

- Translations of questions are done rigorously to allow comparability (Harkness et al. 2003).
The dependent variable ALLOW

- Reflects ‘Willingness to let immigrants into the country’
- 3 questions on a 4-point scale (1-allow none, 4-allow many)
- To what extent do you think [country] should allow people
  - of the same ethnic group
  - of a different ethnic group from most [country] people
  - from poorer countries outside Europe to come and live here.
- The three questions load strongly on one factor in all countries.
The independent variables

- The ESS **value questions** are derived from a previous 40-item questionnaire (PVQ) and reduced to 21 questions.

- Question formulation: Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you.

  - 1 Very much like me
  - 2 Like me
  - 3 Somewhat like me
  - 4 A little like me
  - 5 Not like me
  - 6 Not like me at all

Scores were reversed-high scores=high importance of the value.
Universalism Questions:
- Ipeqopt/un1: Important that people are treated equally and have equal opportunities
- Ipudrst/un2: Important to understand different people
- Impenv/un3: Important to care for nature and environment

Tradition Questions:
- Ipmodst/tr1: Important to be humble and modest, not draw attention
- Imprtrad/tr2: Important to follow traditions and customs

Conformity Questions:
- Ipfrule/co1: Important to do what is told and follow rules
- Ipbhprp/co2: Important to behave properly
Country level: embeddedness

- Country **embeddedness** is based on data from the **Schwartz Value Survey (1988 – 2007)**.

- **Change** in cultural value orientations **is very slow** even in the presence of major political and institutional change (Schwartz 2006).

- Data were collected among **students** and **school teachers** in urban areas.

- The selection of items was **validated empirically** with **multi-dimensional scaling** (countries as the analytical unit, Schwartz 2006).
Embeddedness was operationalized as an aggregate score for answers about the importance of

- social order, tradition, forgiving,
- obedience, politeness, being moderate,
- honoring elders, national security,
- cleanliness, devoutedness,
- wisdom, self-discipline,
- own protection of public image,
- family security, and reciprocation of favors.
% of non-EU immigrants data was retrieved from the OECD Statistics database (http://stats.oecd.org/Index.aspx).
3. Testing for Invariance Across Countries

Why should we examine measurement invariance & comparability across countries?

Testing that concepts are invariant is a necessary condition before cross-cultural studies may be meaningfully conducted.

‘whether or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute’ (Horn & McArdle 1992)

There are three important levels of testing measurement invariance:

- Configural Invariance
- Metric Invariance
- Scalar Invariance
Measurement Invariance:

Group A (Culture, country, time point)

\[ \alpha_{1A} \]
\[ \alpha_{2A} \]
\[ \alpha_{3A} \]

Item a
Item b
Item c

\[ \beta_{1A} \]
\[ \beta_{2A} \]

Group B (Culture, country, time point)

\[ \alpha_{1B} \]
\[ \alpha_{2B} \]
\[ \alpha_{3B} \]

Item a
Item b
Item c

\[ \beta_{1B} \]
\[ \beta_{2B} \]
n **Configural invariance** still does not allow any comparisons.

n **Metric invariance** allows comparisons of correlates.

n **Scalar invariance** allows comparisons of means across cultures.
Several authors have introduced the concept of partial invariance (Byrne et al. 1989, Steenkamp and Baumgartner 1998).

Two invariant items are sufficient to guarantee partial invariance.

Thus, for multilevel analysis we need at least partial scalar invariance (because it requires that means are comparable).
4. Results

- **Multiple-Group Confirmatory Factor Analysis (MGCFA)** (Bollen 1989, Brown 2006, Jöreskog 1971) with 26 groups (countries) was conducted to test for invariance of the theoretical concepts Allow, Universalism and Tradition/Conformity.

- The concepts exhibit *partial scalar invariance* across countries.

- This allows a meaningful interpretation of a multi-level analysis.
On the micro level (within countries):

- Universalist individuals are more supportive of immigration.
- Conservative individuals have a higher tendency to object immigration.
- Effects show a clear and consistent pattern over all countries, and are stronger than the effect of sociodemographic variables like age, or income and as strong as education.
On the cross-level interaction:

- The effects of universalism and conservation are moderated by the level of embeddedness of a country: In countries where the level of embeddedness is higher, values have a weaker effect in the formation of attitudes.

- The effect of conformity and tradition is stronger in countries where the size of the immigrant population is higher.
5. Conclusions: Micro level

- Previous findings on the significant effect of values on attitudes toward immigration could be replicated after controlling for social structural variables.
- This may be relevant for policies: When policies for increasing public support for immigration are considered, values within the population should be seriously taken into account as part of the factors.
- In line with Icek Ajzen’s (2005) postulation: Values’ effect on attitudes is not part of the theory of planned behavior, but 'can complement it… and thereby deepen our understanding of a behavior’s determinants’ (Ajzen 2005: 134).
- Nowadays, the ESS provides researchers with ample opportunity to examine questions like these.
5. Conclusions: Cross-level interaction

- Effects of values differ across countries.
- Differences in the effects can be explained by variation in the level of embeddedness on the country level. In low-embeddedness countries values play a more important role.
- Size of immigration may also bring about different effects of tradition/conformity values.
5. Conclusions: Methodology

In cross-country analyses more methodological issues are involved than in single-country analyses (van de Vijver and Leung, 1997; Welkenhuysen-Gybels and van de Vijver, 2001). Tests of measurement invariance provide necessary conditions for equivalence of theoretical concepts to allow valid cross-country comparisons.

Cognitive pre-tests are supplementary tools that may be used to assess equivalence.

They are expensive, and when not available, such invariance tests should be involved in the empirical and comparative analysis.
Study 2: Social location and value priorities (in press, eds. Gabriel and Keil)

Bart Meuleman, University of Leuven
Eldad Davidov, University of Zurich
Jaak Billiet, University of Leuven
Peter Schmidt, University of Giessen and Higher School of Economics, Moscow
Introduction

Since the inception of the social sciences, scholars have been convinced of the theoretical and empirical usefulness of the value concept.

Durkheim or Weber already noted the crucial role values play in the organization of social life (Schwartz 2006).

Despite its paramount importance, Hitlin and Piliavin (2004) speak of values as a dormant concept that needs to be revived.

Now, that measurements of values are publically available in the ESS, this is possible more than before to test the theoretical usefulness of values.
Here we focus on the relation between social location and values, or how values come about.

Our research question: Do socio-demographic variables—such as age, gender, education and income—affect value priorities, and why? If so, how strong are these relationships?

We look whether and to what extent effects are similar across countries.

We pay attention to measurement invariance issues.
Outline

1) Theoretical considerations: The expected relations between values and sociodemographic variables
2) Data and measurements
3) Analysis
4) Results and conclusions
Structural relations among the 10 value types and the two dimensions
Previous studies (Davidov, Schmidt and Schwartz, 2008; Davidov, 2008; Davidov, unpublished) have identified 7 values in the first 2 rounds and 6 values in the 3rd round of the European Social Survey. Pairs of adjacent values had to be unified because their correlation was too high:

- The unified values: Power-achievement, tradition-conformity, universalism-benevolence.

In the third round another pair of adjacent values had to be unified for most countries: stimulation-self direction.

Theoretically it is not a serious problem, because these value pairs share the same motivation. However, it has to be taken into account in the empirical analyses that follow.
Relations between sociodemographic variables and human values

Little research has been done into the antecedents of prioritizing certain values over others (for a few notable exceptions, see: Rokeach 1973; Schwartz 2006; Schwartz & Rubel 2005; Struch et al. 2002, Xiao 2000). Nevertheless, this knowledge is crucial for our understanding of the role human values play in society. There exist good theoretical reasons to expect that value priorities are not evenly spread across the population, but rather related to certain socio-demographic variables.
Gender differences in endorsement of human values

Schwartz and Rubel (2005) found that women rather consistently attributed more importance to values pertaining to the higher order dimension self-transcendence (universalism and benevolence).

Conversely, men were demonstrated to give higher priority to higher-order dimensions openness to change and self-enhancement (self-direction, stimulation, hedonism, achievement and power).

These conclusions are in line with an earlier study by Rokeach (1973), who found that females place higher value on ‘a world at peace’, ‘happiness’, ‘inner harmony’, and ‘wisdom’—values that fit in Schwartz’ self-transcendence higher order type.
Rokeach and Schwartz had similar expectations: males are expected to rank higher on stimulation, achievement, self-direction, hedonism and power values.

In general, the effects of gender are expected to be medium in size.
The mechanism

- Evolutionary psychologists argue that the evolutionary pressures have led to gender-specific cognitive and affective mechanisms (Schwartz & Rubel 2005).

- According to social structural theory, the gender gap in value priorities stems from the division of labour in contemporary society, leading to gender-specific roles (Struch & Schwartz 2002).

- Because women are more often found in domestic roles, they would give higher priority to values that entail care for others, i.e. benevolence and universalism.

- In their employment roles, men would rather place value on power- and status-related values (see also Jaffee and Hyde 2000).
Age differences in the endorsement of human values

Throughout the course of life, the concrete circumstances in which people live can change dramatically, thereby potentially altering value priorities. Age could also hide a cohort/generation effect.

Socialization: Age may imply a cohort effect of generations socialized more strongly to conservative values. Thus, age\[\text{higher on conservation}\]

The effect of habits: the older the age the stronger the habits\[\text{more emphasize on conservation values}\] (conformity, tradition, security).

On the other hand, values that pertain to the higher-order type ‘openness to change’—such as stimulation and self-direction—can be expected to become less of a priority at higher age.
In the course of life, individuals tend to become less preoccupied with their personal interests and more concerned with the welfare of others (universalism, benevolence) (Schwartz 2007).

At the same time, self-enhancement values (power, achievement, hedonism) lose relevance.

Schwartz and Rokeach report these patterns in empirical studies.
Education and income effects on human values priorities

- **Income and education** are expected to have **similar effects** on value priorities but with different mechanisms.
- **Education** enhances **cognitive capacities**, intellectual openess and breadth of perspective, independent thought, creativity, and search for novelty, and are therefore closely associated to values of the higher order dimension ‘openness to change’ (ST, SD).
- At the same time, **education challenges the uncritical acceptance of norms and traditions** negative relation to conformity, tradition and security.
- The school system **emphasizes achievement and performance** positive relation with self-enhancement values (PO, AC).
Income: Monetary resources are catalysts for exploring, trying new things, being independent. Positive relation with self-enhancement (PO, AC), negative with conservation (TR, CO, SEC).

Income is seen by many people as success, provides resources and power positive relation to power and achievement values.
Gender (males females)

Age (old vs. younger)

Education (high low)

Income (high low)
2. Data and measurements

- We use the first 3 rounds of the ESS.
- They provide 21 questions to measure the 10 postulated values.
- 2 questions for each value with 3 for universalism because of its broad content.
4 sociodemographic variables:

- Age, gender, income (household total net income) and education (in years).

Selection of countries: only those countries which demonstrate metric invariance of the values in each round were included. Metric invariance is a necessary condition for the comparability of relationships, the focus of this study.
3. Analysis

- The first step was assessing invariance: The goal was to achieve metric invariance.

- Partial metric invariance may be enough in this case (Byrne, Shavelson & Muthén 1989; Steenkamp and Baumgartner 1998).

- We used multiple group structural equation modeling (MGSEM) as it allows to simultaneously set full or partial metric invariance and estimate and compare the effects of sociodemographic variables.

- Result: partial metric invariance of the values.
Next, we compared countries in each ESS round. So we tried to find out, if results in the first round are similar to second and third round.

Then, we tested whether effects can be set equal across countries.

The criterion: test proposed by Chen (2007) differences in CFI, RMSEA, SRMR.

Result: effects can be set equal in spite of some variance. This is an indication that differences in effects are in large not very substantial.
Gender Effects by Values and Round

Effect

Values

SELF DIRECTION-STIMULATION
UNIVERSALISM-BENEVOLENCE
CONFORMITY-TRADITION
SECURITY
POWER-ACHIEVEMENT

-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2

Round 1
Round 2
Round 3
Age Effects by Values and Round

![Graph showing age effects by values and round.](image-url)
Education Effects by Values and Round

Values

Effect

Round 1
Round 2
Round 3

HEDONISM
SELF-DIRECTION-STIMULATION
UNIVERSALISM-BENEVOLENCE
CONFORMITY-TRADITION
SECURITY
POWER-ACHIEVEMENT
Income Effects by Values and Round

Values

Effect

-0.3
-0.25
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2

HEDONISM
SELF DIRECTION
STIMULATION
UNIVERSALISM
BENEVOLENCE
CONFORMITY
TRADITION
SECURITY
POWER
ACHIEVEMENT

Round 1
Round 2
Round 3
Summary

- The expected effects of gender, age and education are in large supported by the data.
- Effects are rather stable over time.
- The expected relations with income are partly confirmed.
- Possible explanation: Measurement problems?
Shalom H. Schwartz, The Hebrew University of Jerusalem, Israel and National Research University-Higher School of Economics, Moscow
Jan Cieciuch, University of Finance and Management, Warsaw, Poland
Michele Vecchione, “Sapienza” University of Rome, Italy
Eldad Davidov, Institute of Sociology, University of Zurich, Switzerland
Ronald Fischer, Victoria University, Wellington, New Zealand
Constanze Beierlein, Leibniz-Institute for the Social Sciences, GESIS, Mannheim, Germany
Alice Ramos, Instituto de Ciências Sociais-Universidade de Lisboa, Lisbon, Portugal
Markku Verkasalo and Jan-Erik Lönnqvist, University of Helsinki, Finland
Kursad Demirutku and Ozlem Dirilen-Gumus Atılım University, Turkey
Mark Konty, Berea College, United States
Circle Organized by Motivational Congruence and Opposition

Over 6000 citations of 3 publications that introduced
The original theory postulated that all values form a **circular motivational continuum** like the color circle. Values are continuous, no distinct boundaries. **Arbitrarily split into ten** scientifically convenient basic values. The value circle is organized by **motivational congruence & opposition**.

The broader principles of organization:
- **Personal/social focus** of outcomes (green outer circle).
- There are **four higher order motivations** (red 2\textsuperscript{nd} circle).
- Values are also organized based on whether they focus on **self-protection or growth**, on avoiding anxiety or freedom from anxiety.
Subsequent research ignored key assumption that continua can be split in more fine-tuned values. More fine-tuned values might yield more precise prediction and explanation. But: CFA methodological studies of various instruments suggest that even the ten values are often not fully discriminable. The challenge: Refine the theory, develop instrument that measures more narrowly defined values and that meets test of discriminability.
Circle Organized by Motivational Congruence and Opposition
Theory refinement drew on:

- **reexamination of the definitions** of the ten basic values (e.g., security—personal & societal)
- examination of all of the MDS analyses of both the SVS and PVQ (300+ analyses)
- looking for spatial discrimination among subtypes of values
- looking at the subtypes suggested by CFA analyses

Together, it led to **split the values into 19 potential values** (e.g., 2 PO, 3 UN, 2 CO)
The idea was to retain the same motivationally based circle while ordering the 19 values around the circle.
Self-Direction: Freedom of thought and action
   - Autonomy of Thought: Freedom to cultivate one’s own ideas
   - Autonomy of Action: Freedom to determine one’s own actions

Stimulation: Excitement, novelty, and change

Hedonism: Pleasure or sensuous gratification

Achievement: Success according to social standards

Power: Control over resources and people
   - Dominance: Authority over people
   - Resources: Wealth and material resources
Face: Maintaining public image [fills gap between SEC & PO]

Security: Safety, stability and order
  - Societal: Security in the wider society
  - Personal: Security in one’s immediate environment

Tradition: Maintaining and preserving cultural, family and/or religious traditions

Conformity: Avoidance of violating informal or formal social expectations
  - Rules: Compliance with rules, laws and formal obligations
  - Interpersonal: Avoidance of upsetting or harming others
Humility: Recognizing one’s insignificance in the larger scheme of things

Benevolence: Promoting the welfare of one’s in-groups
  Dependability: Trustworthy and reliable
  Caring: Devotion to the needs of the in-group

UN: Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
  Concern: Equality, justice and protection for the weak in society
  Nature: Preservation of the natural environment
  Tolerance: Acceptance and understanding of those who differ from oneself
### Measuring Values

#### Quest. Examples

<table>
<thead>
<tr>
<th>Item Portrait Value</th>
<th>How much like you is this person?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not like me at all</td>
</tr>
<tr>
<td>SD Action: Freedom to choose what he does is important to him</td>
<td>1</td>
</tr>
<tr>
<td>SD Thought: It is important to her to form her own opinions and have original ideas.</td>
<td>1</td>
</tr>
<tr>
<td>BE dependability: It is very important to him to be a dependable and trustworthy friend.</td>
<td>1</td>
</tr>
<tr>
<td>FACE: It is important to her that no one should ever shame her.</td>
<td>1</td>
</tr>
<tr>
<td>HUMILITY: It is important to him to be humble.</td>
<td>1</td>
</tr>
<tr>
<td>CO Interpersonal: It is important to him to avoid upsetting other people.</td>
<td>1</td>
</tr>
<tr>
<td>CO Rules: Obeying all the laws is important to her.</td>
<td>1</td>
</tr>
<tr>
<td><strong>Be—dependability</strong></td>
<td>It is important to him to be a dependable and trustworthy friend.</td>
</tr>
<tr>
<td><strong>Be—caring</strong></td>
<td>It's very important to him to help the people dear to him.</td>
</tr>
<tr>
<td><strong>Humility</strong></td>
<td>It is important to him to be humble.</td>
</tr>
<tr>
<td><strong>Co—Interpersonal</strong></td>
<td>It is important to him to avoid upsetting other people.</td>
</tr>
<tr>
<td><strong>Co—rules</strong></td>
<td>Obeying all the laws is important to him.</td>
</tr>
<tr>
<td><strong>Tradition</strong></td>
<td>He strongly values the traditional practices of his culture.</td>
</tr>
<tr>
<td><strong>Se—societal</strong></td>
<td>Having order and stability in society is important to him.</td>
</tr>
<tr>
<td><strong>Se—personal</strong></td>
<td>He avoids anything that might endanger his safety.</td>
</tr>
</tbody>
</table>
## Measuring Values Exemplary Items 3

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>Protecting his public image is important to him.</td>
</tr>
<tr>
<td>PO—resources</td>
<td>Being wealthy is important to him.</td>
</tr>
<tr>
<td>PO—dominance</td>
<td>He wants people to do what he says.</td>
</tr>
<tr>
<td>Achievement</td>
<td>Being very successful is important to him.</td>
</tr>
<tr>
<td>Hedonism</td>
<td>Enjoying life’s pleasures is important to him.</td>
</tr>
<tr>
<td>Stimulation</td>
<td>Excitement in life is important to him.</td>
</tr>
</tbody>
</table>
The proposal:
- 19 values for better prediction & explanation
- Same continuum, more finely partitioned
- Ordered by same principles
- PVQ-R measures each with 3 items

Open questions:
- Can all 19 be distinguished?
- Are they ordered as theorized & collapsible to 10?
- Are the distinctions useful?
<table>
<thead>
<tr>
<th>Country</th>
<th>Sample</th>
<th>N</th>
<th>Method</th>
<th>Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>Adult</td>
<td>334</td>
<td>P&amp;P 6pt.</td>
<td>M. Verkasalo &amp; K. Porkka</td>
</tr>
<tr>
<td>Germany</td>
<td>Student</td>
<td>325</td>
<td>P&amp;P 6pt.</td>
<td>C. Beierlein</td>
</tr>
<tr>
<td>Israel</td>
<td>Student</td>
<td>394</td>
<td>Online 6pt</td>
<td>Y. Cohen &amp; S. Schwartz</td>
</tr>
<tr>
<td>Italy</td>
<td>2: Adult &amp;</td>
<td>388</td>
<td>P&amp;P 11pt</td>
<td>M. Vecchione</td>
</tr>
<tr>
<td></td>
<td>Student mix</td>
<td>382</td>
<td>P&amp;P 6pt</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>2: Student</td>
<td>141</td>
<td>Online 6pt</td>
<td>R. Fischer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>527</td>
<td>Online 11pt</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>2: Adult &amp;</td>
<td>545</td>
<td>P&amp;P 6pt</td>
<td>J. Cieciuch</td>
</tr>
<tr>
<td></td>
<td>Student mix</td>
<td>1295</td>
<td>P&amp;P 11pt</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>2: Adult &amp;</td>
<td>295</td>
<td>P&amp;P 6&amp;11pt</td>
<td>A. Ramos</td>
</tr>
<tr>
<td></td>
<td>Student mix</td>
<td>297</td>
<td>P&amp;P 6&amp;11pt</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>Student</td>
<td>201</td>
<td>Online 6pt</td>
<td>E. Davidov</td>
</tr>
<tr>
<td>Turkey</td>
<td>2: Student</td>
<td>250</td>
<td>P&amp;P 6pt</td>
<td>K. Demirutku &amp; O. Gumus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240</td>
<td>P&amp;P 11pt</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Student</td>
<td>443</td>
<td>Online 11pt</td>
<td>M. Konty</td>
</tr>
</tbody>
</table>
Evaluating the structure of 19 human values with Confirmatory Factor Analysis (in progress)

Jan Cieciuch
jancieciuch@gmail.com
University of Finance and Management in Warsaw, Poland

Eldad Davidov
University of Zurich, Switzerland

Shalom H. Schwartz
Hebrew University of Jerusalem, Israel

Michele Vecchione
University of Rome La Sapienza, Italy
I will focus on results using confirmatory factor analysis (CFA).

Combined samples to get large N for CFA

Gave each sample equal weight in analyses

One combination of 9 samples with 6pt scale

One combination of 6 samples with 11pt scale

Separate analyses in each combined sample
Confirmatory Factor Analysis

I. Sample

- Finland
- Germany
- Israel
- Italy
- New Zealand
- Poland
- Portugal
- Switzerland
- Turkey

N=3261

gave each sample equal weight in analyses

II. CFA with CF

- Italy
- New Zealand
- Poland
- Portugal
- Turkey
- United States

N=2803

gave each sample equal weight in analyses

III. 2nd order CFA

IV. 3rd order CFA

combined samples

6pt scale

11pt scale

separate analyses in each combined sample
I. Sample
II. CFA with CF
III. 2nd order CFA
IV. 3rd order CFA

Confirmatory Factor Analysis

Openness – Self-transcendence

- SD-T
- SD-A
- ST
- HE
- BE-D
- BE-C
- UN-C
- UN-N
- UN-T

6pt scale

CFI=.936
RMSEA=.048
SRMR=.033
2nd order Confirmatory Factor Analysis

Openness – Self-transcendence

SD-T
SD-A
SD
ST
HE
BE-D
BE-C
BE
UN-C
UN-N
UN-T
UN

6pt scale

CFI=.921
RMSEA=.051
SRMR=.040
3rd order Confirmatory Factor Analysis

Openness – Self-transcendence

SD-T

SD-A

SD

ST

HE

BE-D

BE-C

BE

Self-transcendence

UN-C

UN-N

UN-T

UN

6pt scale

CFI=.911
RMSEA=.054
SRMR=.047
I. Sample
II. CFA with CF
III. 2nd order CFA
IV. 3rd order CFA

Conservation – Self-enhancement

Confirmatory Factor Analysis

6pt scale

CFI=.944
RMSEA=.049
SRMR=.035
I. Sample
II. CFA with CF
III. 2nd order CFA
IV. 3rd order CFA

Conservation – Self-enhancement

AC

PO-R

PO-P

PO

SE-S

SE-P

SE

TR

CO-R

CO-HU

CO-I

HU

6pt scale

2nd order Confirmatory Factor Analysis

CFI=.922
RMSEA=.054
SRMR=.048
I. Sample
II. CFA with CF
III. 2nd order CFA
IV. 3rd order CFA

3rd order Confirmatory Factor Analysis

Conservation – Self-enhancement

Self-enhancement

AC

PO

PO-R

PO-P

SE-S

SE-P

SE

TR

CO-R

CO-I

CO-HU

HU

6pt scale

CFI=.909
RMSEA=.058
SRMR=.060
Confirmatory Factor Analysis

Conclusions

19 values

10 types of values

4 Higher-order values

Further plans

*Improve 9 items in PVQ5X-R*
Usefulness of Distinctions

Is it worthwhile to make all 19 distinctions?

- Does every value have significantly different associations from all the others?

- Most problematic: pairs of adjacent values

Adjacent values on continuum—share motivational goals

- Expect them to have similar associations

- Compare correlations with variables that capture their distinctiveness
Assessing Usefulness of Distinctions

- Survey included items intended to distinguish between them
- Compare correlations for pairs of adjacent values
- Do correlations differ:
  - significantly in combined samples?
  - in expected direction across all samples?
- Two examples per pair of adjacent values
<table>
<thead>
<tr>
<th>Values Compared</th>
<th>Correlations</th>
<th># Samples as predicted</th>
<th>Distinguishing Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDT .30 SDA .23</td>
<td>15</td>
<td>Mastery Index: My goal in school/job is: to learn as much as possible/completely master material</td>
<td></td>
</tr>
<tr>
<td>.14 .09</td>
<td>14</td>
<td>I follow politics closely and form opinions on many issues.</td>
<td></td>
</tr>
<tr>
<td>SDA .27 ST .19</td>
<td>12</td>
<td>The right to individual freedom is inviolable, it has to be maintained at all costs</td>
<td></td>
</tr>
<tr>
<td>-.15 -.31</td>
<td>14</td>
<td>Age: Stimulation drops more with age than Self-Direction—Action does</td>
<td></td>
</tr>
<tr>
<td>ST .06 HE .15</td>
<td>15</td>
<td>It's hard to get ahead in life without lots of money</td>
<td></td>
</tr>
<tr>
<td>.07 -.02</td>
<td>15</td>
<td>I follow politics closely and form opinions on many issues.</td>
<td></td>
</tr>
<tr>
<td>Values Compared</td>
<td>Correlations</td>
<td># Samples as predicted</td>
<td>Distinguishing Variables</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------</td>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>HE</td>
<td>AC</td>
<td>.13</td>
<td>Approach Index: In my school/work: I strive to do well compared to others/my goal is to perform better than others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>.10</td>
<td>.30</td>
<td>15</td>
<td>Prove Index: In my school/job: I strive to have others think well of my work/my goal is to have a good reputation</td>
</tr>
<tr>
<td>AC</td>
<td>POD</td>
<td>.37</td>
<td>Approach Index:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>.30</td>
<td>.19</td>
<td>14</td>
<td>Prove Index:</td>
</tr>
<tr>
<td>POD</td>
<td>POR</td>
<td>.22</td>
<td>It's hard to get ahead in life without lots of money</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>.11</td>
<td>-.03</td>
<td>15</td>
<td>I follow politics closely and form opinions on many issues.</td>
</tr>
</tbody>
</table>

99
<table>
<thead>
<tr>
<th>Values Compared</th>
<th># Samples as predicted</th>
<th>Distinguishing Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POR</strong></td>
<td><strong>FAC</strong></td>
<td></td>
</tr>
<tr>
<td>-.05</td>
<td>.11</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It’s terribly wrong to pay cash with no receipt to avoid taxes</td>
</tr>
<tr>
<td><strong>.38</strong></td>
<td><strong>.22</strong></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It's hard to get ahead in life without lots of money</td>
</tr>
<tr>
<td><strong>FAC</strong></td>
<td><strong>SEP</strong></td>
<td></td>
</tr>
<tr>
<td>.21</td>
<td>.35</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The police should have more powers so they can protect us against crime</td>
</tr>
<tr>
<td><strong>.27</strong></td>
<td><strong>.38</strong></td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A person's family should be the main priority in life</td>
</tr>
<tr>
<td><strong>SEP</strong></td>
<td><strong>SES</strong></td>
<td></td>
</tr>
<tr>
<td>.18</td>
<td>.30</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In your life, how important are voluntary organizations?</td>
</tr>
<tr>
<td><strong>.41</strong></td>
<td><strong>.32</strong></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In choosing job, how important is a high income?</td>
</tr>
<tr>
<td>Values Compared</td>
<td># Samples as predicted</td>
<td>Distinguishing Variables</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>SES</td>
<td>TR</td>
<td>In your life, how important is religion?</td>
</tr>
<tr>
<td>.40</td>
<td>.60</td>
<td>15</td>
</tr>
<tr>
<td>.14</td>
<td>.05</td>
<td>The right to individual freedom is inviolable, it has to be maintained at all costs</td>
</tr>
<tr>
<td>.21</td>
<td>COR</td>
<td>It’s terribly wrong to pay cash with no receipt to avoid taxes</td>
</tr>
<tr>
<td>TR</td>
<td>.29</td>
<td>14</td>
</tr>
<tr>
<td>.46</td>
<td>.28</td>
<td>Apart from religious services, how often do you pray?</td>
</tr>
<tr>
<td>COR</td>
<td>COI</td>
<td>The police should have more powers so they can protect us against crime</td>
</tr>
<tr>
<td>.28</td>
<td>.12</td>
<td>15</td>
</tr>
<tr>
<td>.02</td>
<td>.11</td>
<td>We should not try to impose own views on people who disagree with us</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>Values Compared</td>
<td># Samples as predicted</td>
<td>Distinguishing Variables</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Correlations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COI .07</td>
<td>HUM .25</td>
<td>13</td>
</tr>
<tr>
<td>.04</td>
<td>-.09</td>
<td>15</td>
</tr>
<tr>
<td><strong>HUM .06</strong></td>
<td>UNN .22</td>
<td>15</td>
</tr>
<tr>
<td>.29</td>
<td>.07</td>
<td>15</td>
</tr>
<tr>
<td><strong>UNN .21</strong></td>
<td>UNC .30</td>
<td>12/13</td>
</tr>
<tr>
<td>.09</td>
<td>.17</td>
<td>15</td>
</tr>
<tr>
<td>Values Compared</td>
<td># Samples as predicted</td>
<td>Distinguishing Variables</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>Correlations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UNC .23</strong></td>
<td><strong>UNT .12</strong></td>
<td>14</td>
</tr>
<tr>
<td>.15</td>
<td>.07</td>
<td>14</td>
</tr>
<tr>
<td><strong>UNT .24</strong></td>
<td><strong>BEC .05</strong></td>
<td>13/13</td>
</tr>
<tr>
<td>.12</td>
<td>.00</td>
<td>15</td>
</tr>
<tr>
<td><strong>BEC -.06</strong></td>
<td><strong>BED -.17</strong></td>
<td>14</td>
</tr>
<tr>
<td>.28</td>
<td>.20</td>
<td>13</td>
</tr>
<tr>
<td>Values Compared</td>
<td># Samples as predicted</td>
<td>Distinguishing Variables</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><strong>BED</strong> .26</td>
<td><strong>SDT</strong> .36</td>
<td>In choosing a job, how important would it be that the job enable you to use your own initiative?</td>
</tr>
<tr>
<td>.08</td>
<td>.14</td>
<td>I follow politics closely and form opinions on many issues.</td>
</tr>
<tr>
<td><strong>TR</strong> -.31</td>
<td><strong>HUM</strong> -.02</td>
<td>Homosexuals should have the same rights as married couples</td>
</tr>
<tr>
<td>.60</td>
<td>.32</td>
<td>In your life, how important is religion?</td>
</tr>
<tr>
<td><strong>BEC</strong> .08</td>
<td><strong>UNC</strong> .23</td>
<td>The government should reduce differences in income levels</td>
</tr>
<tr>
<td>.09</td>
<td>.30</td>
<td>Immigrants should be given same rights as everyone else</td>
</tr>
</tbody>
</table>
Benevolence-Care vs. Universalism-Concern

- Benevolence is directed to the welfare of the ingroup
- Universalism is directed to the welfare of those beyond the ingroup in the wider society

**UNC>**
- Government should reduce differences in income levels
- Homosexuals should have the same rights as married couples
- Immigrants should be given same rights as everyone else
- I follow politics closely & form opinions on many issues
- It’s terribly wrong to pay cash with no receipt to avoid taxes
- In your life, how important are voluntary organizations?

**BEC>**
- A person's family should be the main priority in life
- Some people are simply inferior to other people
- In choosing job, how important is a high income?
Conclusions

- Motivational continuum partitionable into 19 values
- Truer to idea of continuum, but still arbitrary
- Order of values same, except BE/UN???
- PVQ-R reliable measure for each, replace 9 items
- Adjacent (& nonadjacent) values have meaningful, distinctive associations

Next:
- Finish revision of PVQ5X & distribute PVQ-R
- Studies using PVQ-R and theory to predict and explain significant variables (behaviors, personality, attitudes)
- Test for cross-cultural equivalence of the new scale
Thank you very much for your attention!!!
Appendix Study 1

- Multi-Trait-Multi-Method (‘MTMM‘) design for robustness: Changing the explained variable (into sexism) and the method used (using multiple-group structural equation modeling) produced similar patterns of results.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Est.</th>
<th>SE</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>0.000</td>
<td>0.062</td>
<td></td>
</tr>
<tr>
<td>ZUN</td>
<td>0.139</td>
<td>0.009</td>
<td>.000</td>
</tr>
<tr>
<td>ZTRCO</td>
<td>-0.113</td>
<td>0.010</td>
<td>.000</td>
</tr>
<tr>
<td>Sub. income</td>
<td>-0.092</td>
<td>0.006</td>
<td>.000</td>
</tr>
<tr>
<td>Education</td>
<td>0.124</td>
<td>0.005</td>
<td>.000</td>
</tr>
<tr>
<td>Age</td>
<td>-0.100</td>
<td>0.005</td>
<td>.000</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.009</td>
<td>0.005</td>
<td>.046</td>
</tr>
<tr>
<td>Left-Right Scale</td>
<td>-0.079</td>
<td>0.005</td>
<td>.000</td>
</tr>
<tr>
<td>Religiosity Degree</td>
<td>0.050</td>
<td>0.005</td>
<td>.000</td>
</tr>
<tr>
<td>Zembedded</td>
<td>-0.176</td>
<td>0.098</td>
<td>NS</td>
</tr>
<tr>
<td>% Non-EU</td>
<td>-0.049</td>
<td>0.064</td>
<td>NS</td>
</tr>
<tr>
<td>ZUN * Zembedded</td>
<td>-0.040</td>
<td>0.014</td>
<td>.000</td>
</tr>
<tr>
<td>ZTRCO * Zembedded</td>
<td>0.054</td>
<td>0.016</td>
<td>.000</td>
</tr>
<tr>
<td>ZTRCO * % Non-EU</td>
<td>-0.033</td>
<td>0.010</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Abhängige Variable: ALLOW.
<table>
<thead>
<tr>
<th>Variance components</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ICC</td>
<td>0.10</td>
</tr>
<tr>
<td>Explained variance</td>
<td></td>
</tr>
<tr>
<td>% reduced variance residual</td>
<td>0.09</td>
</tr>
<tr>
<td>% reduced variance intercept</td>
<td>0.26</td>
</tr>
<tr>
<td>% reduced var. slope TRCO</td>
<td>0.53</td>
</tr>
<tr>
<td>% reduced var. slope UN</td>
<td>0.62</td>
</tr>
</tbody>
</table>
Intercepts and Slopes

equal slopes and unequal intercepts

\[ M_{\xi_j}^A = M_{\xi_j}^B \]