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Inside and Outside Perspectives on the Relation of People's Personal Values and Their Acceptance of Legal Norms

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ARTICLE INFO	ABSTRACT
	Based on a representative survey on crime prevention, this paper studies how personal values are related to persons' acceptance of legal norms (LNA). We here take a closer look at these relations than previous research. Offenses, in particular, are classified into different offense types, and the persons' ratings are studied both as observed and as individually centered data. It is found that conservation-oriented persons give higher and less differentiated badness ratings to all offenses than persons striving for hedonism and stimulation. The correlational structure of basic personal values and norm acceptance ratings for 14 different offenses, when represented via multidimensional scaling, exhibits that conservation orientation becomes a better predictor of LNA of all offense types if it is augmented by an additional value, peace of mind. When looking at centered ratings (i.e., controlling for each person's mean ratings), social values become the best predictors of offenses such as tax evasion, benefits fraud, or taking bribes. Statements on the impact of personal values on general norm acceptance should, therefore, be replaced with more differentiated relations on how particular values are related to people's attitudes towards particular offenses.

1. Introduction

Social norms are informal rules that govern behavior in groups, organizations, and societies. Special forms of norms are those that are codified into rules and laws. Probably the strongest class of this type of norms consists of legal norms, rules specified by "the law" and linked to a system of sanctions for non-compliance. The extent to which people accept such norms is an important variable in predicting delinquent behavior. Understanding what leads to norm acceptance is, therefore, of great social interest. One line of research in this direction is related to personal values: Personal values such as, in particular, people's orientation towards conformity and tradition have been found to predict legal norm acceptance (LNA) and even people's compliance with legal norms [1-3].

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Theoretically, personal values drive LNA, and LNA impacts norm-abiding behavior [4]. LNA, however, has so far been studied as a *generalized* attitude towards legal norms, and not broken down into sub-forms of people's norm acceptance of particular offenses or types of offenses, although it seems that people who strive for social values, for example, should be more likely than power-oriented persons to accept legal norms that focus on social damage. If so, people's general tendency to accept legal norms would be a poor predictor of the extent to which they comply with particular norms.

Offenses can be classified into different types, based on criteria such as the visibility of the crime's victim, the degree of harm they cause, or what kind of damage they cause. Personal values, on the other hand, also differ in at least two basic dimensions: A person's striving for stimulation and hedonism vs. focusing on tradition and conformity, and his/her orientation towards self-enhancement vs. a more social orientation [5,6]. Bilsky et al. [7] have shown that the more persons are conservation-oriented, the more likely they are to accept legal norms. The opposite is true for persons who are seeking stimulation and hedonism. Moreover, Borg & Hermann [8] report that conservation-seekers are less likely to break the law than those who strive for hedonic stimulation.

Recently, Hermann [9] argued, based on Esser's frame selection theory [10], that different personal values should be related differently to a person's compliance with different types of legal norms. In particular, he hypothesized that norm compliance depends on the visibility of the victim. To test this hypothesis, he used two large surveys on crime prevention. Persons' value orientations were measured in terms of Schwartz's two higher-order values factors: A person's striving for conservation (tradition, conformity) vs. openness-to-change (stimulation, hedonism, self-direction), and his/her orientation towards self-enhancement (power, advancement) vs. self-transcendence (benevolence, universalism). The data showed that the persons' scores on the conservation-vs.-openness-to-change dimension correlated substantially with their norm acceptance of offenses classified as no-person-victim and legal-person-victim, but was essentially uncorrelated with the norm acceptance of real-person-victim offenses. The persons' self-enhancement vs. self-transcendence scores, on the other hand, were essentially uncorrelated with legal norm acceptance. Hence, not only does the relation of personal values and norm acceptance depend on the particular values, but also on the characteristics of the offense on which the legal norm is focused.

The findings of Hermann [9] suggest that it seems worthwhile to take a closer look at the relation of personal values and the norm acceptance of different offenses rather than reducing LNA to a general attitude towards the law and its rules. First of all, mean ratings and their variance can help to better understand the correlations. Then, rather than analyzing aggregated ratings such as the persons' scores on higher-order personal values or their LNA score on offense types, one could learn more by studying the relations at the level of basic personal values (e.g., power, benevolence, etc.) and persons' LNA of particular offenses (e.g., smoking pot, tax fraud, burglary). Then, what is often given little attention is how any statistical pre-processing of the measurements of personal values and legal norm acceptance affects the interpretation of the relations.

1.1 Personal Values: Basic Concepts and Measurement

Personal values are broad goals that guide people's behavior in general directions. They have been studied extensively, mostly based on surveys asking people to rate how important it is for them to be guided by tradition, power, benevolence, and other such goals [11-14]. Numerous studies have identified a set of basic values that seem universally valid for persons of any age, gender, and social background. Theoretically, these values are inter-dependent in a dynamic conflict: "The primary content aspect of a value is the type of goal or motivational concern that it expresses… values represent, in the form of conscious goals, three universal requirements of human existence to which all individuals and societies must be responsive: needs of individuals as biological organisms, requisites of coordinated social interaction, and survival and welfare needs of groups. From an evolutionary viewpoint…, these goals have crucial survival significance" [13].

The theory of universals in values [5,6] distinguishes ten basic values. Other popular value scales [11,12,15] provide similar lists of values. The underlying models are essentially equivalent, i.e. all values in such lists are but markers on a *continuous circle of values* similar to the colors on the color circle. Empirically, this value circle emerges when representing the inter-correlations of value items by multi-dimensional scaling (MDS) in a plane [16-18]. The order of the value markers depends to some extent on the particular measurement instruments and their items, but a robust finding is that there are two "higher-order values" that form two *opposite classes* on the value circle. Expressed in the terminology of the theory of universals in values [5], these oppositions can be described as Self-Enhancement (SEn, combining the basic values Power (PO) and Achievement (AC)) versus Self-Transcendence (STr = Benevolence (BE) + Tradition (TR)), and Conservation (Con = Security (SE) + Power (PO)) vs.

Openness to change (OtC = Hedonism (HE) + Stimulation (ST) + Self-Direction (SD)). Other values, such as Hermann's (2014) peace of mind (PM) and religion (RE), can be easily integrated into the value circle [18].

Personal values that are close to each other on the value circle are theoretically compatible and empirically positively correlated, while values that lie opposite to each other on the value circle are in a dynamic conflict. That means that it is difficult for a person to strive for opposite values with high priority while striving for neighbors on the value circle is easy.

1.2 Legal Norm Acceptance: Basic Concepts and Measurement

Social norms are informal rules that govern behavior in groups and societies, "cultural phenomena that prescribe and proscribe behavior in specific circumstances" [19], "collective expectations about proper behavior" [20]. They "prescribe proper behavior, the oughts of our lives" [21]. Special forms of norms are those that are codified into rules and laws. An important class of this type comprises legal norms. Legal norms come as explicit and often multi-faceted rules of what one should *not* do, and how deviance from the norm will be sanctioned by the law.

LNA can be seen as a special attitude. It expresses to what extent a person evaluates objects that come as legal offenses or crimes from very negative to very positive. Traditionally, one distinguishes emotional, cognitive, and action-related components of an attitude [22]. As clear distinctions between these components are difficult to define and empirically unclear [23], an attitude is, in the recent literature, mostly understood as an evaluative structure used to form a psychological representation of an attitude object or simply as "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" [24].

The extent to which an individual accepts legal norms is typically measured by asking respondents to assess how they *feel* about norm violations [4,25,26]. Often, the respondents are simply asked to rate the "badness" or "wrongness" of various norm violations such as smoking pot, tax evasion, or robbery on some answer scale. Examples are a 10-point rating scale with labels ranging from "not bad at all" to "very bad"; a 5-point scale from "totally harmless" to "very bad" (5); a 3-point scale with categories "bad", "don't care", "good"; or a permissiveness scale with categories "would/would not tolerate". The persons' numerically coded rating of an offense on such scales is then interpreted as an indicator of his/her norm acceptance, and the mean of such ratings across different offenses is taken as the persons' generalized LNA [1,4].

1.3 Personal Standards and Data Centering

The study of the relation of personal values and LNA often involves some pre-processing of the observed measurements. Unfortunately, such data transformations are rarely described or discussed, even though they massively impact the subsequent analyses and the interpretation of results. For personal values, the observed importance ratings are typically first *centered* before any further data analyses [12,14,27]. In many publications, this centering is only mentioned in passing, or not at all, suggesting that it is a routine operation that needs no further justification.

Centering in research of personal values goes back to Schwartz [28] who recommends this transformation as a necessary "correction" to avoid "distorted" findings and "incorrect" conclusions. Technically, centering simply means that each person's ratings are first subtracted from the person's mean rating. The resulting *mRat* scores are then interpreted as *relative* ratings of importance, where "relative" means that the scores express the person's assessment of personal values in comparison to his/her overall tendency of rating the importance of different personal values on the given rating scale. This overall tendency is considered a response style artifact that the data must be "corrected for" (controlling for acquiescence, in particular [29,30]).

Whether the mean rating value is indeed an artifact or whether it carries substantive meaning is, however, debatable. For personal values, Borg and Bardi [31] have shown that the mean rating can also be interpreted as "value guidedness" that predicts, for example, a person's general well-being and other variables that require that the person has a clear sense of direction. Thus, it should not automatically be considered an artifact but rather a potentially meaningful psychological variable, or a mixture of both. In any case, centering or not centering measurements on personal values has implications that deserve careful attention when analyzing and interpreting the data. For example, centering value ratings implies that the dimensionality of a factor analysis of the inter-correlations of the value items is reduced by one (namely, eliminating the first principal component on which all items have high positive loadings; see [31]). Or, when scaling the inter-correlations with multi-dimensional scaling (MDS) or unfolding, one can expect a value circle in two dimensions for centered items, but not necessarily for the observed ratings, where the circle surfaces only in higher-dimensional space.

Substantively, centering rating data implies a different perspective on the data. The transformed data offer an *inside* look at the individuals that, for personal values,

exhibit the persons' psychological trade-offs and conflicts among the various value orientations. Assigning high ratings to value X implies that certain other values are rated as relatively unimportant. For example, based on the value circle, one can even predict that high ratings for power imply relatively low ratings for benevolence. Substantively, this makes sense because a person cannot successfully strive for both power and benevolence with high priority: In the real world, these values are *contradictory* and cannot both be fully satisfied at the same time. Non-centered value ratings, in contrast, give an *outside* perspective on the respondent, as he/she can consider *all* personal values very important or very unimportant. The ratings are formally independent, and not competing against each other.

For norm acceptance data, centering is not a transformation that is typically reported in the literature. LNA data are not first "corrected" by pulling out each person's mean, nor are they related to a person's standard of accepting legal norms. Interpreting the mean observed LNA score as a person's LNA standard is, however, possible in some situations. If the person were, for example, considering what sanctions would be appropriate for non-compliance with various offenses, he/she would have to *compare* these offenses in terms of their moral badness or in terms of the harm they cause. His/her mean LNA rating could then be considered an anchor that corresponds to the person's belief on how severe sanctions for legal non-compliance should be *in general*. The centered ratings, then, express the person's assessment of the *relative* badness of different offenses.

Technically, the observed norm acceptance ratings typically form two factors in principal component analyses. The first factor is highly correlated with the persons' mean badness ratings, and the second factor has bipolar loadings with the offenses ordered from petty to serious. Hence, centering the observed LNA ratings essentially separates a person's typical degree of general LNA from the distinctions he/she makes concerning the various offenses under consideration.

In any case, when relating personal value data and LDN data, one is dealing with two different types of data: One set is centered, but the other is not. We will show in the following how this affects the results and their interpretation.

1.4 Hypotheses

In the following, we take a look at basic personal values and norm acceptance behaviors, in particular looking more closely at the *system* of basic personal values and how it is related to a set of offenses ranging from petty offenses to serious crimes. Several hypotheses are tested:

H1 (personal values and LNA types): The main general hypothesis is that different personal values are related differently to persons' legal norm acceptance of different types of offenses. That is, that the previously reported relation of personal values - in particular, the Openness-to-Change (OtC) vs. Conservation (Con) dimension of higher-order values - is too coarse.

H2 (descriptives): The average LNA is smallest for petty offenses (not involving a victim), intermediate for offenses with a legal person as the victim, and greatest for offenses where the victim is a real person. The differences among the LNA of these three types of offenses is smaller for persons striving for conservation than for persons striving towards hedonic stimulation, because the more conservation-oriented a person is, the less he/she differentiates among the norm acceptances of different types of offenses. Conservative persons simply accept all norms relatively strongly. This hypothesis is based on studies that show that LNA ratings converge with age, and on studies that show that older persons tend to be more conservative in their values [32].

H3 (correlations: centered-observed): When inter-correlating centered basic personal values scores and observed LNA item ratings, the coefficients, based on numerous previous publications [13,5,18], form the typical value circumplex pattern which can be visualized as the value circle in multidimensional scaling (MDS). The LNA items are expected to be relatively highly inter-correlated (compared to the centered personal value scores) because each person's observed LNA rating contains a person-specific general tendency to accept legal norms with a certain strength. Thus, the LNA items should form a relatively dense cluster in the space of the value circle.

H4a (correlations: centered-centered): When centering both the basic personal values scores and also the LNA ratings before inter-correlating them, the inter-correlations of the LNA items become less highly correlated, because the persons' general LNA tendency is statistically controlled for. Hence, the higher a person's (relative) conservation orientation, the higher his/her (relative) acceptance of legal norms on petty offenses. Conversely, a person's relative stimulation orientation should exhibit relatively high correlations with the norm acceptance of serious offenses, because his/her LNA of petty offenses is small.

H4b (correlations: centered-centered): The personal values "religion" and "peace of mind" are expected to be similar to conservation, because both these values imply law-abiding behavior. Similar arguments hold for offenses with legal persons as victims.

H4c (correlations: centered-centered): Regarding

Self-Transcendence (STr) vs. Self-Enhancement (SEn), predictions can be derived for the offenses where the victim is a legal person: For centered data, higher relative STr means that the individuals put relatively much emphasis on benevolence and universalism rather than on power and achievement (SEn). Due to their social orientation, these persons should also feel relatively negatively about tax evasion, taking bribes, and benefit fraud, for example, because such offenses harm society.

H5: When not centering any data, an MDS representation of the inter-correlations of personal value scores and LNA ratings requires at least three dimensions. In the 3d space, the personal values exhibit the usual value circle. The interpretation of the values-offenses distances becomes more difficult in this space, but predictions can be easily derived from the above hypotheses. For example, petty offenses should, again, be close in space to the Con values (TR, CO), and also to RE and PM.

2. Method

2.1 Sample

All data in the following analyses come from a survey on crime prevention conducted in 2020 in the city of Mannheim, Germany. The sample consisted of 25,000 persons, drawn randomly from the city's register of juveniles (at least 14 years old) and adults with a residence in Mannheim. The sample was made up of two parts. One sub-sample comprised 15,000 persons who received an online version of the questionnaire. The second part comprised 10,000 persons who participated in a mail survey. Both surveys were anonymous. No incentives were given. Participation was voluntary, based on asking the potential respondents to help the city by providing needed information.

In the online survey, 1.360 addresses were dead, and in the mail survey, 719 letters were returned as having an unknown address. A reminder was sent out in the mail survey only. This resulted in a gross participation rate of 15% in the online survey, and 30% in the mail survey. Thus, 5.214 persons participated overall.

In the mail survey, the selected persons received a letter asking them to participate to help the city administration with important information. The filled-out questionnaire could be returned anonymously to the city using a stamped envelope.

The collected data are nearly representative vis-à-vis gender and age. In the mail survey, women are slightly over-represented. In both administration modes, persons younger than 50 years old are slightly under-represented (for details, see [33]).

2.2 Instruments

Legal norm acceptance of different offenses was measured with items similar to those used in the ALLBUS 1990 [34]. The ALLBUS[①] items were adapted for surveys conducted in the context of community crime prevention [4]. These items (Table 1) focus on different offenses that vary in type and severity of norm violation. The scale does not contain items on major crimes (e.g., murder, rape, and arson) because such crimes were expected not to lead to sufficient variance in surveys using rating scales [35-37]. The item battery was introduced by the following preamble: "Various forms of behaviors can be assessed differently. Please indicate whether you consider the following actions bad behaviors or not. 1 would mean that you consider the behavior not bad at all, and 7 that you consider it very bad".

Table 1. Offenses assessed for their seriousness.

Nr.	Label	Offense (Item)
1	Fare evasion	Not paying the fare when using public transportation, fare dodging
2	Shoplift	Taking goods worth about 50 € in a store without paying
3	Drunk driving	Driving a car under the influence of more alcohol than allowed
4	Robbery	Ripping off someone's handbag
5	Cocaine	Taking cocaine
6	Smoke pot	Taking hashish
7	Assault	Beating or hitting someone without being in self-defense
8	Vandalism	Smashing the windows of a phone booth
9	Tax fraud	Evading taxes if one has the opportunity to do so
10	Benefits fraud	Claiming sickness benefits, unemployment benefits, or other social benefits if one is not entitled to them
11	Car break	Breaking into someone's car to take it for a spin
12	Take bribes	Taking bribes
13	Hit and run	Not reporting the damages that one has caused to a parking car
14	Indecent touch	Indecent touching of another person

Three types of offenses were distinguished [9]: (1) Offenses with no victim, represented by items #6 (smoking pot) and #5 (cocaine) of Table 1; (2) offenses where a legal person is the victim, measured by items #2 (shop lifting), #9 (tax fraud), and #10 (benefits fraud); and (3) offenses with a natural person as the victim, assessed by items #4 (robbery), #7 (assault), and #14 (indecent touching). The LNA of these types of offenses was estimated by

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① The ALLBUS is a bi-annual representative survey monitoring trends in social attitudes and behavior in Germany. It regularly covers a wide spectrum of fixed standard topics and a set of special topics that change from survey to survey. The 1990 survey had a particular focus on deviant behavior and sanctions.

averaging the badness ratings of the respective items.

Personal values were measured by the IRVS (Individual Reflexive Value Scale) [4,15], an instrument frequently used in German criminology. The IRVS has been shown to lead to highly similar results as other instruments such as the PVQ and the SVS scales that are often used in survey-based value research [1,18,28]. The issues addressed by the items of the IRVS are shown in Table 2, together with codes sorting them into the categories of twelve basic values. Items marked with "—" are skipped here, because their coding in terms of basic values is ambiguous. The IRVS item battery is introduced as follows: "Please think for a moment about what you really strive for in your life: How important are the things and viewpoints that we have listed here? Please take a look at the following items and mark on the scale from 1 to 7 how important they are for you. "Seven" means that it is very important, and "one" means that it is completely unimportant for you. You can choose the numbers in between to grade your ratings."

2.3 Statistical Methods

All data analysis was done within the R environment [38]. For multidimensional scaling (MDS), we used the R-package smacof [39-41]. The MDS model fit is evaluated by comparing the Stress of the MDS solutions with the Stress values of *nrep* random data sets (Spence-Ogilvie benchmarks) and with the more modern and sharper permutation test [41].

Table 2. IRVS items; items marked with "—" are skipped.

No.	IRVS item	Basic Value Code
1	Respecting law and order	CO=conformity
2	Having a high standard of living	PO=power
3	Having power and influence	PO=power
4	Using one's own ideas and creativity	SD=self-direction
5	Striving for security	SE=security
6	Helping socially disadvantaged groups	UN=universalism
7	Asserting one's needs and prevailing over others	PO=power
8	Working hard and being ambitious	AC=achievement
9	Respecting opinions that you don't agree with	UN=universalism
10	Engaging oneself in politics	—
11	Enjoying the good things in life	HE=hedonism
12	Living and acting at one's own responsibility	SD=self-direction
13	Doing what others do	CO=conformity
14	Adhering to traditions	TR=tradition
15	Leading a good family life	—
16	Being proud of German history	TR=tradition
17	Having a partner one can rely on	BE=benevolence
18	Having good friends who respect and accept you	BE=benevolence
19	Having many contacts to other people	BE=benevolence
20	Living healthy life	SE=benevolence
21	Making decisions guided by emotions	—
22	Being independent of others	—
23	Behaving environmentally responsible	UN=universalism
24	Religion and faith	RE=religion
25	Having a clear conscience	PM=peace of mind
26	Align my life along religious norms and values	RE=religion
27	Living so that others are not harmed	UN=universalism
28	Living an exciting life	ST=stimulation
29	Living an easy and comfortable life	—
30	Having a life full of enjoyment	HE=hedonism
31	Inner peace and harmony	PM=peace of mind
32	Being hard and tough	AC=achievement
33	Having quick success	AC=achievement
34	Being clever and more cunning than others	AC=achievement

3. Results

3.1 Results on the Level of Aggregated LNA Scores and Higher-order Personal Values

Table 3 shows how the higher-order values Self-Enhancement (SEn), Self-Transcendence (STr), Openness to Change (OtC), and Conservation (Con) are related to the norm acceptance of three types of offenses (OT1=no victim, OT2=legal victim, OT3=person as victim). As expected, Con is most highly correlated with legal norm acceptance. Moreover, its theoretically opposite value (OtC) always shows the opposite sign of the correlations. The second pair of higher-order values, SEn vs. STr also exhibits various significant correlations, but their size is relatively small.

Centering or not centering the data impacts the correlations differently. Leaving both types of variables non-centered (i.e., as observed) and centering only the personal values leads to similar results, where Con is positively and substantially correlated with the LNA of offenses with no victim (OT1) or with a legal victim (OT2). The offenses where the victim is a real person (OT3) are not substantially correlated with Con scores. This changes massively when the LNA scores are centered: The stronger a person's relative striving for Con values, the less he/she tends to accept the legal norms of OT3 offenses - relative to his/her general LNA ($r = -.41$).

These effects become clearer when focusing on persons with relatively high Con or OtC scores, respectively. Table 4 shows the mean and standard deviations of the LNA scores of the persons who belong to the upper third quantile of the Con or the OtC distribution.

One also notes that conservative persons simply accept all norms relatively strongly. Moreover, the differences among the LNA of the three types of offenses are smaller for persons striving for conservation than for persons striving towards hedonic stimulation (OtC). The same holds for the standard deviations. Hence, the more people strive for conservation, the higher and the less differentiated their LNA scores. The opposite is true for OtC. Yet, for both extreme groups, one notes the same order of LNA scores, with OT1 receiving the smallest, and OT3 the greatest norm acceptance.

3.2 Results on the Level of LNA Items and Basic Personal Values

We now turn to the 435 inter-correlations of the 12 basic values (CO, PO, …; see Table 1), the four higher-order values (SEn, STr, Con, OtC), and the norm acceptance measurements of all 14 offenses (Table 2). The Pearson correlation coefficients are based on either the respondents' personal values based on their observed absolute ratings and their observed absolute LNA ratings, or on centered scores and ratings, respectively.

When *not centering either type of data*, representing their inter-correlations by ordinal multidimensional scaling (MDS) requires a 3-dimensional geometric space (Figure 1). The model fit of the 3d MDS solution is excellent, with *Stress* = .069 ($p < .001$, by a permutation test and by the Spence-Ogilvie benchmarks). Hence, the plot shows that the larger the correlation of two variables, the smaller the distance between the points that represent these variables.

Table 3. Correlations of higher-order values with legal norm acceptance of three types of offenses (OT1=no person victim, OT2=legal person victim, OT3=real person victim); value and norm scores both as observed, both centered, or centered (values) and observed (LNA), respectively; correlations > |.20| marked in grey.

Higher-order personal values	both observed			both centered			centered-observed		
	OT1	OT2	OT3	OT1	OT2	OT3	OT1	OT2	OT3
SEn	.03*	.02	-.01	-.04**	-.02*	.11**	-.09**	-.13**	-.12**
STr	.04**	.15**	.18**	-.14**	.05**	.10**	-.12**	.00	.07**
OtC	-.19**	-.09**	-.01	-.26**	.04**	.33**	-.32**	-.23**	-.09**
Con	.40**	.31**	.13**	.37**	-.07**	-.41**	.42**	.26**	.08**

Table 4. Means and standard deviations of centered higher-order values (OtC and Con) and observed LNA ratings of persons in upper 33% quantiles of the distibutions of the respondents' OtC and Con scores, respectively; offense types are: Offenses with no victim (OT1), with a legal person as victim (OT2, and with a real person as victim (OT3).

vars	*n*	*mean*	*sd*	vars	*n*	*mean*	*sd*
OtC	1526	0.81	0.51	Con	1525	0.15	0.29
OT1	1519	5.10	1.86	OT1	1521	6.33	1.16
OT2	1519	6.18	0.93	OT2	1521	6.56	0.73
OT3	1520	6.84	0.45	OT3	1522	6.90	0.39

The structure of the personal values in Figure 1 exhibits the typical value circle, with the higher-order values forming the usual oppositions (see the cross of the dashed green lines). The offenses, in turn, show a gradient with the more serious offenses (assault, indecent touching, etc.) at the upper right-hand corner of the dimension box, the petty offenses (smoking pot, fare evasion, etc.) at the bottom of dimension D2, and offenses that harm legal persons in between on D2.

The correlations of people's personal values and their LNA ratings can also be seen in Figure 1. One notes, for example, that the badness ratings of petty offenses are close to the Con (TR, CO) points, and also to RE. Hence, the higher a person rates Con values and religion on the answer scale, the higher he/she rates the badness of petty offenses. In contrast, the more people are oriented towards OtC values (hedonism, stimulation), the lower they rate the badness of petty offenses, and all other offenses, including serious offenses. The second higher-order value dimension is less related to LNA, although one can see that persons with a more social value orientation rate the badness of the offenses generally higher than persons striving for power and achievement.

It is also interesting that the smaller the distances of the points to the origin (0, 0, 0) in Figure 1, the higher the mean rating of the variables that they represent (r = -.43). Relatively high absolute ratings on the 7-point answer scale are observed for PM (6.11), BE (6.45), and STr (5.96), for example, and small ones for TR (3.26), PO (3.94), and AC (3.74). The points that represent these variables are located close to, or far from the origin in Figure 1, respectively.

Figure 2 shows the result of an ordinal MDS in two dimensions for the inter-correlations of *centered* value ratings and *observed* ratings of the offenses. The Stress coefficient of this solution is .097, a highly significant model fit (p < .001, by permutation tests, and when compared to Spence-Ogilvie benchmark values). The plot replicates the typical value circle, with its characteristic oppositions of the higher-order values. The various offenses form a cluster within this value circle, positioned in the lower right-hand quadrant of the cross formed by the two dimensions spanned by the higher-order values. Thus, interpreted in terms of the higher-order value dimensions: The greater a person's *relative* striving for conservation (Con) and for self-transcendence (STr), the greater his/her tendency to accept legal norms. Even better predictors are the dimensions spanned between Con on one end, and the pair peace of mind (PM) and security (SE) on the other.

Figure 3 exhibits the ordinal MDS solutions of the inter-correlations based on *centered* value scores and
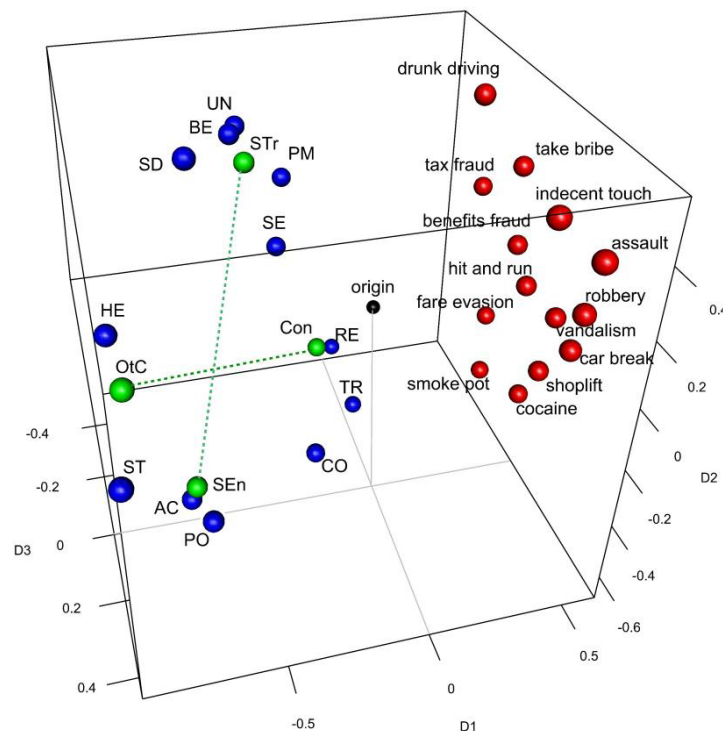

Figure 1. 3-dimensional MDS representation of inter-correlations of 12 personal value scores (blue), four higher-order value scores, and legal norm acceptance ratings of 14 different offenses (red); all data are on observed scales (non-centered).
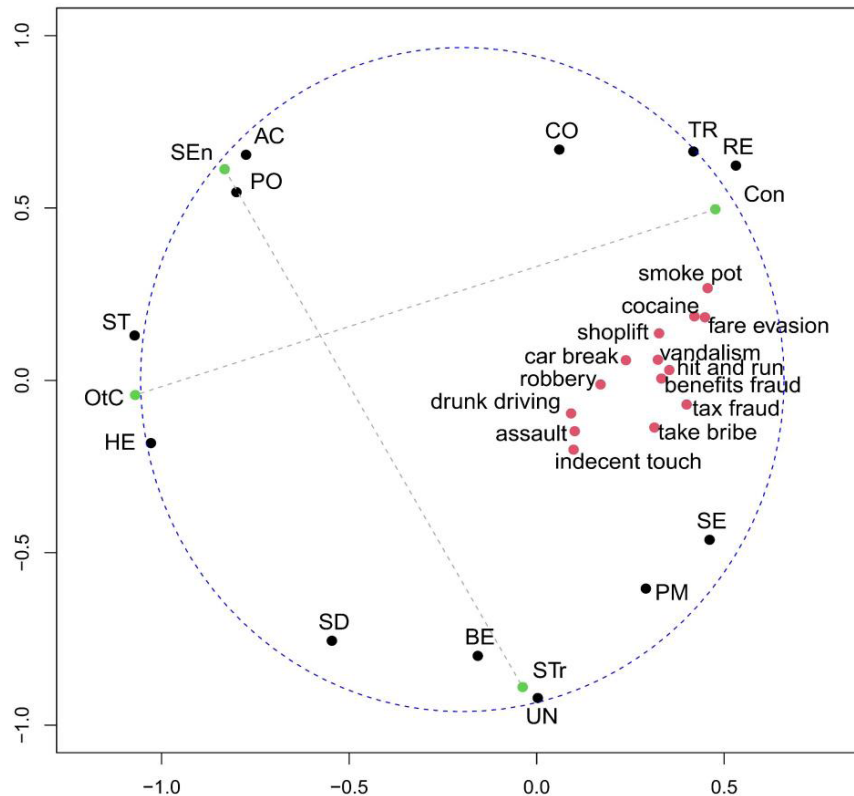
Figure 2. MDS representation of inter-correlations of personal values (black points) and norm acceptances (red points); personal value scores centered, and norm acceptance scores as observed; dashed cross connects opposite higher-order values (green points).

centered badness ratings. The stress of this solution is .176***. The plot shows the typical value circle and the higher-order value dimensions. As predicted (H4c), the points representing the LNA items in this double-centered solution are not tightly clustered but distributed throughout the whole MDS plane. A greater relative striving for conservation, for religion, and for security is closely related to a greater relative LNA of petty offenses, while higher OtC scores come with relatively high LNA scores for serious offenses. Greater STr, with its social orientation (benevolence, universalism), is correlated with relatively high LNA scores for offenses that harm society (e.g., tax fraud, benefits fraud). Thus, when people compare the badness of different offenses *within their individual frames of reference*, the offense-value relations differ considerably from those using non-centered LNA scores.

All MDS solutions support H2, i.e. they replicate the typical value circle, as expected. Moreover, the higher-order values exhibit the usual oppositions (see the dashed lines in the figures): OtC vs. Con, and SEn vs. STr. This shows that the greater a person's striving for OtC values (stimulation, hedonism), the smaller his/her

(relative) striving for Con values (tradition, conformity). For centered value scores, the large distances between the points that represent these values correspond to a correlation of $r = -.44$. Similarly, the greater the person's (relative) orientation towards SEn (power, achievement), the smaller his/her (relative) tendency to achieve STr (benevolence, universalism), with $r = -.63$.

When taking a closer look, one notices that the two higher-order value dimensions affect the LNA of different offenses somewhat differently. The norm acceptances for the offenses smoking pot and fare evasion, for example, are closely associated with the OtC-vs.-Con dimension: The higher the Con score -- and, thus, the lower the OtC score -- the higher the LNA for such petty offenses. Moreover, the STr-vs.-SEn dimension and the RE-SE orientation also play an important role in the norm acceptance of assault and indecent touch.

Hence, as predicted, the different personal values are related in different ways to the various offenses and offense types. This difference can be explained by the assignment of different weights to some basic value dimensions.
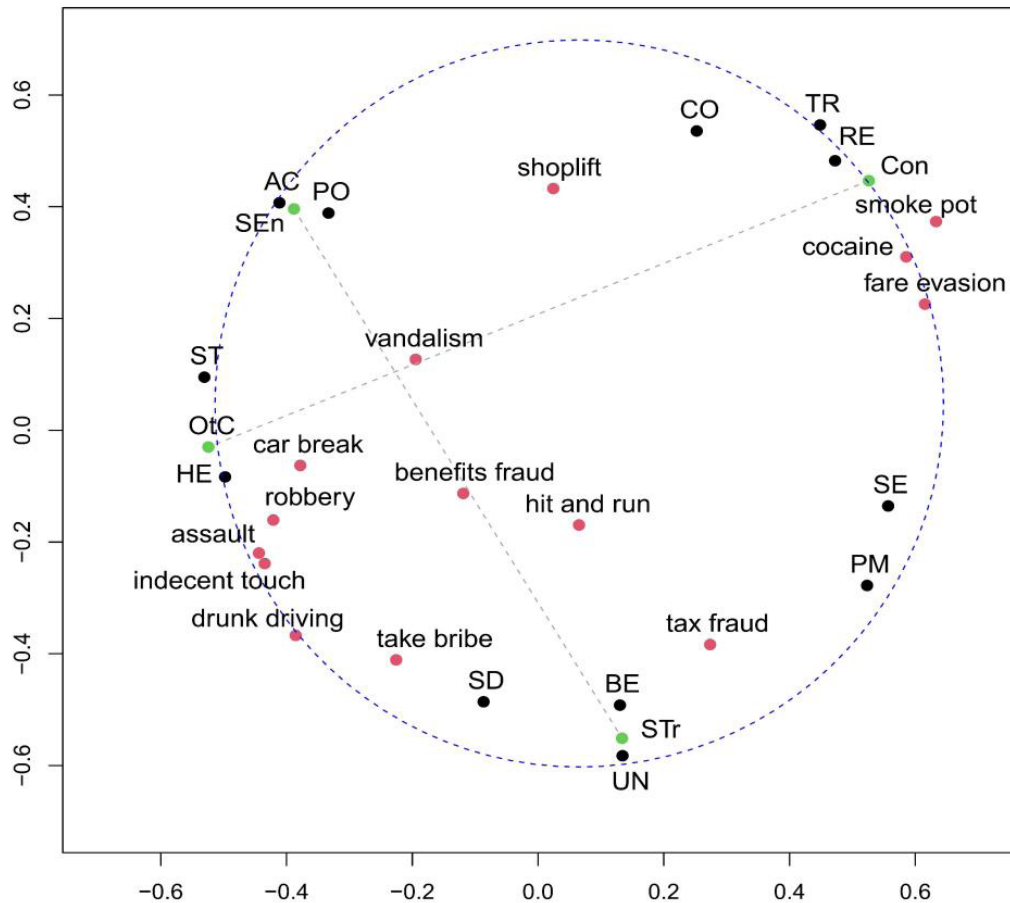
9

Figure 3. MDS representation of inter-correlations of personal values (black points) and norm acceptances (red points); personal value scores and badness ratings of norms both centered; dashed cross connects opposite higher-order values (green points).

4. Discussion

It has been shown that personal values affect the legal norm acceptance (LNA) of different offenses differently. The more a person strives for conservation values, for example, the more he/she tends to accept legal norms not only in general but in particular those related to petty offenses. For serious offenses, in contrast, a higher conservation orientation is only weakly correlated with higher LNA. For such offenses, striving for peace of mind and security are more important.

From an insider's perspective that looks at the persons' relative ratings of the importance of personal values and norm acceptance ratings, the different effects of personal values on norm acceptances become even more visible. The more conservative a person, the more he/she accepts legal norms on such offenses as smoking pot or fare dodging, while his/her norm acceptance of robbery and assault becomes much smaller - but only in comparison to his/her personal anchor or frame of reference. The score

for this overall anchor is higher than for persons seeking hedonism and stimulation (see Table 4). Offenses such as smoking pot, therefore, simply receive a high LNA rating on an already comparatively high level.

A principal component analysis of the norm acceptance items exhibits two components. The first one correlates highly with the vector of the persons' individual mean badness ratings (*mRat*). The second component is bi-polar, ordering the offenses from petty to serious. The loadings of the offenses are highly correlated with the variances of each person's badness ratings. Thus, centering essentially eliminates the first principal component of the inter-correlations, and this component is interpreted as the individuals' standards, base values, anchors, or reference points.

The implications of the external and the internal relations of personal values and norm acceptance for other behavior could be studied more closely in future research. For example, when discussing the seriousness of offenses, discussions may not reach an agreement because

one person is referring to his/her internal perspective that utilizes his/her standard, the other to an external point-of-view that accentuates the absolute perceived degree of badness of an offense.

Centering, therefore, is not just a statistical issue. Rather, it suggests a stepwise, hierarchical process of judgment. If a person is asked about the importance of different personal values, the person may first assess how important such values are for him/her as guiding principles in general, and only then judge their relative importance. When judging to what extent he/she accepts the legal norms on different offenses, he/she may first consider how much he/she accepts such norms in general, and then compare the offenses with respect to their badness.

Overall, this study leads to several insights on the value-LNA issue. First of all, statements on the relation of personal values and the acceptance of norms should be looked at more closely. Certain values predict the acceptance of certain norms, but general relations such as tradition-oriented persons are more likely to accept legal or social norms are too general to be of much use in predicting behavior. What one may want to do is drill down into the data, using, for example, basic values rather than higher-order values, and particular offenses rather than offense types. This may lead to better predictions on norm compliance, for example.

A new finding of a closer look at the relation of personal values and different forms of legal norm acceptance even at the highest level of aggregation is that the higher-order value dimension self-enhancement vs. self-transcendence is *not* irrelevant. Indeed, when it comes to particular offenses of a more social nature, it is a better predictor of norm acceptance than the higher-order value conservation. At the level of basic values, we also found that additional values on the value circle have an impact on norm acceptance. These values are peace of mind and religion, both values that had not been considered in previous research. These findings also suggest that one can drill down even further: A basic value such as "self-direction", for example, is itself a package of various components. It contains, for example, the sub-value "being free", and the meaning of "being free" changes systematically with age, for example (Borg, 2019). Thus, even relations at the level of basic values (such as self-direction, power, or hedonism) must be considered generalizations that do not necessarily mean the same thing to all individuals (in any culture, of any age and gender, at any educational level, with any personality profile, etc.) equally well. Similar drill-downs and break-ups are possible, of course, for offenses.

From an applied point of view, the above findings suggest that successfully managing people's compliance with legal and formal norms requires actively strengthening external determinants of compliance particularly for those persons who strongly strive towards self-enhancement values (power, achievement) and/or search for stimulation and hedonism. Such persons are often easily identified. They are, as we showed here, less likely to be driven by their personal values to comply with such norms. One should not hope to change their values by, say, rational arguments, because values are relatively stable personality characteristics. Hence, persons or institutions who have to make sure that norms are effectively realized in people's behavior, have to resort to external motives to enforce norm compliance. That is, it is particularly important to convince such persons that norm violations will be detected and punished accordingly. For the more conservation-oriented persons, and for persons with a social orientation, such external control variables are less important, because they are internally motivated by accepting the respective norms. Indeed, for persons who are intrinsically motivated to comply, stressing extrinsic motives of compliance may be even counter-productive, because adding superfluous reasons for compliance makes this behavior psychologically over-justified with the effect that the external control variables acquire a psychological weight that is greater than necessary. That means that compliance becomes more dependent on the visibility and credibility of the control variables rather than on stable personality dispositions. This effect is known to human resource managers under the notion of how to ruin (intrinsic) work motivation with pay.

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