

# What is the “opposite” of a value? A lexical investigation into the structure of generally undesirable goal content

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## Abstract

**Objectives:** Past taxonomies of goal-content have focused (either exclusively or predominantly) on generally-desirable values, and they suggest that some values oppose other values. However, many goals are generally-undesirable (i.e., the average person is committed to avoiding them), and these “vices” have been under-studied. This is an important gap because other models suggest that the “opposite” of a value is actually a vice.

**Methods:** To fill this gap, we conducted a lexical investigation. Two large samples (involving 504 undergraduates & 257 online participants) first rated their commitment to approaching or avoiding a large number of goals from the English lexicon.

**Results:** Analyses indicated that vices can be summarized in terms of Elitism, Rebellion, and Disrepute, which appear opposite from Inclusiveness, Tradition, and Prominence values (respectively) in MDS models. In Study 3 (involving 280 undergraduates) and Study 4 (involving 261 online participants), we found that Schwartz values of Universalism, Tradition, and Self-Enhancement actually appeared opposite from Elitism, Rebellion, and Disrepute (respectively) in MDS models, rather than from other values.

**Conclusions:** This investigation develops an instrument which can distinguish between different vices at a holistic level, and it suggests that they are actually the opposite of select values.

## KEYWORDS

avoidance, Circumplex models, goals, lexical approach, scale development, values, vices

## 1 | INTRODUCTION

What do people want? Few questions are more important to psychological science than this. Yet existing taxonomies of goal content disagree on the content of goals. Thus, there is a need for further psychometric research mapping the structure of goal content.

This is especially true of *generally undesirable goals* or *vices*—the focus of the current manuscript. Vices are

important to understand, as they have the potential to explain many negative outcomes (e.g., prejudice, aggression, depression). However, existing taxonomies focus either exclusively (e.g., Schwartz, 2012) or predominantly (e.g., McClelland, 1987) on *generally desirable goals* or *values*. Because of this, the structure of vices is poorly understood. This is an important gap because consideration of vices alters our understanding of the structure of goal content. Value taxonomies suggest that different values

conflict with one another (e.g., self-transcendence and self-enhancement; Schwartz, 2012). However, other taxonomies suggest that the opposite of each value is actually a vice (e.g., communion and separation; Locke, 2015). As such, we conducted a lexical investigation to map the holistic structure of vices in the English language (Studies 1 and 2). We then examined their relationship with an established measure of values (Studies 3 and 4).

### 1.1 | Defining goals, values, and vices

It is important to first systematically define the constructs of goals, values, and vices. Building on precedents (Austin & Vancouver, 1996; Emmons, 1986; Gollwitzer, & Moskowitz, 1996), we define a goal as *a current state of commitment to affect one's relationship with an end state*. At their core, goals are defined by desirable or undesirable "end states" (e.g., love, hate, power, etc.). The phrase *affect one's relationship with* is used to refer to either *desirable* end states one wishes to approach or to *undesirable* end states one wishes to avoid. To reach that end state, a person must *commit* limited resources (e.g., attention, time, muscles) to goal-relevant activities. Thus, we view "goals" as an overarching construct that encompasses many more specific constructs (e.g., needs, motives, values, vices, self-guides, personal strivings, personal projects, intentions, plans, desires; see Austin & Vancouver, 1996).

Because of this, goals come in many forms. Some specify one physical action (e.g., to press the p key on my keyboard). Others are more abstract (e.g., parenthood) and involve numerous actions across many situations over long periods of time. Theory and research show that more specific goals are often enacted to achieve abstract goals (e.g., I may press the p key, to write a paper, to keep my job, to take of my children) (Maio, 2010; Powers, 1973; Vallacher & Wegner, 1987). Past taxonomies tend to focus on abstract goals (e.g., needs, motives, values), as they provide an organizational framework for specific goals too. We follow that precedent here.

"Values" can be understood as highly abstract goals that are generally desirable. That is, the average person is committed to approaching them. Consistent with this, Schwartz (1992, p. 4) proposed that these characteristics define values: "Values (1) are concepts or beliefs, (2) pertain to desirable end states or behaviors, (3) transcend specific situations, (4) guide selection or evaluation of behavior and events, and (5) are ordered by relative importance."

Here, we seek to develop the parallel construct of "vices." Like values, vices are abstract goals. Unlike values, however, vices are generally undesirable. That is, the average person seeks to avoid them. This definition allows for

the possibility that a minority (and perhaps a *substantial* minority) may be committed to approaching a vice.

### 1.2 | The importance of goals, values, and vices

Goals are a critically important construct in psychology. Most obviously, this is because goal pursuit can affect any outcome that is the direct object of one's goals—such as academic/career achievements (e.g., Elliot, 2006), harmonious interpersonal relationships (e.g., Gable & Impett, 2012), or harmonious intergroup relationships (e.g., Butz & Plant, 2009). Beyond this, goals shape our behaviors and emotions (Carver & Scheier, 2012). They can lead to change in personality traits over time (Hennecke et al., 2014) and influence happiness and psychopathology (DiClemente et al., 1999; Kasser, 2016).

For all the same reasons, it is important to understand generally undesirable goals. When seeking to explain undesirable outcomes (e.g., prejudice, depression, etc.), it is common to emphasize people's *inability* to avoid them (e.g., automatic prejudice is uncontrollable; Bargh, 1999) or their selection of ineffective *tactics* (e.g., rumination to reduce depression; Nolen-Hoeksema et al., 2008). This overlooks a simple but powerful explanation—that some people intentionally seek outcomes that others find undesirable. For example, Millgram et al. (2015) demonstrated that depressed individuals will often devote their time and effort to *up-regulating* sad mood states, presumably because these emotions verify their sense of self (cf. Forscher et al., 2015, for an illustration with prejudice). It is thus likely that commitment to approach vices might lead to generally undesirable changes in traits (see Roberts et al., 2006) and well-being (see Kasser, 2016). Given this, it would be useful to develop a systematic taxonomy of goals, which includes vices as well as values.

### 1.3 | Points of convergence between past goal taxonomies

Past taxonomies have focused on a variety of partially overlapping, higher-order goal constructs—such as needs (Maslow, 1943; Ryan & Deci, 2017), aspirations (Grouzet et al., 2005), motives (Kenrick et al., 2010; McClelland, 1987), and values (Locke, 2015; Schwartz, 2012). Despite differences, three common themes emerge across models: First, all models include goals focused on *Getting Ahead* (e.g., esteem—Maslow; competence and autonomy—Ryan & Deci; status—Kenrick et al.; power and achievement—McClelland and Schwartz; or "agency"—Locke) versus *Getting Along*

(e.g., love—Maslow; intrinsic aspirations—Grouzet; affiliation—Kenrick and McClelland; Benevolence—Schwartz; “communion”—Locke). Second, many models include goals focused on *Improvement* (e.g., self-actualization—Maslow; personal growth—Grouzet et al.; self-direction—Schwartz) versus *Preservation* (e.g., conformity—Grouzet et al.; tradition and conformity—Schwartz). Last, many models include goals focus on *Approaching Pleasure* (e.g., hedonism—Schwartz) or *Avoiding Pain* (e.g., safety—Maslow; security—Schwartz).

These themes also appear repeatedly in empirical analyses. For example, Schwartz (2012) has found that values can be usefully summarized as varying in their position around a circle (Figure 1, left). Adjacent values have stronger, positive correlations and are thought to be compatible. Values appearing opposite are more weakly or negatively correlated and are thought to be in conflict. The Self-Enhancement values (achievement, power) focus on personal success and are thought to conflict with Self-Transcendence values (universalism, benevolence), focused on interpersonal harmony. The Conservation values (tradition, conformity, security) focus on the preservation of existing institutions and are thought to conflict with Openness to Change values (self-direction, stimulation) focused on improvement. This model has been influential and studied across a multitude of cultures.

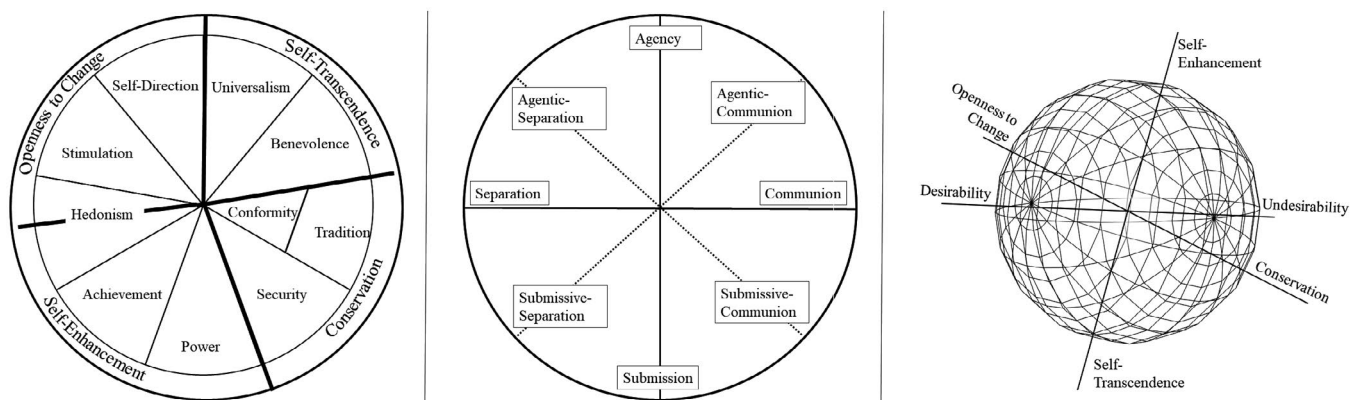
Studies of values using the *lexical approach* (Aavik & Allik, 2002; de Raad et al., 2016; Wilkowski et al., 2020) converge on similar conclusions. This is notable because the lexical approach is responsible for establishing the highly consensual “Big Five” trait taxonomy (John et al., 2008). This approach suggests that if a value is truly important, it should come to be represented in many languages as a single word. By examining the structure of value-relevant words in various languages, researchers can uncover the major dimensions of values. This approach

has been used to chart the structure of values in Dutch (de Raad & van Oudenhoven, 2008), Estonian (Aavik & Allik, 2002), English (Wilkowski et al., 2020), German (Renner, 2003), Spanish (Morales-Vives et al., 2012), and Northern Sotho (Renner et al., 2003). To date, all studies have uncovered at least one factor related to Status (e.g., Self-Enhancement—Aavik & Allik; Status and Respect—de Raad) and Tradition (e.g., Conservation—Aavik & Allik; Commitment and Tradition—de Raad). The remaining constructs diverge to some degree but are typically comparable to Benevolence, Universalism, or Self-Direction.

#### 1.4 | Points of divergence between past goal taxonomies

Nonetheless, existing taxonomies diverge in many ways. Most critical to current concerns, some (e.g., Schwartz, 2012) focus exclusively on values, but others include vices. Within the Interpersonal Circumplex (Horowitz et al., 2006; Locke, 2015; see Figure 1, center), Agency and Communion resemble Schwartz's constructs of Self-Enhancement and Self-Transcendence (respectively). Unlike Schwartz, however, the Interpersonal Circumplex posits that Agency and Communion represent the generally desirable pole of two separate dimensions. Opposite Agency lies the generally undesirable state of Submission; and opposite Communion lies the generally undesirable state of Separation.

A similar pattern can be found in the Hierarchical Model of Approach and Avoidance Motivation (Elliot, 2006). It suggests that most any goal can be conceptualized as a goal to approach a relevant desirable state or as a goal to avoid a relevant undesirable state. Within it, Performance Approach goals (i.e., to outperform others) and Social Approach goals (i.e., for closeness and intimacy) resemble



**FIGURE 1** The Schwartz theory of universal values (left), the interpersonal Circumplex (center), and the proposed 3-dimensional model (right)

Self-Enhancement and Self-Transcendence values (respectively). Nonetheless, they are not viewed as opposites. Instead, Performance Approach goals are typically contrasted with Performance-Avoidance goals (i.e., to avoid being out-performed by others), and Social-Approach goals are typically contrasted with Social-Avoidance goals (i.e., to avoid conflict).

This raises an important question. What is the true “opposite” of a value (e.g., Self-Transcendence)—another value (e.g., Self-Enhancement) or a vice (e.g., Separation)? We suspect that the previous claims of the Schwartz Values model are exaggerated. Certainly, there are times when one must choose between “getting along” and “getting ahead” (e.g., zero-sum competitions). However, there are many times when the same means can advance both goals. This is nicely illustrated in the Interpersonal Circumplex by blended Communal/Agentic goals, which are focused on earning others’ respect and voluntary deference (Locke, 2000). They allow a person to “get ahead” while also “getting along.” Thus, we broadly hypothesize that the true “opposite” of each value is actually a vice.

## 1.5 | Past research on the structure of vices and the current investigation

To date, only two investigations have examined the structure of vices in a holistic fashion (Aavik & Allik, 2006; Wilkowski et al., 2020). Both studies used lexical methods and gathered relevant words from their native language. The results were consistent across investigations: Principle component analyses yielded a single component which was extremely broad in scope. Aavik and Allik’s (2006) negative values component contained the Estonian words for *deception*, *laziness*, and *unpopularity*. Likewise, Wilkowski et al.’s Negativity-Prevention component contained 227 English words, including words related to personal failures, acrimonious relationships, poor physical health, and poor psychological health.

In the current investigation, we aimed to dissect the Negativity-Prevention construct we previously found (Wilkowski et al., 2020) into more specific facets representing the “opposite” of each value. This is useful because it (1) begins to make distinctions between different vices at a holistic level; (2) integrates models focused solely on values with models that include vices and avoidance goals; and (3) tests the broad hypothesis that the “opposite” of a value is truly a vice.

We aimed to find the generally undesirable “opposite” of three values that emerged in our previous lexical analysis. *Tradition* appears to reflect a goal to support the long-standing institutions of one’s ingroup. It is defined by items

such as *patriotism* and *marriage*. *Inclusiveness* is similar to Universalism and appears to reflect a goal to support people of all types—including outgroups. It is defined by items such as *diversity* and *equity*. *Prominence* is similar to the Self-Enhancement values (especially Achievement). It appears to reflect a goal to earn the respect and voluntary deference of others. It is defined by items such as *perfection* and *power*.

To find the opposite of these values, we followed Schwartz (1992; Schwartz et al., 2001) and used Multi-Dimensional Scaling (MDS). MDS is a useful way of summarizing correlations between constructs (Borg et al., 2018). In it, correlations between different values can first be inverted into “distance” scores, and then used to create a visual “map” of how the items are positioned in  $n$ -dimensional space. We first constructed three-dimensional MDS models in Studies 1 and 2. Based on prior findings, we hypothesized that two dimensions would resemble (but not necessarily be identical to) Schwartz’s Self-Enhancement and Conservation dimensions (see Figure 1, right). We further hypothesized that the third dimension would represent General Desirability and would distinguish values from vices. Next, we located Tradition, Inclusiveness, and Prominence within this model. Then, we used their coordinates to find their “opposites.” In Studies 3 and 4, we created brief scales measuring these facets and examined their relationship to the Schwartz Values. We hypothesized that the opposite of Universalism, Tradition, and Achievement values would be a lexically identified vice rather than another value.

## 1.6 | Open science practices

We report all measures relevant to current concerns, how sample sizes were determined, and data exclusions. The method files, data files, analytic code, and additional figures and tables are available at: <https://osf.io/j5rga/>.<sup>1</sup>

## 2 | STUDY 1

Study 1 was previously reported by Wilkowski et al. (2020, Study 1). Here, we present a novel MDS analysis of this dataset.

### 2.1 | Participants

The final sample retained for analysis included 504 participants recruited from the University of Wyoming, University of Texas-El Paso, and Gettysburg College. In



all studies, we took steps to minimize the influence of careless and mischievous responses by excluding invalid data. Further information on exclusions is reported in Open Science Sections 1, 4, and 6. Demographic information is reported in Table 1. The sample size was originally intended to provide adequate power for PCAs, but it is sufficient for MDS analyses (e.g., it doubles the sample size at which correlations stabilize; Schönbrodt & Perugini, 2013).

## 2.2 | Stimuli

Wilkowski et al. (2020) selected 1060 goal-relevant English nouns (see Open Science Materials Section 2 for all words) from WordNet 3.0 (“What is WordNet?”, 2016). The item selection process is described in detail in Wilkowski et al. (2020). Briefly, though, nouns from potentially relevant WordNet domains were only rejected if  $\geq 75\%$  of raters answered “no” to the question, “Do you believe that 33% of Americans or more are currently engaged in a long-term effort to approach, maintain, or avoid this?” Thus, this list erred on the side of comprehensiveness (as is typical of lexical research; see John et al., 2008) and includes words that may be ambiguous (e.g., *participation*, *practice*). However, the list contains a great many words which are more clearly goal relevant (e.g., *vanity*, *eroticism*, *addiction*). Our item selection process in this paper is intended to remove ambiguous items from the final scale.

## 2.3 | Procedures

Participants completed the survey online. After providing informed consent, they received instructions asking them to indicate whether each of the 1060 words represented a goal of theirs, using a +4 (“I have an extremely strong commitment to this”) to 0 (“I have no commitment to this”) to −4 (“I have an extremely strong commitment to avoiding this”) response scale. The instructions explained that a goal entails the current commitment of effort to reach something desirable or to avoid something undesirable. Item order was randomized.

TABLE 1 Summary of demographic information for all studies

Study	Source	<i>n</i>	Females	Males	Mean age (range)	% White	% Hispanic	% Black	% Asian
Study 1	Student	504	373	129	21.8 (18–68)	56.0%	34.1%	1.0%	4.8%
Study 2	Online	257	147	109	37.9 (19–73)	67.7%	7.8%	16.3%	7.4%
Study 3	Student	280	194	86	19.3 (17–31)	80.0%	10.0%	3.2%	3.6%
Study 4	Online	261	154	107	33.9 (18–75)	69.7%	8.0%	9.2%	8.8%

Note: Groups that routinely represented <1% are not displayed (e.g., gender nonconforming, Native American, Pacific Islander).

## 2.4 | Results and discussion

### 2.4.1 | Analytic strategy

We conducted MDS analyses using the *smacof* package for R (Mair et al., 2020). MDS removes the “common” component often found with other analytic techniques (Davison, 1985). This is useful here, as it forces undesirable goals onto the inverse poles of values. Correlation coefficients (*rs*) were calculated and converted to *distances* by subtracting each *r* from 1 (Borg et al., 2018). We then obtained a three-dimensional solution using ordinal scaling. In Open Science Section 3, we compared this solution to several alternative models and found it to be adequate. For ease of interpretation, solutions have been rotated in a consistent direction across studies.

### 2.4.2 | Global fit of the three-dimensional solution

The global fit of MDS models can be evaluated via stress (Borg et al., 2018), with higher values indicating worse fit. A permutation test (Mair et al., 2016) indicated that the observed stress value (Stress-1 = 0.098) was significantly lower than stress values from 100 randomly-permuted datasets (average Stress-1 = 0.331),  $p < .001$ , indicating significant fit.

### 2.4.3 | Characterizing the three dimensions

Open Science Table 1 presents the three-dimensional positions of all items. Based on prior comparisons of MDS and PCA (e.g., Davison, 1985), we expected the four PINT-goals (Prominence, Inclusiveness, Negativity, and Tradition) to appear in distinct regions. This proved to be the case. As can be seen in Table 2, the first dimension (*X*) can be interpreted as General Desirability. It distinguished Negativity from the three values. The second dimension (*Y*) can be interpreted as Conservation (or a slight rotation thereof). It distinguished Tradition from Inclusiveness. The third dimension (*Z*) can be interpreted

	X (Desirability)	Y (Conservation)	Z (Self-Enhancement)
Tradition	0.38 [−0.01, 0.57]	0.31 [0.18, 0.45]	−0.30 [−0.44, −0.14]
Inclusiveness	0.56 [0.18, 0.70]	−0.29 [−0.59, −0.08]	−0.06 [−0.34, 0.21]
Prominence	0.57 [0.17, 0.71]	0.12 [−0.08, 0.43]	0.17 [0.01, 0.42]
Negativity	−0.79 [−0.86, −0.30]	−0.02 [−0.39, 0.37]	0.00 [−0.27, 0.31]

Note: Minimum and maximum item positions are presented in brackets.

TABLE 2 Average item positions for the PINT-goals in three-dimensional space, Study 1

as Self-Enhancement (or a slight rotation thereof). It distinguished Prominence from Tradition (see Open Science Section 8 for Studies 3 and 4 analyses testing these interpretations, and more careful characterizations of the slight rotations).

Figure 2 provides a “view” of a three-dimensional scatterplot from both the generally desirable “side” (left) and generally undesirable “side” (right) (see Open Science Figure 1 for an interactive color version). One can think of these figures as similar to looking at two different hemispheres of Earth. Tradition, Inclusiveness, and Prominence occupied distinct regions of the generally desirable “hemisphere.” Tradition occupies a region defined by high conservation and low self-Enhancement (lower right). Prominence occupies a region defined by high self-enhancement (top), and Inclusiveness occupies a region defined by low conservation (left).

#### 2.4.4 | Locating the opposites of tradition, inclusiveness, and prominence

To locate items representing the “opposite” of Tradition, Inclusiveness, and Prominence, we next divided this

model into six regions. Three regions represented Tradition, Inclusiveness, and Prominence. We used the relevant average items positions listed in Table 2 to define their central positions. Three other regions represented their generally undesirable opposites. To define these regions’ central position, we simply multiplied the average item position of each value by negative one. We then used the three-dimensional Pythagorean Theorem to calculate all 1060 items’ distances to these six positions. Each item was placed in the “region” it was nearest.

Table 3 presents the position of 30 items retained for our final scale (though final item selections were not made until after Study 2). The opposites of Inclusiveness, Tradition, and Prominence were termed Elitism, rebellion, and Disrepute, respectively (i.e., the Undesirable END of goal-content). All such items had low values on the Desirability dimension. The Elitism items had high Conservation values and were the opposite of Inclusiveness in this regard. The Rebellion items had low Conservation and high Self-Enhancement values and were the opposite of Tradition in this regard. The Disrepute items had more modest Self-Enhancement values and were the opposite of Prominence in this regard.

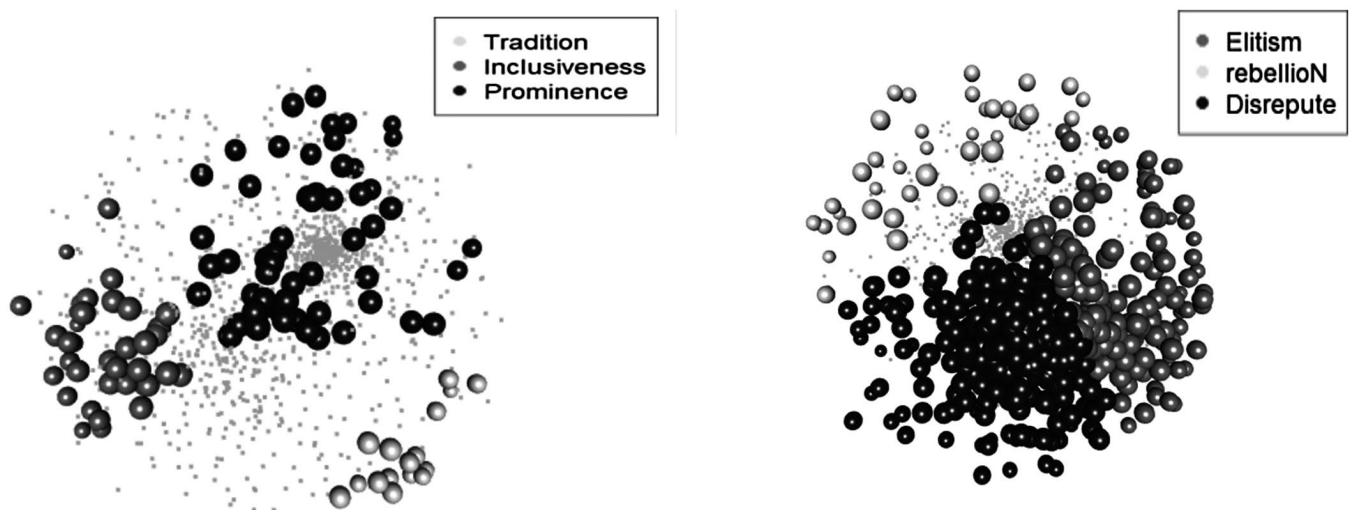


FIGURE 2 Scatterplots depicting position of generally desirable values (left) and generally undesirable vices (right), Study 1. Small gray points represent items indicative of a goal-type not represented in that panel.

**TABLE 3** Three-dimensional positions of 30 generally undesirable goals, Study 1

Item	X (Desirability)	Y (Conservation)	Z (Self-enhancement)
<b><i>Elitism (opposite of Inclusiveness):</i></b>			
Objectification	−0.62	0.32	0.06
Authoritarianism	−0.48	0.39	0.08
Coercion	−0.65	0.24	0.14
Vanity	−0.56	0.26	0.25
Elitism	−0.41	0.39	0.15
Stagnation	−0.73	0.24	−0.02
Pretentiousness	−0.73	0.21	0.00
Militarism	−0.55	0.34	−0.17
Materialism	−0.53	0.25	0.30
Misogyny	−0.79	0.23	−0.04
<b><i>rebellioN (opposite of Tradition):</i></b>			
Strangeness	−0.29	−0.38	0.30
Atheism	−0.54	−0.31	0.38
Rebelliousness	−0.61	−0.32	0.20
Defiance	−0.62	−0.28	0.18
Outrageousness	−0.58	−0.13	0.31
Protest	−0.29	−0.52	0.13
Eroticism	−0.20	−0.13	0.47
Intoxication	−0.69	−0.21	0.27
Wildness	−0.13	−0.10	0.44
Godlessness	−0.37	0.00	0.48
<b><i>Disrepute (opposite of Prominence):</i></b>			
Worry	−0.77	−0.15	−0.12
Ugliness	−0.78	−0.12	−0.09
Depression	−0.80	−0.12	−0.07
Isolation	−0.78	−0.15	0.00
Aggravation	−0.80	−0.02	0.04
Corruption	−0.84	0.03	0.00
Delinquency	−0.84	0.00	0.03
Cheating	−0.84	−0.05	0.06
Addiction	−0.81	−0.03	0.10
Lying	−0.82	−0.07	0.11

### 3 | STUDY 2

Study 1's sample was diverse in many fashions, such as the inclusion of Hispanic participants and three geographic regions of the United States. Yet, it mostly consisted of young adults who shared a goal to obtain a college degree. It also utilized a rather exhaustive list of items, some of which were potentially ambiguous. As such, we sought to replicate Study 1's findings in a sample that was more diverse in age and occupation, while also using a more concise and unambiguous item pool. We recruited a sample using Amazon's Mechanical Turk (mTurk) and asked

them to rate their commitment to 214 clearly goal-relevant words.

#### 3.1 | Target sample size for Studies 2–4

We were unable to locate sample size determination guidelines for MDS analyses. Because we used correlations as our index of item similarity, we aimed to recruit 250 participants in Studies 2–4, (i.e., the sample size at which correlations stabilize; Schönbrodt & Perugini, 2013). In all studies, we oversampled by 10% to meet this after excluding invalid data.

	T	I	P	E	N	D
X (Desirability)	0.44	0.64	0.25	-0.47	-0.29	-0.49
Y (Conservativeness)	0.44	-0.35	0.24	0.17	-0.56	-0.05
Z (Self-Enhancement)	-0.18	-0.07	0.47	0.03	0.15	-0.06

TABLE 4 Average item positions for goals in three-dimensional space, Study 2

Note: T = Tradition, I = Inclusiveness, P = Prominence, E = Elitism, N = rebellion, D = Disrepute.

TABLE 5 Three-dimensional positions of 25 replicable generally undesirable items, Study 2

Item	X (Desirability)	Y (Conservation)	Z (Self-Enhancement)
<b>Elitism:</b>			
Authoritarianism	-0.27	0.34	0.18
Coercion	-0.39	0.36	-0.26
Elitism	-0.22	0.49	0.18
Materialism	-0.57	0.06	0.25
Militarism	-0.45	0.38	-0.12
Misogyny	-0.65	0.16	-0.09
Objectification	-0.60	0.25	0.00
Pretentiousness	-0.45	0.54	-0.05
Stagnation	-0.56	0.01	0.14
Vanity	-0.58	0.01	0.28
<b>rebellioN:</b>			
Atheism	0.06	-0.71	0.50
Defiance	-0.21	-0.53	0.35
Eroticism	-0.02	-0.85	0.03
Rebellion	-0.17	-0.92	0.00
Strangeness	-0.19	-0.65	0.21
<b>Disrepute:</b>			
Addiction	-0.58	-0.02	-0.14
Aggravation	-0.49	-0.13	-0.25
Cheating	-0.63	0.08	-0.38
Corruption	-0.41	-0.06	-0.35
Delinquency	-0.64	0.02	-0.10
Lying	-0.53	0.02	-0.22
Isolation	-0.73	-0.11	0.10
Depression	-0.37	-0.29	-0.14
Ugliness	-0.48	-0.23	-0.28
Worry	-0.63	-0.10	-0.11

### 3.2 | Participants

The final sample consisted of 257 participants after removing participants providing invalid data (see Open Science Materials Section 4, for information on data exclusions).

### 3.3 | Measures and procedure

We selected 214 items from the larger Study 1 item pool (see Open Science Materials Section 5). These items were

intended to represent all six “regions” identified in Study 1. We employed three criteria to select generally undesirable items: unidimensionality, conceptual breadth, and preservation of the three-dimensional structure. Unidimensionality refers to the extent to which items tap a single latent factor (Clark & Watson, 1995; Dunn et al., 2014). To evaluate this, potential items from Study 1 were entered into single-factor Confirmatory Factor Analyses. Separate CFAs were conducted for each construct. We excluded items loading below 0.30. Beyond this, we sought to select items which represented the full



breadth of each construct (Clark & Watson, 1995). To do so, we selected items which subjectively appeared to capture distinct aspects of a construct (e.g., for Elitism, items assessing sexism/prejudice, vanity, & aggression) and which exhibited modest inter-item correlations (indicating non-redundancy). Finally, we selected items that continued to appear in the same target region in MDS models (i.e., after deleting other items). Based on this, we selected 117 generally undesirable items.

We also included the 31 items used to measure Tradition, Inclusiveness, and Prominence in the PINT Goal-Contents Scale (Wilkowski et al., 2020). To preserve a balance between generally-desirable and generally-undesirable goals, we added 15 other items which also measured these constructs, as well as 51 other generally-desirable items which are not otherwise relevant to current concerns (i.e., beyond balancing the item pool). Study 2 procedures were otherwise identical to Study 1.

### 3.4 | Results and discussion

#### 3.4.1 | Global model fit

The three-dimensional ordinal MDS model exhibited significant fit (observed Stress-1 = 0.174; average stress 1 from 100 randomly permuted datasets = 0.320),  $p < .001$ .

#### 3.4.2 | Interpreting the three dimensions

To determine if the three dimensions found in Study 1 replicated, we first calculated the average position of all six constructs (see Table 4). Consistent with Study 1, the first dimension distinguished the TIP-values (Tradition, Inclusiveness, Prominence) from the END vices (Elitism, rebellion, Disrepute). The second dimension distinguished more conservative goals (Tradition and Elitism) from more liberal goals (Inclusiveness and Rebellion). The third dimension distinguished self-enhancing goals (Prominence and Rebellion) from more modest goals (Tradition and Disrepute).

#### 3.4.3 | Examining item locations

We next examined whether specific items landed in the same “region” as Study 1. When this was done, 123 out of the 163 items of interest (75.5%) reappeared in the same region. This clearly exceeded the chance rate of 16.7%,  $p < .0001$ .

Open Science Table 2 presents the location of all 214 items, and Open Science Figure 2 provides a

three-dimensional, interactive color figure. To more briefly illustrate these results, Table 5 presents the positions of 25 items which replicated their Study 1 region and which were retained for the final scale. We found 25 replicable Elitism items, 43 replicable Disrepute items, but only eight replicable Rebellion items. In Studies 3 and 4, it was therefore necessary to reconsider other Rebellion items that were administered in Study 1 (but not Study 2).

## 4 | STUDIES 3 AND 4

In Studies 3- and 4, we sought to create a relatively brief, reliable, and valid measure of the END-vices and compare it with the Schwartz et al. (2001) values. To achieve this in different populations, we recruited an undergraduate sample in Study 3 and an online sample from Prolific Academic in Study 4. To make comparisons to the Schwartz values, we followed the lead of Schwartz (1992) and relied on MDS analyses. We estimated a three-dimensional MDS model which simultaneously included the TIP-values, END-vices, and Schwartz values. We hypothesized that the Schwartz values would all appear in their typical ordering within the generally desirable region of this model. The Schwartz values of Tradition, Universalism, and Achievement were expected to align with the Tradition, Inclusiveness, and Prominence regions (respectively). This would indicate that the Schwartz values have something in common (i.e., general desirability) and are not completely opposite in all respects. More importantly, we expected Rebellion, Elitism, and Disrepute would lie “opposite” of these Schwartz values (respectively) for all three dimensions. This would suggest that the opposite of a value truly is a vice.

### 4.1 | Method

#### 4.1.1 | Participants

Study 3’s final sample consisted of 280 undergraduate psychology students from the University of Wyoming. Study 4’s final sample consisted of 261 individuals recruited through Prolific Academic (see Open Science Materials Section 6 for data exclusion information).

#### 4.1.2 | Procedures

Participants first completed the PINT Goal-Contents Scale (Wilkowski et al., 2020), which was intermixed with the novel Undesirable END of Goal-Contents Scale developed here (see a file on <https://osf.io/j5rga/>; as well as items

listed in Table 3). They then completed other measures in random order. Here, we focus on the Portrait Values Questionnaire (Schwartz et al., 2001).

### 4.1.3 | Measures

*The undesirable END of goal-contents scale:* We initially selected 37 items, including 12 rebellion items, 12 Disrepute items, and 13 Elitism items. Four criteria were used to select them: unidimensionality, conceptual breadth, conceptual coherence, and preservation of each items' position in three-dimensional space. To evaluate unidimensionality, we first inspected separate single-factor CFAs for each construct (Clark & Watson, 1995). Analyses were conducted with Study 1 and 2's datasets, and we included items with loadings greater than 0.30. We also sought to create scales which routinely exceeded a  $\omega$  of 0.70 (as  $\omega$  is now recognized as a superior reliability index than  $\alpha$ ; Dunn et al., 2014). Second, we sought to select items that reflect the constructs' full conceptual breadth. Statistically, this was indicated by modest *average inter-item correlations* (AICs) of 0.20–0.30 (Clark & Watson, 1995). Third, we sought to select items that subjectively appeared to capture a coherent construct. Finally, we selected items that reliably appeared in the target MDS region after deleting other items.

For both Elitism and Disrepute, we could locate sufficient items administered in both Study 1 and 2 that fulfilled these criteria. For Rebellion, only eight items were replicated across Study 1 and 2, and several of them performed sub-optimally on other criteria. As such, we selected several additional Rebellion items administered in Study 1 (but not 2) based on the above criteria. Following initial analyses of Study 3, 2 Rebellion and 1 Elitism item were deemed inadequate. We retained 10 items per scale for the final scale, which we focus on here.

*The PINT goal-contents scale* (Wilkowski et al., 2020): Participants were also asked to rate their commitment to 42 items from this instrument—including items indicative of Prominence, Inclusiveness, Tradition, and the broader construct of Negativity Prevention. These items were intermixed with the generally undesirable goal items. Please note that we did not consider the item “atheism” to be a reverse-scored indicator of Tradition (as Wilkowski et al., 2020 did). In the current analysis, atheism is more appropriately considered a marker of Rebellion (i.e., the generally undesirable opposite of Tradition). We recommend that this be done whenever Tradition and Rebellion are considered simultaneously.

*Portrait values questionnaire* (PVQ; Schwartz et al., 2001): This instrument measures the 10 Schwartz

Values. In it, participants read 40 descriptions of a gender-matched person (e.g., for self-direction, “It is important to her to be independent. She likes to rely on herself”) and indicate how similar they are to each, using a 1 (not like me at all) to 6 (very much like me) scale. We used the 10-value version of this instrument because it has received the most attention and because newer versions provide more nuance than we intended to examine here.

## 4.2 | Results and discussion

### 4.2.1 | Confirming the three-dimensional structure

We first sought to confirm the three-dimensional structure of the TIP and END items. Although Confirmatory Factor Analysis is often used for this purpose, it has been shown to be problematic for evaluating broad-bandwidth measures (e.g., Hopwood & Donnellan, 2010; see Open Science Section 7 for a more detailed discussion). As such, we instead employed confirmatory MDS analysis (Mair, 2018). We entered the 61 items of primary interest into a three-dimensional, ordinal model. In it, we constrained the TIP-Values to occupy a distinct range of the *Desirability* dimension from the END-Vices; the conservative goals (Tradition and Elitism) to occupy a distinct range of the *Conservativeness* dimension from liberal goals (Inclusiveness and Rebellion); and the self-enhancing goals (Prominence and Rebellion) to occupy a distinct range of the *Self-Enhancement* dimension from more modest goals (Tradition and Disrepute).

This model exhibited significant fit in Study 3 (observed Stress-1 = 0.152; average Stress-1 from permuted datasets = 0.334,  $p < .001$ ) and Study 4 (observed Stress-1 = 0.136; average Stress-1 from permuted datasets = 0.341,  $p < .001$ ). The imposition of constraints also accounted for just 2.6% of the model's stress in Study 3, and 2.2% in Study 4 (see Borg et al., 2011; Open Science Table 5). Open Science Tables 3 and 4 provide coordinates for all items, and Open Science Figure 3 and 4 provide interactive, three-dimensional scatterplots.

### 4.2.2 | Psychometric properties of the brief scale

*Internal reliability and unidimensionality:* We next evaluated the scales' psychometric properties. Table 6 summarizes  $\omega$ s and AICs for all studies. As can be seen there, the scales were reliable and unidimensional ( $\omega > 0.70$ ; AICs typically in the 0.20–0.30 range).

*Descriptive statistics:* The END-Vices consistently had means below zero, indicating the average person is committed to avoiding them (see Table 7, top panel). By contrast, the TIP-Values all had means above zero, indicating the average person is committed to approaching them. Nonetheless, people varied. To illustrate this, we report the percentage of participants committed to approaching (i.e., average rating > 0) versus avoiding (i.e., average ratings < 0) each goal (see Table 7, bottom panel). Elitism and rebellion were undesirable on average, but a non-trivial minority was committed to approaching them. Likewise, Tradition and Prominence were desirable on average, but a nontrivial minority was committed to avoiding them. It was less common to report a commitment to avoid Inclusiveness or to approach Disrepute, with rates more comparable to many forms of mental illness (Steel et al., 2014).

*Intercorrelations:* The TIP-Values exhibited modest, positive correlations with each other (see Table 8, lower panel). This is consistent with prior findings, showing that they can load onto a common “Positivity-Approach” component in the two-component solution, but are distinguishable in other solutions (Wilkowski et al., 2020). The END-Vices also tended to be positively correlated (see Table 8, upper panel). These correlations are stronger, consistent with their loading onto a common component in all PCA solutions we previously examined. However, no correlation was strong enough to suggest full equivalence (all E-N-D  $r$ s < 0.70).

These correlations also help us to understand the structure of the END-Vices. Disrepute can be considered the “core” of Negativity. It was strongly correlated with both Elitism and rebellion (average  $r$ s = 0.57 and 0.48, respectively), whereas Elitism and rebellion were more weakly correlated with

each other (average  $r = 0.21$ ). Beyond this, Disrepute was more strongly correlated with general Negativity (average  $r = 0.78$ ) than Elitism or rebellion (both average  $r$ s = 0.50).

The correlation between the values and vices was largely consistent with hypotheses (see Table 8, middle panel). Elitism was inversely correlated with Inclusiveness (average  $r = -0.38$ ); and Rebellion was inversely correlated with Tradition (average  $r = -0.49$ ). Their correlations with other values were near zero in most cases, but *positive* for Elitism and Prominence.

In contrast to hypotheses, however, Disrepute was not just inversely correlated with Prominence (average  $r = -0.17$ ), but also with Tradition and Inclusiveness (average  $r$ s =  $-0.24$  &  $-0.23$ , respectively). It thus appears that MDS analyses did not locate a goal which solely stands in opposition to Prominence. As the “core” of Negativity, it seems that Disrepute broadly stands in opposition to all generally desirable values. Thus, it may be useful for future research to examine if other analytic techniques yield a different “opposite” of Prominence.

#### 4.2.3 | Two-dimensional model of the Schwartz values

We next evaluated whether the Schwartz values’ typical two-dimensional structure could be replicated when these values were considered in isolation. The two-dimensional, ordinal MDS model exhibited significant fit in Study 3 (observed Stress-1 = 0.070, average Stress-1 from permuted datasets = 0.184,  $p < .001$ ) and Study 4 (observed Stress-1 = 0.038, average Stress-1 from permuted datasets = 0.186,  $p < .001$ ). Perhaps more importantly, Self-Enhancement appeared opposite from

TABLE 6 Scale reliability and unidimensionality indices for all studies

Study	Elitism	rebellion	Disrepute	Gen. Neg.	Tradition	Inclusiveness	Prominence
<i>Omega</i>							
Study 1	0.80	0.72	0.88	0.79	0.78	0.81	0.82
Study 2	0.79	–	0.80	0.71	0.76	0.78	0.72
Study 3	0.78	0.74	0.83	0.73	0.73	0.72	0.75
Study 4	0.80	0.76	0.79	0.71	0.78	0.80	0.75
Mean	0.79	0.74	0.83	0.74	0.76	0.78	0.76
<i>Average inter-item correlations (AICs)</i>							
Study 1	0.28	0.21	0.41	0.25	0.28	0.27	0.30
Study 2	0.27	–	0.29	0.18	0.27	0.24	0.18
Study 3	0.23	0.23	0.33	0.20	0.23	0.18	0.22
Study 4	0.28	0.26	0.27	0.18	0.28	0.26	0.22
Mean	0.27	0.23	0.33	0.20	0.27	0.24	0.23

Note: Only 6 rebellion items were administered in Study 2, resulting in abnormally low omega (0.46) and AIC (0.12) values. As such, they are not included in this table.

TABLE 7 Descriptive statistics for all studies

	Elitism	rebellioN	Disrepute	Gen. Neg.	Tradition	Inclusiveness	Prominence
<i>Mean (and standard deviation)</i>							
Study 1	-0.9 (1.02)	-0.5 (0.94)	-1.8 (1.17)	-1.3 (0.97)	0.96 (1.02)	1.05 (0.90)	0.91 (0.88)
Study 2	-0.7 (1.05)	-	-1.1 (1.01)	-1.0 (0.92)	1.11 (1.22)	1.27 (0.99)	0.82 (0.90)
Study 3	-0.9 (0.93)	-0.6 (0.96)	-1.8 (1.07)	-1.3 (0.88)	0.96 (0.95)	0.97 (0.75)	1.00 (0.77)
Study 4	-1.6 (1.04)	-0.3 (1.03)	-1.8 (1.02)	-1.3 (0.88)	0.39 (1.17)	1.25 (0.89)	0.49 (0.79)
Mean	-1.0 (1.01)	-0.5 (0.98)	-1.6 (1.07)	-1.2 (0.91)	0.85 (1.09)	1.14 (0.88)	0.81 (0.83)
<i>Percent committed to avoiding (-), or approaching (+) each goal</i>							
Study 1	81%-, 12%+	66%-, 23%+	95%-, 3%+	93%-, 4%+	13%-, 81%+	4%-, 93%+	8%-, 87%+
Study 2	77%-, 17%+	-	88%-, 9%+	88%-, 8%+	15%-, 80%+	7%-, 91%+	14%-, 83%+
Study 3	80%-, 11%+	68%-, 23%+	93%-, 4%+	93%-, 5%+	12%-, 85%+	6%-, 91%+	5%-, 91%+
Study 4	94%-, 4%+	58%-, 36%+	96%-, 3%+	95%-, 4%+	34%-, 61%+	4%-, 93%+	18%-, 76%+
Mean	83%-, 11%+	64%-, 27%+	93%-, 5%+	92%-, 5%+	19%-, 77%+	6%-, 92%+	11%-, 84%+

Note: In the lower panel, the percentage committed to avoiding a goal is presented first with a - sign. The percentage committed to approaching a goal is presented second with a + sign.

Self-Transcendence, and Conservation appeared opposite from Openness-to-Change in both studies (see Open Science Table 6).

#### 4.2.4 | Locating the Schwartz values in three-dimensional space

We next sought to compare the Schwartz Values to the TIP-values and END-vice. Because of some surprising complexities in using simple correlations for this purpose (see Open Science Section 9 for a detailed discussion), we followed Schwartz (1992) and mainly relied on MDS. To do so, we added the 10 Schwartz Values to the previously described confirmatory three-dimensional MDS model. The location of the Schwartz values was left unconstrained; while the location of the TIP/END-goals remained constrained. This model again exhibited significant fit: Study 3 (observed Stress-1 = 0.158; average Stress-1 from permuted datasets = 0.333,  $p < .001$ ) and Study 4 (observed Stress-1 = 0.145; average Stress-1 from permuted datasets = 0.341,  $p < .001$ ). Open Science Tables 7 and 8 provide all item positions.

We hypothesized that the Schwartz Values would land within the generally desirable region. Consistent with this, even the *least* desirable Schwartz value (i.e., power; Study 3 = 0.23; Study 4 = -0.10) occupied a higher desirability position than the *most* desirable Vice (Study 3 = -0.10; Study 4 = -0.11). This can be seen in Figure 3. There, all Schwartz Values appear in the upper panels (displaying items high in general-desirability), and none appear in the lower panels (displaying items low in general-desirability). This illustrates that the Schwartz values have something

in common: They are all generally desirable, and not opposite in all senses.

We next hypothesized that Schwartz Tradition, Universalism, and Achievement values would most closely align with the TIP Tradition, Inclusiveness, and Prominence regions, respectively. This hypothesis was supported. As can be seen in Figure 3, Tradition and Conformity values consistently appeared in the Tradition region. Universalism consistently appeared in the Inclusiveness region. Achievement and Power consistently appeared in the Prominence region.

Third, we hypothesized that the remaining Schwartz values would maintain their typical ordering and fill the “gaps” between the TIP-values. Consistent with this, Benevolence landed between Tradition and Inclusiveness; Self-Direction and Stimulation landed between Inclusiveness and Prominence; and Security landed between Prominence and Tradition.

Fourth, and perhaps most importantly, we hypothesized that the true opposites of the Schwartz Tradition, Universalism, and Achievement values would be Rebellion, Elitism, and Disrepute (respectively). This hypothesis was supported. For example, Tradition values were high in Desirability, high in Conservativeness, and low in Self-Enhancement. Rebellion is the opposite in all three senses. It is low in Desirability, low in Conservativeness, and high in Self-Enhancement. Parallel observations held for the Universalism-Elitism and Achievement-Disrepute contrasts. Universalism is a high-Desirability, low-Conservativeness goal, whereas Elitism is a low-Desirability, high-Conservativeness goal. Achievement is a high-Desirability, high-Self-Enhancement goal, whereas Disrepute is a low-Desirability, low-Self-Enhancement goal.



**TABLE 8** Inter-scale correlations for PINT and END goals, all studies

	Study 1	Study 2	Study 3	Study 4	<i>M</i>
<i>Vice-vice correlations</i>					
E-N	0.24	–	0.29	0.09	<i>0.21</i>
E-D	0.56	0.64	0.54	0.53	<i>0.57</i>
N-D	0.46	–	0.58	0.41	<i>0.48</i>
E-Neg	0.53	0.67	0.44	0.35	<i>0.50</i>
N-Neg	0.47	–	0.56	0.47	<i>0.50</i>
D-Neg	0.84	0.75	0.79	0.74	<i>0.78</i>
<i>Vice-value correlations</i>					
E-T	–0.04	0.16	0.03	0.22	<i>0.09</i>
E-I	–0.60	–0.15	–0.30	–0.47	<i>–0.38</i>
E-P	0.00	0.35	0.18	0.31	<i>0.21</i>
N-T	–0.48	–	–0.42	–0.55	<i>–0.49</i>
N-I	–0.06	–	0.08	0.22	<i>0.08</i>
N-P	–0.06	–	–0.05	0.04	<i>–0.03</i>
D-T	–0.41	0.00	–0.34	–0.23	<i>–0.24</i>
D-I	–0.51	0.04	–0.25	–0.22	<i>–0.23</i>
D-P	–0.44	0.13	–0.22	–0.13	<i>–0.17</i>
Neg-T	–0.33	0.03	–0.21	–0.26	<i>–0.19</i>
Neg-I	–0.44	0.00	–0.14	–0.06	<i>–0.16</i>
Neg-P	–0.38	0.21	–0.21	–0.21	<i>–0.15</i>
<i>Value-value correlations</i>					
T-I	0.23	0.30	0.26	–0.18	<i>0.15</i>
T-P	0.40	0.35	0.43	0.23	<i>0.35</i>
I-P	0.28	0.20	0.28	0.03	<i>0.20</i>

Notes: E = Elitism, N = rebellion, D = Disrepute, Neg. = General Negativity, T = Tradition, I = Inclusiveness, P = Prominence.

Italics indicates that these values are mean *r* values.

## 5 | GENERAL DISCUSSION

### 5.1 | Summary of findings and their implications

What do people want? This question is undoubtedly important, but past taxonomies have provided a somewhat incomplete answer focused mainly on *generally desirable values*. We argue that it is important to understand *vices*—that is, superordinate goals the average person is committed to avoiding. While past value theories suggest that values are in conflict with one another (e.g., self-transcendence and self-enhancement), we proposed that the opposite of a value is actually a vice.

In Studies 1 and 2, we employed lexical methods to begin charting the structure of vices. We used a three-dimensional MDS model to locate the generally undesirable opposite of values found in past analyses. This

yielded Elitism (the opposite of Inclusiveness), Rebellion (the opposite of Tradition), and Disrepute (the opposite of Prominence).

Beyond this, Studies 3 and 4 also provided evidence that vices are really the “opposite” of values. Schwartz (2012) suggests that Conservation conflicts with Openness to Change, whereas Self-Enhancement conflicts with Self-Transcendence. In Studies 3 and 4, we replicated their typical finding that these values appear opposite in a two-dimensional model. More importantly, we demonstrated that the Schwartz values fell in the Desirable region of our three-dimensional model. Thus, they have something in common and are not opposite in all senses. By contrast, the vices of Rebellion, Elitism, and Disrepute laid opposite from the values of Tradition, Universalism, and Achievement (respectively) along all dimensions. For example, Tradition is a high-desirability, high-conservation, low-self-enhancement goal. Rebellion is opposite in all senses—it is generally undesirable, low in conservation, and high in self-enhancement. This comports better with other models which also consider vices (e.g., Elliot, 2006; Locke, 2015).

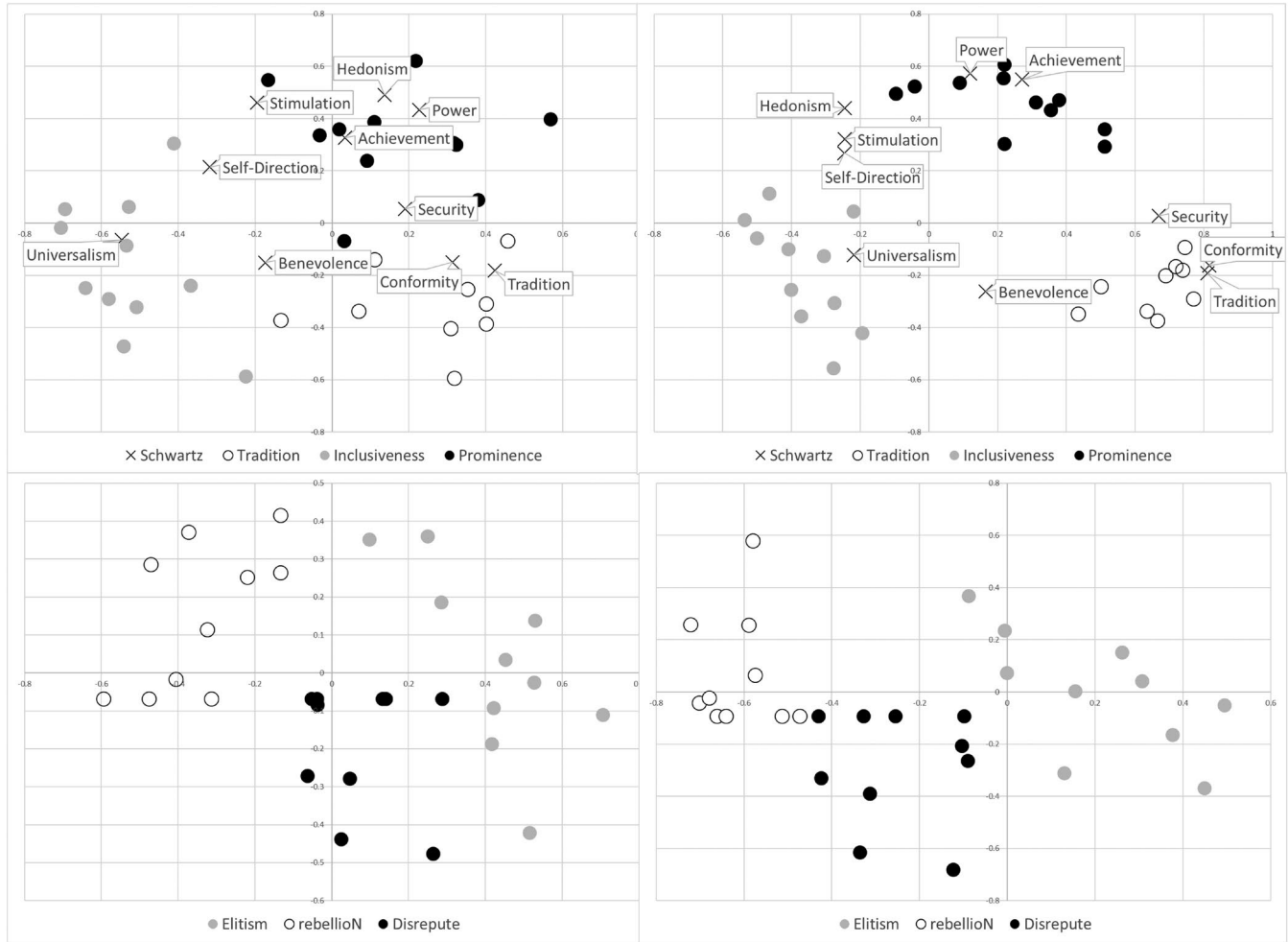
### 5.2 | Reconciling the current model with previous evidence of value-conflict

Past research suggests that generally desirable values can sometimes predict undesirable outcomes—such as prejudice (Davidov et al., 2008) and psychopathology (Zacharopoulos et al., 2021). Other research suggests that different values can have opposite relationships with the same outcome (e.g., religiosity; Saroglou et al., 2004). Such findings may seem difficult to reconcile with our model, which suggests that vices likely explain undesirable outcomes.

How can such findings be reconciled? We suggest that four possibilities should be considered in future research. First, some socially controversial constructs may lie orthogonal to the general desirability dimension and exhibit roughly equivalent correlations with a relevant value and a relevant vice. In a forthcoming paper (Wilkowski et al., in prep.), we show that Tradition and Elitism are both related to political Conservatism, whereas Inclusiveness and Rebellion are both related to political Liberalism. If a researcher were to only examine values, they would overlook equally relevant vices.

Second, some truly undesirable outcomes may be *most strongly* related to vice, but still *significantly* related to a neighboring value. For example, prejudice against historically disadvantaged groups (e.g., Black & Hispanic individuals) is significantly related to Tradition, but it is *more strongly* related to Elitism (Wilkowski et al., in prep.). If a





**FIGURE 3** Scatterplots depicting the position of generally desirable (upper panels) and generally undesirable (lower) goals in Study 3 (left) and Study 4 (right) MDS models

researcher were to only examine values, this would overlook the fact that a vice is actually *more relevant*.

Third, a value that is generally desirable to the *majority* of people can still have consequences that are undesirable to a *minority* of people. For example, prejudice against unconventional groups (e.g., Feminists, Gays/Lesbians) is most strongly related to Tradition (Wilkowski et al., in prep.). Thus, it is important to carefully consider the definition of “generally desirable.”

Following Schwartz’s (1992) recommendations, researchers have commonly removed the common variance shared between the Schwartz values (e.g., through partial correlations or ipsatization). As we discuss in Open Science Section 9, this can sometimes transform a *generally desirable commitment* into a *generally undesirable priority*. For example, it may be *generally desirable* to value pleasure to some degree, but it may be *generally undesirable* to prioritize pleasure over other values (e.g., Benevolence). These practices effectively rotate a construct through three-dimensional space

toward the generally undesirable region of our model. In Open Science Section 9, we present evidence suggesting that the previously documented inverse correlation between Religiosity and certain values (e.g., Hedonism, Self-Direction; Saraglou et al., 2004) may be misleading. Ipsatization effectively rotates these values toward Rebellion, and it is Rebellion that is inversely related to Religiosity. As such, caution should be used in interpreting partial correlations and analyses of ipsatized values. We join others in recommending that simple zero-order correlations of untreated values be presented to ensure that meaningful variance is not being overlooked (Borg & Bardi, 2016; Lynam et al., 2006).

### 5.3 | The need for further research

Thus, the current investigation begins to outline the structure of vices and documents their relationship with values. Nonetheless, there is clearly a need for further research on

this topic. For example, it will be useful to examine the structure of less ambiguous goal-descriptive phrases in future research. Single words provide a useful starting point for examining the structure of vices. They are a finite database that contains a great deal of relevant information. Nonetheless, they are highly abstract and, in some cases, somewhat ambiguous. Beyond this, we could not locate guidelines for determining sample size for MDS analyses. Thus, replication with larger sample sizes could also be useful.

It would also be useful to examine the *theorized causes* of different goals' opposing positions within MDS models. Schwartz (2012) suggests that different values occupy opposing positions because they are conflicting—such that behaviors enacted in support of one value move one away from its opposite (e.g., Tradition and Self-Direction). By contrast, we propose that it is really values and vices that are in conflict (e.g., Tradition and Rebellion). To date, though, neither claim has been directly tested using measures of goal conflict.

Finally, there is a clear need for cross-cultural research. This is a strength of Schwartz (2012) and colleagues' research, as their model has been supported in many cultures. Likewise, lexical studies of values have been studied in a number of cultures and languages (e.g., de Raad et al., 2016). To date, though, the END-vices have only been examined American-English. Future research should examine if they are apparent in other languages and cultures.

#### 5.4 | A hierarchical model of goal content

Future research should also explore the hierarchical structure of goal content. Like many constructs (e.g., personality—DeYoung et al., 2007; affect—Tellegen et al., 1999), we suggest that goal content can be usefully described at multiple levels of abstraction. At the broadest level, goals can be conceptualized in terms of their valence—that is, generally desirable versus undesirable. At a more specific level, goals can be conceptualized in terms of three bipolar dimensions representing very general content—Tradition versus Rebellion, Inclusiveness versus Elitism, and Prominence versus Disrepute.

At an even more specific level, the TIP-values and END-vices can be viewed as six distinct constructs. There are statistical reasons this view is useful. The inverse correlations between opposing goals were not so strong as to suggest they are direct antonyms. Vices also exhibited notable intercorrelations, suggesting they are “facets” of Negativity. Beyond this, there are conceptual reasons this view is useful. Some people may have no commitment to either end of a dimension. Others might

be ambivalent (e.g., committed to “wildness” & “parenthood”). Given this, they should exhibit some degree of independence.

Beyond this, it would undoubtedly be useful to focus on even more specific levels. After all, the TIP-values and END-vices are extremely general, overarching dimensions. We believe they are useful because they succinctly organize the global structure of higher-order goal content. However, they are not meant to be an exhaustive list. Building on the model presented here, one could imagine goals which reflect a mixture of multiple TIP-values or END-vices. In Studies 3 and 4, Openness to Change was located between Inclusiveness and Prominence; and Benevolence was located between Tradition and Inclusiveness. One could imagine similar interstitial vices laying between Elitism, Rebellion, and Disrepute. Future research should seek to locate such constructs. This would make it easier to compare the current model to previous models (e.g., Locke, 2000; Schwartz, 2012).

#### 5.5 | The correlates, causes, and consequences of the TIP-values and END-vices

Goals have important consequences. For example, it has been suggested that the pursuit of certain goals can influence well-being (Kasser, 2016), relationships (Gable & Impett, 2012), and even personality (Hennecke et al., 2014). An important direction for future research is to document the consequences of pursuing different goals.

Another question is what *causes* a person to pursue certain goals. This is especially apparent with the END-vices. Why would some people actively seek out Elitism or Rebellion? Biologically oriented theorists argue that such goals are one manifestation of a person's genetically determined temperament (e.g., Mottus, 2017). By contrast, basic needs theorists (Ryan & Deci, 2017) suggest that undesirable goals are adopted because one's needs have been repeatedly thwarted. For example, modern American society may thwart need satisfaction for disadvantaged groups, leading to the adoption of Rebellion goals. Thus, future research should examine the correlates, causes, and consequences of the TIP-values and END-vices.

## 6 | CONCLUSION

We used multidimensional scaling to locate the generally undesirable “opposites” of three values. Our three-dimensional model suggested that Elitism, Rebellion, and Disrepute lie opposite from Inclusiveness, Tradition, and Prominence (respectively). We developed a brief

measure of these constructs (see Table 3 and Open Science Materials). The novel measure developed here allows researchers to distinguish between different aspects of vices.

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## ETHICS APPROVAL STATEMENT

All studies in the current investigation received IRB approval through the following protocols: “Goal Questionnaire” (protocol #1116012-2) from University of Texas, El Paso; “Toward an Empirical Taxonomy of Long-Term Goal Content: A Lexical Approach” (protocol #17-Psych-24) from Gettysburg College; and “Goal-pursuit in Daily Life” (protocol # 20170821LW01647) from the University of Wyoming.

## AUTHOR CONTRIBUTIONS

Benjamin Wilkowski – Initial study conceptualization, data analysis, and preparation of initial manuscript drafts; Laverl Williamson & Emilio Rivera - Provided later input on study conceptualization, study programming, oversight of data collection (specifically for Study 1-Wyoming site, Study 2&3), manuscript revision; Adam Fetterman - Provided later input on study conceptualization, oversight of data collection (specifically for Study 1-UTEP site), manuscript revision; Brian Meier - Provided later input on study conceptualization, oversight of data collection (specifically for Study 1-Gettysburg site & Study 4), manuscript revision.

## ENDNOTE

<sup>1</sup> We disclose that there are no preregistrations of these studies’ design or analytic plans.

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