



## Original Article

# Food choice ideologies: the modern manifestations of normative and humanist views of the world

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Two studies examined whether everyday food choice motives (FCMs) and abstract values constitute food choice ideologies (FCIs), whether these ideologies reflect the same normativism–humanism polarity as Tomkins' theory suggests to reflect ideologies in general, and whether various dietary groups endorse FCIs in different ways. In Study 1, 82 female participants filled in the Food Choice Questionnaire, a short version of Schwartz's Value Survey, and Tomkins' Polarity Scale. The results reflected four FCIs: ecological ideology (EI), health ideology (HI), pleasure ideology (PI) and convenience ideology (CI). Study 2 ( $N=144$ ) replicated the results for ecological and health ideologies but not for pleasure and convenience ideologies. In both studies, EI, which was typical for vegetarians, was associated with a humanist view of the world, whereas HI was related to a normative view of the world. The results suggest that food choice has become a new site where one expresses one's philosophy of life.

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As freedom of choice in the domain of nutrition has expanded, dietary practices seem to have evolved into psychologically complex processes, no longer solely dictated by hunger, pleasure or practical issues. Particularly among women, food choice has increasingly become a stage for expressing personality, that is, a domain within which one expresses one's ideals and identity. For example, for most vegetarians, their diet signifies much more than just what one is allowed to eat and what one is not; it is rather a question of an ideology of how life ought to be lived (e.g. Amato & Partridge, 1989; Warde, 1997). Similarly, succeeding in controlling one's diet in pursuit of thinness has become a morally admired quality (Chaiken & Pliner, 1987; Mori, Pliner & Chaiken, 1987; Stein & Nemeroff, 1995). In addition to the quest for a slim female

physique, the general cult of healthiness has become so strong that eating and living in a healthy manner has been characterized as modern Western culture's new religion (Belasco, 1997; Brandt, 1997; Leichter, 1997). These examples clearly show the interrelatedness of cultural values and eating patterns: with their dietary practices people communicate what is desirable and what is condemnable.

The role of values in eating patterns has been extensively documented in recent decades (e.g. Amato & Partridge, 1989; Atkinson, 1979; Furst *et al.*, 1996; Gronow, 1997; Telfer, 1996). Surprisingly, however, the way food choice motives (FCMs) are related to an individual's value system have not been systematically analyzed. Although many studies have analyzed how ideals like healthiness or thinness are related to food choice, these ideals do not belong to the ten universal value types (*inter alia* power, universalism, security, and hedonism, see 'Measures' below for complete list), which have been found to encompass all basic values within and across various cultures (Schwartz & Bilsky, 1990; Schwartz, 1992; see also Rokeach, 1973). Rather, they can be defined as lower-order ideals, instrumental

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to the attainment of more abstract values (Rokeach, 1973; Schwartz, 1992). The first goal of this study is to explore whether and how the ten universal value types are related to various FCMs, for example, to health, sensory appeal and weight concern.

The discovery of systematic sets of values and FCMs would indicate that dietary practices in conjunction with values may constitute ideologies in themselves. Our definition of ideology follows Rohan's (2000) extensive conceptual analysis – a construct that contains (a larger or smaller number of) value associations and guides behavioral decisions. It differs conceptually from value priorities (a person's cognitive judgments) and world view (a person's beliefs about the way the world is or should be), in that it links abstract life-guiding values to concrete behavioral decisions. Values, world view and ideology can thus be defined in terms of a three-level hierarchy or as a path from a personal value system through a world view to an ideology (Rohan, 2000).

The second purpose of this study is to examine whether the potential food choice ideologies (FCIs) reflect the same polarity that, according to Tomkins (1963, 1978) reflects ideologies in general. By tracing recurrent controversies through several centuries of western thought, Tomkins proposed that this fundamental polarity extends from an extreme "left-wing" humanism to an extreme "right-wing" normative position. The most important assumption which underlies this polarity is the belief of a human being about the purpose of human life. To quote Tomkins (1963, p. 391): "Is man the measure, an end in himself, an active, creative, thinking, desiring, loving force in nature? Or must man realize himself, attain his full stature only through struggle toward, participation in, conformity to a norm, a measure, an ideal essence, basically prior to and independent of man?" Tomkins uses the concepts ideology, world view, and view of a human being (a component of a world view) interchangeably. However, for the sake of conceptual clarity, we define the humanism/normativism polarity as a core polarity in people's world views that, by definition, may be reflected in several types of ideologies.

According to Tomkins, there are a number of variants of the affirmation or denial of the value of a human being (Tomkins, 1963). One is the assumption of the identity of the real and valuable. According to a humanist view, humankind constructs reality, and reality is meaningless until perceived. A normative view, in turn, holds that reality and value exist independently of human beings, who have to struggle to realise this potential through conformity to rules (Tomkins, 1963; St. Aubin, 1996). A second example is the role of pleasure in human life. Should one endeavor to attain the satisfaction and maximization of one's affects and drives

(the humanistic view) or should the satisfaction of drives and expression of affect be modulated and governed by some outer norms?

Tomkins's Polarity theory suggests that ideologies in a vast array of domains are polarized on these same issues (Tomkins, 1963). In addition to the polarity between the political right and left wing, examples can be found in mathematics (the conception that numbers are real vs. the conception that someone invented them), metaphysics (a realistic vs. an idealistic conception of the relation of a human being to reality), ethics (perfectionism vs. happiness), jurisprudence (law as transcendental vs. man made), art (traditional vs. experimental) and education (authoritarian vs. child-centred). It should be noted, however, that despite the characterization of the humanist and normative orientations as opposites, at the individual level they are orthogonal: the strength of an individual's normativism does not predict the strength of his or her humanism and vice versa. In other words, a person's world view is not necessarily simply humanistic or normative but has the potential to contain patterns of both (Tomkins, 1963; St Aubin, 1996). The orthogonal relationship between humanism and normativism (St Aubin, 1996) as well as polarity theory in general (Carlson & Levy, 1970; Stone, 1986; Stone, Ommundsen & Williams, 1985) has received empirical support in previous work.

Our selection of ideologies is limited to those social groups and cultural ideologies that are present in our own time – a person born in the twentieth century, has a completely different set of possible ideologies from someone born a century earlier. However, Tomkins claims that although ideologies on the surface might have changed through the course of history, the basic tenets and suppositions that underlie these different ideologies have changed remarkably little, if at all. Hence, the question addressed here is whether FCIs may serve as new personal ideologies of modern society, some of them reflecting the normative view and some the humanistic view of world.

The ways FCIs might be related to normativism and humanism are difficult to predict. For example, vegetarianism and the potential food choice ideology underlying it, would intuitively represent both views. Vegetarianism embodies many dimensions that would suggest it portrays a normative personal view of world: vegetarians, in comparison to the general majority of people, set stricter rules for themselves as to what is acceptable to eat and what is not. A part of life that for most of us contains no absolute norms – that is, the field of nutrition – is for vegetarians replete with guidelines as to how one ought to act in order to live a good life (e.g. Amato & Partridge, 1989; Beardsworth & Keil, 1992; Telfer, 1996). One is inhibited in acting

according to one's impulses; rather, one is encouraged to comply with the central tenet of vegetarianism, and have one's desires in the field of nutrition regulated.

On the other hand, there are many aspects of vegetarianism that would indicate it represents a humanistic way of interpreting life. For many vegetarians, a central supposition of their beliefs is the respect for all living things. They are willing to regulate what they eat in order to make sure that at least they do not participate in the unnecessary suffering of animals (e.g. Amato & Partridge, 1989; Kenyon & Barker, 1998). According to the humanistic view of world all that is human is good and valuable, and all humans are deserving of unconditional respect. If this assumption is extended to hold for animals as well as humans, vegetarianism can be seen as a necessity brought about by an unconditional respect and love for all living things, rather than a norm one ought to adhere to for the betterment of oneself.

This study is a preliminary attempt to examine whether abstract values are related to concrete FCMs (thus giving support to the notion of FCIs), whether these FCIs are related to a humanist or a normative view of the world, and whether various dietary groups (e.g. vegetarians and omnivores) endorse these FCIs in different ways.

## Study I

### Method

#### Participants

One hundred individuals originally participated in the study. Because there were only a few men ( $N=12$ ) in the sample, and only one of them was a vegetarian, all men were excluded from the subsequent analyses. Moreover, six participants were excluded due to insufficiently completed questionnaires. The remaining 82 female participants had an age range of 17 to 63 years ( $M=27$ ,  $SD=9.3$ ). Of these, 30.4% were still applying for a place of study, 29.3% were full-time students from over ten fields of study, 36% were employed, and of the remaining 4.3%, one participant still attended school, and two were retired.

Participants were asked to select their eating style from the four following categories: "I am omnivorous", "I am omnivorous but I avoid fat or cholesterol", "I eat fish and vegetarian dishes" and "I eat only vegetarian dishes". Accordingly, 20.3% of the participants were omnivores, 24.1% avoided fat or cholesterol, 30.4% were semivegetarians (i.e. ate only fish and vegetarian dishes) and 25.3% were vegetarians.

#### Procedure

The data were predominately gathered from students attending psychology and social psychology courses at the Open University of Helsinki (57% of the sample). The rest of the participants were recruited from an animal rights organization, from a higher educational institute specializing in ecologically sound agricultural methods and from a vegetarian cooking class at the Helsinki Worker's Institute. All subjects were administered the questionnaires in group settings, either during their lecture time or during a general meeting of the group.

#### Measures

**Food choice motives.** In order to assess what factors influence people's dietary choices, the Food Choice Questionnaire (FCQ; Steptoe, Pollard & Wardle, 1995), supplemented with three new scales on ethical food choice (Lindeman & Väänänen, 2000), was used. The motives assessed were healthiness, sensory appeal, weight control, unadulterated content, familiarity, convenience, price, mood, religious reasons, political motives, and ecological welfare (including animal welfare and protection of nature). The reliabilities (Cronbach's  $\alpha$ ) of the scales ranged from 0.80 to 0.91, with the exception of price, where the reliability was low (0.68). Subjects were asked to rate the statement "It is important to me that the food I eat on a typical day..." for each of the 44 items on a 4-point scale (1 = not at all important, 4 = very important).

**Motives for vegetarianism.** The vegetarian and semivegetarian participants were also asked to indicate on a 3-point scale how important (1 = not at all, 3 = very much) nine possible motives (derived from the works of Amato & Partridge, 1989, and Rozin, Markwith & Stoess, 1997) were for their dietary choice. The motives were animal ethics, economics, distaste for meat, concern for the environment, health, other people's attitudes, religion, personal growth, and world hunger.

**Values.** Values were measured with an abbreviated version of Schwartz's (1992) Value Survey. The original scale consists of 56 values that can be divided into ten distinctive value types (with the representative values in parentheses): (1) power (dominance, material possessions, control over others); (2) achievement (achieving goals, competence, efficiency, hard work); (3) hedonism (enjoyment in life, gratification of desires); (4) stimulation (risk taking, a varied life, stimulating experiences); (5) self-direction (uniqueness, imagination,

freedom of action and thought, curiosity, independence); (6) universalism (broad-mindedness, wisdom, social justice, equality, a world at peace); (7) benevolence (helpfulness, honesty, forgivingness, loyalty); (8) tradition (humility, devotion, respect for tradition); (9) conformity (politeness, obedience, self-discipline, honor of elders) and (10) security (national and family security, social order, cleanliness). A 10-item version of Schwartz's scale used here gave the participants the name of the value type (e.g. self-direction) and the values belonging to the value type in question (e.g. uniqueness and freedom of action) as examples of the value type. The participants rated these ten values according to the importance they would give to them as life-guiding principles (1 = not at all important, 5 = supremely important).

To establish the reliability and concurrent validity of the short Value Survey, a separate sample of 36 psychology students (aged 18–30, 64% women) filled in the short scale twice (within a two-week interval) and, again after two weeks, the original 56-item value scale. The resulting correlations indicated sufficient reliability and validity for the measure. The correlations between the test and retest with the short scale were: power,  $r = 0.80$ ; achievement,  $r = 0.71$ ; hedonism,  $r = 0.62$ ; stimulation,  $r = 0.50$ ; self-direction,  $r = 0.60$ ; universalism,  $r = 0.70$ ; benevolence,  $r = 0.61$ ; tradition,  $r = 0.73$ ; conformity,  $r = 0.72$ , and security,  $r = 0.76$ . The correlations between the short and the original scale, in turn, were: power,  $r = 0.59$ ; achievement,  $r = 0.60$ ; hedonism,  $r = 0.61$ ; stimulation,  $r = 0.72$ ; self-direction,  $r = 0.51$ ; universalism,  $r = 0.61$ ; tradition,  $r = 0.57$ ; conformity,  $r = 0.54$ , security,  $r = 0.57$ , and benevolence,  $r = 0.36$ . It is possible that the correlations of benevolence measures were deflated because the variable had severe skewness ( $-2.46$ ).

**Humanism – normativism.** St Aubin's (1996) version of Tomkins's Polarity Scale was used. The scale includes 40 statements that measure normativism (e.g. "Human beings are basically evil", "Competition brings out the best in human beings") and 40 statements that measure humanism (e.g. "Human beings are basically good", "You must always leave yourself open to your own feelings, alien as they may sometimes seem"). St Aubin's scale is also a modification of the revised Polarity scale by Stones and Schaffner (1988) who reworded the original items that contained sexist language; their scale includes 40 paired items broken down into two separate items by St Aubin. The psychometric properties of the Stones and Schaffner scale have been shown to be good; for the St Aubin scale, only information about split-half reliability is available ( $r = 0.66$  for the

humanism scale,  $r = 0.63$  for the normativism scale). In the present sample, Cronbach's  $\alpha$  was 0.83 for normativism, and 0.79 for humanism.

We also assessed the emotional foundations suggested to underlie normativism and humanism (Tomkins, 1963) and the level of the participants' moral reasoning, but because no informative results were obtained, they are not discussed further.

## Results

Because a FCI is by definition a set of one or several values that are linked to decision-making in food choice, we operationalized FCIs as summary patterns of correlations among values and FCMs, i.e. factors that contain both values and FCMs. First, univariate outliers were explored (but not found), and the distributions of and correlations between the variables were analyzed. Religious FCMs, which 91.5% of the participants regarded as unimportant ( $M < 2$ ), were excluded because of the substantial skewness (2.17) and kurtosis (4.12) of the variable. Moreover, values which did not correlate with any FCM (i.e. power and achievement) and FCMs which did not correlate with any value (i.e. mood and price) were also excluded. The remaining values and FCMs were factor-analyzed using varimax rotation. The eigenvalues ( $> 1$ ) and the interpretability of the factor content suggested that the four factor solution, accounting for 57.5% of the total variance, was the best solution. Based on the content of the factors, they were labelled as Ecological Ideology (EI), Health Ideology (HI), Pleasure Ideology (PI) and Convenience Ideology (CI). The results are displayed in Table 1.

Scores on the four ideologies were calculated by averaging the unweighted scores on the highest loading items, listed under the factor labels in Table 1. Because of different rating scales of FCMs and values, the scores were first transformed into z-scores. The correlations between the FCIs, humanism and normativism are given in Table 2.

An ANOVA, with the dietary group as the between-group variable (omnivores vs. fat/cholesterol avoiders vs. semivegetarians vs. vegetarians) and the FCIs as the dependent variables, was conducted. The univariate  $F$  was significant,  $F(3,77) = 21.16$ ,  $p < 0.001$ . To control the error rate, the subsequent specific comparisons were conducted by setting  $\alpha$  at 0.01. These results showed that fat/cholesterol avoiders endorsed HI more than the other three groups combined,  $t(78) = -3.00$ ,  $p < 0.004$ . In addition, vegetarians endorsed EI more than semivegetarians,  $t(78) = -3.48$ ,  $p < 0.001$ , and semivegetarians and fat/cholesterol avoiders endorsed it more than omnivores,  $t(78) = -2.75$ ,  $p < 0.01$ . Among vegetarians

**Table 1.** Factor analysis of values and food choice motives (Study 1)

Values	Food choice motives	Factor			
		1	2	3	4
<i>Factor 1: Ecological Ideology</i>					
Universalism	Ecological welfare	0.87	0.03	-0.10	0.02
	Political motives	0.74	0.01	-0.20	0.09
Stimulation	Natural content	0.68	0.02	0.19	-0.21
		0.68	-0.39	-0.37	0.09
Self-direction		0.51	-0.15	0.25	-0.04
<i>Factor 2: Health Ideology</i>					
Tradition		-0.11	0.78	-0.04	0.14
Conformity		-0.34	0.67	0.18	-0.13
Security		-0.43	0.64	0.20	-0.15
	Health concern	0.37	0.60	-0.18	-0.23
	Weight control	0.20	0.37	-0.04	-0.01
<i>Factor 3: Pleasure Ideology</i>					
Hedonism		0.04	-0.14	0.74	-0.08
	Sensory appeal	0.02	0.32	0.59	0.29
<i>Factor 4: Convenience Ideology</i>					
	Convenience	-0.13	-0.20	0.01	0.75
	Familiarity	0.06	0.46	0.07	0.62
Benevolence		-0.02	0.36	0.45	-0.48

**Table 2.** Correlations between humanism, normativism, and the four food choice ideologies (Study 1)

	Humanism	Normativism
Humanism		0.09
Ecological Ideology	0.52***	0.04
Health Ideology	0.04	0.41***
Pleasure Ideology	0.24*	-0.16
Convenience Ideology	0.01	0.16

\* $p < 0.05$ ; \*\*\* $p < 0.001$ .

and semi-vegetarians, the strength of EI was positively correlated with animal ethics, concern for the environment, and world hunger as motives for vegetarianism ( $r_s = 0.63, 0.65, \text{ and } 0.55$ , respectively,  $p_s > 0.001$ ).

Demographic or other differences between the dietary groups and food choice ideologies were not found, except that age correlated positively ( $r = 0.29$ ) with CI. The means for the original values and food choice motives are given in Table 3. (Vegetarians regarded ecological food choice reasons as more important than semivegetarians did,  $t(45) = -4.12, p < 0.001$ . Otherwise these groups did not differ from each other and, therefore, the means are pooled in Table 3).

### Discussion

The results delineated four FCIs, in which abstract, life-guiding values and everyday FCMs were combined

together. However, the results are tentative in that the sample was small and because only a short version of Schwartz's Value Survey was used. For these reasons we conducted a new study in which the stability of the factor structure was analyzed and the original Schwartz (1992) Value Survey was used.

## Study 2

### Method

#### Participants and procedure

One hundred and forty-nine women participated in the study (aged 19–74,  $M = 31.5$ ,  $SD = 12.37$ ). Full-time students comprised 44.3% of the sample and came from over ten fields of study; 41.6% of the women were employed. The other participants were attending school (1%), had applied for a place of study (2%), were retired (2.7%) or at home (8.4%).

The participants were asked to select their eating style from three categories; 72.5% turned out to be omnivores, 16.8% were semivegetarians (i.e. ate only fish or vegetarian dishes), and 10.7% were vegetarians.

The data were gathered from students attending psychology courses at the Open University of Helsinki and University of Helsinki. All subjects were administered the questionnaires during their lecture time. Male students also filled in the questionnaires, but their data were not analyzed for this study.

**Table 3.** Means and deviations (in parentheses) in the values and food choice motives among the four dietary groups (Study 1)

	All	Omnivores	Fat/cholesterol avoiders	Semi- and full vegetarians
<i>Food choice ideologies</i>				
Ecological	0.02 (0.71)	-0.68 (0.65) <sup>a</sup>	-0.17 (0.54) <sup>b</sup>	0.36 (0.56) <sup>c</sup>
Health	-0.01 (0.65)	-0.13 (0.78) <sup>a</sup>	0.46 (0.41) <sup>b</sup>	-0.17 (0.60) <sup>a</sup>
Pleasure	0.00 (0.78)	-0.07 (0.69)	0.29 (0.76)	-0.05 (0.81)
Convenience	-0.02 (0.56)	0.03 (0.52)	0.09 (0.68)	-0.08 (0.53)
<i>Values</i>				
Universalism	4.10 (0.96)	3.50 (1.26) <sup>a</sup>	3.95 (0.78) <sup>a,b</sup>	4.36 (0.82) <sup>b</sup>
Stimulation	3.85 (0.93)	3.19 (0.91) <sup>a</sup>	3.74 (0.93) <sup>a,b</sup>	4.13 (0.82) <sup>b</sup>
Self-direction	4.51 (0.82)	3.81 (0.98) <sup>a</sup>	4.68 (0.67) <sup>b</sup>	4.68 (0.69) <sup>b</sup>
Tradition	2.60 (1.00)	2.50 (1.15) <sup>a,b</sup>	3.21 (0.92) <sup>a</sup>	2.38 (0.90) <sup>b</sup>
Conformity	2.94 (1.11)	3.06 (1.06) <sup>a,b</sup>	3.42 (0.90) <sup>a</sup>	2.70 (1.16) <sup>b</sup>
Security	3.98 (0.93)	4.31 (0.70) <sup>a</sup>	4.42 (0.61) <sup>a</sup>	3.68 (1.00) <sup>b</sup>
Hedonism	4.21 (0.94)	3.88 (0.89)	4.01 (0.92)	4.31 (0.96)
Benevolence	4.52 (0.82)	4.50 (0.73)	4.63 (0.50)	4.49 (0.95)
Power	2.55 (0.92)	2.50 (0.97)	2.79 (0.98)	2.47 (0.88)
Achievement	3.67 (0.89)	3.69 (0.70)	3.84 (1.01)	3.60 (0.90)
<i>Food choice motives</i>				
Ecological welfare	2.57 (0.84)	1.84 (0.54) <sup>a</sup>	2.18 (0.68) <sup>a</sup>	3.00 (0.74) <sup>b</sup>
Political motives	1.85 (0.85)	1.53 (0.59) <sup>a</sup>	1.42 (0.53) <sup>a</sup>	2.13 (0.92) <sup>b</sup>
Natural content	2.50 (0.70)	2.04 (0.73) <sup>a</sup>	2.49 (0.76) <sup>a,b</sup>	2.65 (0.60) <sup>b</sup>
Health concern	2.91 (0.56)	2.60 (0.76) <sup>a</sup>	2.99 (0.35) <sup>b</sup>	2.96 (0.51) <sup>b</sup>
Weight control	2.51 (0.81)	2.10 (0.78) <sup>a</sup>	3.04 (0.85) <sup>b</sup>	2.43 (0.71) <sup>a</sup>
Sensory appeal	2.88 (0.61)	3.00 (0.64) <sup>a,b</sup>	3.24 (0.46) <sup>a</sup>	2.69 (0.59) <sup>b</sup>
Convenience	2.58 (0.63)	2.64 (0.64)	2.60 (0.69)	2.55 (0.60)
Familiarity	1.65 (0.49)	1.67 (0.49)	1.70 (0.57)	1.62 (0.46)
Price	2.80 (0.59)	2.71 (0.56)	2.95 (0.51)	2.77 (0.62)
Mood	2.45 (0.63)	2.29 (0.64)	2.46 (0.65)	2.49 (0.62)
Religious reasons	1.14 (0.66)	1.10 (0.35)	1.18 (0.38)	1.35 (0.79)

Note. Food choice ideology scores are z-scores whereas the means of values range from 1 to 5 and food choice motives from 1 to 4; Group means with different superscripts in the row showed a statistically significant difference ( $p < 0.01$ ).

## Measures

FCMs, motives for vegetarianism and humanism/normativism were measured as in Study 1. Values were measured with the original Schwartz's (1992) Value Survey. The scale consists of 56 items (i.e. values) that can be divided into the ten distinctive value types that were described in Study 1. The participants rated the 56 values with a 7-point scale (1 = not at all important, 7 = extremely important). The reliability, validity and cross-cultural applicability of the Schwartz Value Survey are well established (e.g. Schwartz, 1992; Schwartz & Bilsky, 1990; Schwartz & Sagiv, 1995).

## Results and Discussion

To analyze whether the same factor structure for values and FCMs found in Study 1 could be identified in the sample of participants in Study 2, a factor analysis with the same values and FCMs was conducted. As can be seen in Table 4, the content of the first two factors corresponded to the EI and HI

factors found in Study 1. The third factor, in contrast, included no FCM but three values, all related to openness to experience (Schwartz, 1992). The fourth factor included hedonism and sensory appeal, as in Study 1, but also health concern. Overall, health concern and the values of universalism, self-direction and security were here more complex variables than in Study 1 in that they correlated with several factors.

Next, a multiple sample confirmatory factor analysis with a sequential strategy was conducted. This method first assesses the model across the two samples with no equality constraints. Equality constraints are then systematically added, and the loss of fit is examined based on changes in the chi-square and CFI (e.g. Anderson & Gerbing, 1988). In the analyses, variables were allowed to load on more than one factor. The fit of the model turned out to be moderate,  $\chi^2 = 330.39$ ,  $df = 190$ ,  $p = 0.001$ ,  $CFI = 0.847$ ,  $GFI = 0.835$  and  $RMSEA = 0.062$ . When the loadings of the two first factors, ecological ideology and health ideology, were set to be equal, the fit of the model remained the same,

**Table 4.** Factor analysis of values and food choice motives (Study 2)

Values	Food choice motives	Factor			
		1	2	3	4
<i>Factor 1: Ecological Ideology</i>					
	Political motives	0.91	0.01	0.06	-0.07
	Ecological welfare	0.84	-0.03	0.01	0.08
	Natural content	0.65	0.05	0.08	0.02
Universalism		0.52	0.12	0.51	0.13
Self-direction		0.35	0.12	0.82	0.23
	Health concern	0.30	0.39	0.28	0.30
Stimulation		0.25	0.01	0.70	0.15
<i>Factor 2: Health Ideology</i>					
Conformity		-0.17	0.87	0.18	0.02
Tradition		0.14	0.67	0.11	0.00
Security		-0.15	0.64	0.30	0.29
Benevolence		0.02	0.51	0.28	0.21
Familiarity		0.00	0.43	-0.15	0.16
	Health concern	0.30	0.39	0.28	0.30
	Weight control	0.02	0.38	0.27	0.25
<i>Factor 3: Values related to openness to experience</i>					
Self-direction		0.35	0.12	0.82	0.23
Stimulation		0.25	0.01	0.70	0.15
Universalism		0.52	0.12	0.51	0.13
<i>Factor 4: Pleasure Ideology</i>					
Hedonism		-0.00	0.15	0.18	0.93
	Sensory appeal	0.06	0.05	0.09	0.31
	Health concern	0.30	0.39	0.28	0.30

Note. Convenience as a food choice motive did not load ( $>0.30$ ) on any of the factors.

$\chi^2$  change = 17.73, df change = 12, *ns*, provided that the food choice motive of health concern was allowed to load on both factors. However, increasing the number of variables with equal loadings resulted in significantly different fits. These results indicate that the content of EI and HI, but not of PI and CI, were replicated in Study 2.

Scores on EI, HI and PI were calculated by averaging the unweighted scores on the highest loading items ( $>0.30$ ), listed under the factor labels in Table 4. Because of different rating scales of FCMs and values, the scores were first transformed into z-scores. The correlations between the FCIs, humanism and normativism are given in Table 5.

An ANOVA was conducted, with the dietary group as the between-group variable (omnivores vs. semi-vegetarians vs. vegetarians) and the three FCIs as the dependent variables. The univariate *F* was significant, *F*(2,139) = 6.79,  $p < 0.002$ . Specific comparisons showed that vegetarians and semivegetarians endorsed EI equally,  $t(142) = -0.30$ , *ns*, but together they endorsed it more than omnivores,  $t(142) = -3.68$ ,  $p < 0.001$ . EI was a powerful motive for a vegetarian diet, with distaste for meat,  $r = 0.38$ ,  $p < 0.05$ , concern for the environment,  $r = 0.33$ ,  $p < 0.05$ , and world hunger,  $r = 0.33$ ,  $p < 0.05$ . No other differences between the FCIs, dietary groups or demographic variables were found.

**Table 5.** Correlations between humanism, normativism, and the two food choice ideologies (Study 2)

	Humanism	Normativism
Humanism		0.31***
Ecological Ideology	0.37***	0.05
Health Ideology	0.19*	0.30***
Pleasure Ideology	0.34***	0.11

\* $p < 0.05$ . \*\*\* $p < 0.001$ .

The means for the original values and FCMs are given in Table 6. (Vegetarians regarded price as a more important FCM than semivegetarians did,  $t(142) = -2.96$ ,  $p < 0.002$ . Otherwise these groups did not differ from each other; the means are pooled in Table 6).

## General discussion

The results, obtained from female participants, portrayed three factors in which abstract, life-guiding values and everyday FCMs were combined in different ways. These results gave support to the concept of FCIs, which, in turn, were associated with humanist

**Table 6.** Means and deviations (in parentheses) in the values and food choice motives among two dietary groups (Study 2)

	All	Omnivores	Semi- and full vegetarians
<i>Food choice ideologies</i>			
Ecological	-0.02 (1.04)	-0.28 (0.93) <sup>a</sup>	0.46 (1.05) <sup>b</sup>
Health	-0.08 (0.70)	-0.08 (0.68)	-0.09 (0.74)
Pleasure	-0.03 (0.70)	-0.05 (0.69)	0.29 (0.75)
<i>Values</i>			
Universalism	5.95 (0.63)	5.79 (0.62) <sup>a</sup>	6.16 (0.59) <sup>b</sup>
Stimulation	5.05 (1.24)	5.04 (1.14)	5.06 (1.36)
Self-direction	5.98 (0.70)	5.87 (0.72)	6.13 (0.66)
Tradition	4.47 (1.02)	4.41 (0.96)	4.55 (1.10)
Conformity	4.84 (0.97)	4.93 (0.99)	4.73 (0.95)
Security	5.53 (0.73)	5.60 (0.66)	5.43 (0.81)
Hedonism	5.76 (1.02)	5.83 (0.91)	5.67 (1.14)
Benevolence	6.09 (0.64)	6.06 (0.68)	6.13 (0.58)
Power	3.57 (1.04)	3.63 (0.99)	3.49 (1.10)
Achievement	4.96 (0.99)	5.00 (0.86)	4.90 (1.14)
<i>Food choice motives</i>			
Ecological welfare	2.54 (0.78)	2.32 (0.68) <sup>a</sup>	2.94 (0.80) <sup>b</sup>
Political motives	1.99 (0.72)	1.85 (0.57) <sup>a</sup>	2.25 (0.90) <sup>b</sup>
Natural content	2.36 (0.78)	2.26 (0.74)	2.52 (0.83)
Health concern	2.96 (0.59)	2.82 (0.56) <sup>a</sup>	3.16 (0.58) <sup>b</sup>
Weight control	2.55 (0.83)	2.49 (0.81)	2.66 (0.87)
Sensory appeal	3.08 (0.59)	3.08 (0.55)	3.09 (0.64)
Convenience	2.70 (0.73)	2.73 (0.69)	2.66 (0.80)
Familiarity	1.80 (0.70)	1.72 (0.67)	1.94 (0.75)
Price	2.72 (0.69)	2.74 (0.66)	2.68 (0.74)
Mood	2.49 (0.70)	2.44 (0.72)	2.58 (0.66)
Religious reasons	1.25 (0.64)	1.20 (0.63)	1.34 (0.64)

*Note.* Food choice ideology scores are z-scores, whereas the means of values range from 1 to 7 and food choice motives from 1 to 4; Group means with different superscripts in the row showed a statistically significant difference ( $p < 0.01$ ).

and normative world views and dietary practices in a variety of ways.

The first FCI, ecological ideology (EI), consisted of the values of universalism, stimulation and self-direction, and ecological welfare, political issues and natural content of the food as the related dietary motives. It was more typical of vegetarians than of other women.

The value of universalism has been described as an appreciation and tolerance of other people and ideas, and the wish to protect the welfare of both nature and people alike (Schwartz, 1992). As such, the results are well in line with those of previous studies where vegetarians themselves have reported such reasons for their dietary choice as animal ethics, world hunger, the ideology of nonviolence, and a concern for the environment (Amato & Partridge, 1989; Beardsworth & Keil, 1992; Rozin *et al.*, 1997; Santos & Booth, 1996). Typically, however, these self-reports have not included reasons that could be compared to the values of stimulation and self-direction. Nevertheless, the results are plausible in that most western vegetarians are converts; that is, they are individuals who have questioned the

more conventional dietary practices of mainstream society and have as a result of their contemplations decided to change their eating habits (Beardsworth & Keil, 1992; Eder, 1996). Accordingly, both stimulation and self-direction are values that are in synchrony with choosing one's food based on criteria that are not shared by society at large.

EI was found to be strongly and positively associated with a humanistic view of the world. Thus, although vegetarianism on the surface may seem to purport a lifestyle constricted by nutritional guidelines, this normative aspect of a vegetarian lifestyle may not be dominant in vegetarianism. The restrictions seem hence not to be dictated by externally imposed norms, but can instead be viewed as freely chosen requirements for exercising one's view of world, of doing something concrete for those issues, mainly the preservation of life and nature, that one cherishes.

The second ideology, health ideology (HI), reflected a relationship between the values that stress the maintenance and conservation of the existing social order, i.e. tradition, conformity and security, and FCMs of eating healthily and in a manner conducive to weight

control. In Study 1, where fat/cholesterol avoiders were differentiated from other omnivores, HI was more prominent among fat/cholesterol avoiders than among full omnivores or vegetarians.

Valuing security, tradition and conformity is consistent with wanting to live up to the requirements of one's culture. Not surprisingly, then, HI was positively associated with a normative view of world. Descriptions of a normative ideological orientation have stressed as its most distinguishing feature the desire, or rather the necessity, of living life according to some given norms. Choosing food in a health- or weight-conscious fashion, is undoubtedly an act of conforming to current societal norms and pressure: within the current western cultural context, thinness and health have come to represent virtue, success and status, and those who do not conform are easily considered as modern-day sinners (Brownell, 1991; Stein & Nemeroff, 1995; Nemeroff & Cavanaugh, 1999). Accordingly, the normative view of the world that underlies HI can explain many previous findings on food and health. These include findings that especially people with puritan ethics incorporate a moralized view of eating and food (Stein & Nemeroff, 1995), that eating and enjoyment of food has started to become a source of stress and guilt (Lindeman & Stark, 1999; Rozin *et al.*, 1999), that the concepts of pleasure and health are often seen as opposites, even among experts (Netter, 1996; see also Warburton & Sherwood, 1996), and that researchers increasingly regard modern health promotion more as dogmatism and moralizing than objective communication (e.g. McKenna, 1996).

The results for the third ideology, pleasure ideology (PI), were less reliable. In Study 1, PI was a simple ideology, consisting of the values of hedonism and sensory appeal as the related FCM whereas in Study 2 it added health concern as a FCM. In both studies, this ideology was positively related to a humanistic view of world. This is in line with Tomkins' (1963) theory: humanistic ideologists urge maximal satisfaction of the full spectrum of drives and positive affects, and thus regard personal gratification of such drives as hunger as natural and good.

Our findings were obtained with two small samples consisting of women only. In western societies, women are more concerned about food and eating than men (e.g. Chaiken & Pliner, 1987; Pliner & Chaiken, 1990), and therefore it is possible that different results would be obtained for men. In general, it is plausible that with larger and more heterogeneous samples of participants, other ideologies can also be found. For example, health concern in food choice may also be linked with other than conservation values, for example with pleasure or with political and ecological values (as found in Study 2). Similarly, religious FCIs, while not prominent among

the present participants, also need to be taken into account. Identification of this and other kinds of FCI will provide additional insight into the potential ways that life-guiding values, one's view of world and concrete FCIs, may be intertwined in everyday life.

If the present results turn out to be generalizable in future studies, EI, with vegetarianism as a related eating pattern, might be seen as a modern manifestation of previous social movements which pushed young people to participate in counter-cultural and left-wing political movements all over the western world in the 1960s. Many health and slimness ideologists, in turn, might be considered as current representatives of the mainstream culture, as individuals wanting to accommodate themselves to the prevailing socio-cultural norms, rather than challenging them. If this is the case, food choice can be characterized as a new site, similar to other ideologies, where people express their philosophy of life.

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