

Human Value Structure and Emotions

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Abstract

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In this dissertation Shalom Schwartz' theory of the structure of basic human values is developed. A partially new structure is proposed consisting of pairs of contrastive values (Security – Courage, Manage by yourself – Get help, Adaptation – Own will, and Prioritize yourself – Prioritize others) and non-contrastive values (Happiness, Meaningfulness, Love, Enjoyment, To be respected, Deeper understanding of the world, Achievement, and Health). It was hypothesized that the contrastive values form a circumplex structure and that the non-contrastive values are positioned in the middle of this structure. The circumplex structure can be understood in terms of four overlapping dimensions (Independence – Dependence, Person focus – Social focus, Self preservation – Self transcendence, and Comfort – Challenge). Different kinds of value salience (Access, Importance, Positive – Negative evaluation, Ability, and Access) were used to measure the values. It was also assumed that high access to contrastive values leads to specific positive and negative emotions. The positive emotions are experienced as a result of increasing access to the values, and the negative emotions are experienced because the opposite values are losing access. In line with this assumption, it was hypothesized that less negative emotions would be experienced in relation to a given value if its opposite is less salient. Non-contrastive values were supposed to lead to more positive and less negative emotions than the contrastive values. Study I was a first attempt of constructing a structure of contrastive and non-contrastive values. Several deviations from a circumplex structure were found which indicated that the proposed value structure needed further revision. Study II tested the final value structure proposed in this thesis. In Experiment 1 the contrastive values formed a structure which was closer to a pure circumplex than has been found in comparable data testing Schwartz' value structure. This was believed to result from the fact that the contrastive values have clearer opposites than the values in Schwartz' value structure, and that the non-contrastive values are excluded. In Experiment 2 the non-contrastive values were with one exception positioned inside the circumplex. Study III confirmed that almost all contrastive values were related to specific positive and negative emotions. It was also shown that the salience of the opposites affected the negative emotions connected to the contrastive values, and that the non-contrastive values led to more positive and less negative emotions than the contrastive values. This thesis has presented and successfully tested a partially new structure for how human values can be categorized, how they are related to each other, and how they are related to emotions.

Key words: Value structure, emotions, circumplex structure, multivariate statistical methods

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Preface

The present thesis consists of this summary and the following three studies:

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II. Montgomery, W., Montgomery, H., & Gärling, T. (2011). *Purifying the quasi-circumplex structure of human values*. Unpublished manuscript. University of Gothenburg, Department of Psychology.

III. Montgomery, W., Montgomery, H., & Gärling, T. (2011). *Positive and negative emotions related to a circumplex value structure*. Unpublished manuscript. University of Gothenburg, Department of Psychology.

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Göteborg 2 August 2011

William Montgomery

Populärvetenskaplig sammanfattning på svenska

Värden är centrala för vad människor prioriterar och vill uppnå i livet. Forskning om vilka dessa värden är och hur de är relaterade till varandra har bedrivits sedan 1950-talet. Den teori om värdestruktur som har varit dominerande de senaste 20 åren framlades 1992 av Shalom Schwartz. I teorin antas att värdena bildar en cirkumplexstruktur. En sådan struktur bygger på att närliggande värdena i strukturen är relaterade till varandra. Ju längre bort de kommer ifrån varandra, desto mindre relaterade är de. Dessa relationer bildar således ett kontinuum med en cirkulär form där de motsatta variablerna i cirkeln är minst relaterade till varandra. Men det finns vissa brister i Schwartz' värdeteori. Värdetyperna har inte alltid några motsatser i den cirkumplexa strukturen. Dessutom har värden uteslutits som inte passar in i strukturen. Ett av målen med avhandlingen var att finna en ny cirkumplexstruktur av kontrastiva värden som har värden som motpoler (t ex Säkerhet och Mod). Icke-kontrastiva värden antas också existera. Dessa har inga motpoler som kan ses som värden och passar därför inte in i en cirkumplexstruktur (t ex Lycka).

Ett första försök att finna en ny värdestruktur gjordes i avhandlingens Studie I. I Studie II reviderades denna för att stämma bättre med empiriska observationer. Studie III undersökte hur värden är relaterade till känslor. De kontrastiva värdena antogs leda till både negativa och positiva känslor, medan de icke-kontrastiva värdena i högre utsträckning antogs leda till positiva känslor. En specifik positiv och en specifik negativ känsla postulerades för varje kontrastivt värde. Den positiva känslan upplevs som ett resultat av att värdet har uppnåtts, den negativa känslan som ett resultat av att tillgång till dess motpol förloras.

I Studie I testades hypotesen att värden är organiserade i motsatta (kontrastiva) par där motsatsen av ett givet värde är ett värde som har positiva kvaliteter som saknas i det andra värdet. Värdena indelades i sex motsatspar: Njutning - Vara måttlig, Förening med andra - Avskildhet, Kärlek - Oberoende, Hälsa - Riskera hälsan för något viktigare, Förmåga - Testa nya saker och Makt - Lojalitet. Dessa värden antogs bilda en cirkumplexstruktur (en cirkulär ordning). Sju olika skalor utformades för att svara mot olika sätt som värden kan framträda på (Tillgång, Själv - Andra, Fantasi - Verklighet, Grad av jämförelse, Viktighet, Negativt - Positivt och Konfidens). Tre olika mål inkluderas även, Lycka, Meningsfullhet och Energi. Målen är centrala i livet och hypotesen var att värdena uppfattas leda till dessa mål. Data insamlades med en internetbaserad enkät där försöksdeltagarna var 76 män och 155 kvinnor rekryterade från en pool av studenter vid Göteborgs Universitet. Deltagarna tillfrågades först om tillgången till de tre målen. Efter detta ombads de att bedöma på skalor hur framträdande värdena var i olika avseenden. Resultaten visade att olika värden framträder på olika sätt. Vidare observerades stora avvikelser från en cirkumplexstruktur, vilket indikerade att modellen behövde ändras. Alla värden och alla mått på värdeframträdande var i viss utsträckning relaterade till målen.

En delvis förändrad värdestruktur testades i Studie II. Indelningen i värden och mål ersattes med en indelning av värdena i kontrastiva och icke-kontrastiva värden. De tolv kontrastiva värdena reducerades till åtta bestående av fyra motsatta par. Dessa par bestod av mer klara motsatser än i Studie 1 och antogs bilda en tydligare cirkumplexstruktur. De kontrastiva värdena bestod av följande par: Säkerhet – Mod, Få hjälp – Klara sig själv, Prioritera sig själv – Prioritera andra och Få igenom sin egen vilja – Anpassning till andras önskemål. Strukturen är indelad i två olika dimensioner på två olika sätt. De första dimensionerna är Komfort – Utmaning eller Personlig fokus – Social fokus. De andra dimensionerna är Oberoende – Beroende eller Självbevarande – Självupppoffring. Fem olika mått definierades av hur värdena framträdde: Tillgång, Viktighet, Förmåga, Känslomässig positivitet och Engagemang. Verklighet – Fantasi, Jämförelse, Själv – Andra och Konfidens korrelerade inte tillräckligt med de andra måtten och var därför borttagna. Istället inkluderades Förmåga och Engagemang. Icke-kontrastiva värden var även inkluderade. De antogs inte passa in i den cirkumplexa strukturen av värden, men vara lokaliserade i mitten av strukturen eftersom de är kopplade till de kontrastiva värden. De icke-kontrastiva värdena var Djupare förståelse av värden, Hälsa, Prestation, Bli respekterad, Lycka, Meningsfullhet, Kärlek och Njutning. Energi avsågs nu som ett mått på värdeframträdande (Engagemang).

Till Experiment 1 i Studie II rekryterades som försöksdeltagare 144 studenter och lärare vid psykologiska institutionen, Stockholms universitet. De besvarade en enkät via nätet. I denna bedömde de på skalor hur värdena framträder för varje kontrastivt värde. Flerdimensionell skalning resulterade i den förväntade cirkumplexstrukturen. Det mått på värdeframträdande som hade det klaraste resultatet var Tillgång. Förklaringen kan vara att det var uppenbart att man inte kan ha tillgång till två motsatta värden samtidigt. Dessutom utfördes ett mer strikt test av om strukturen kunde betecknas som en cirkumplexstruktur. Resultaten påvisade i detta inte en perfekt cirkumplexstruktur, men i jämförelse med Schwartz' motsvarande resultat var den klart bättre.

Ytterligare 143 studenter vid Psykologiska institutionen, Stockholms universitet, deltog i Experiment 2 i Studie II. Datainsamlingen skedde på samma sätt. För att få deltagarna att tänka igenom vad värdena betyder, fick de först ange deras tillgång till de åtta kontrastiva och åtta icke-kontrastiva värdena på en skala. Därefter presenterades beskrivningar av fingerade personer med hög tillgång till varje värde. Försöksdeltagarna ombads varje gång att ange på skalor hur mycket tillgång de trodde att individen hade till de andra värdena. Ett mått på likhet mellan värdena erhöles därigenom.

Resultaten visade genom analyser med flerdimensionell skalning att de kontrastiva värdena bildade den förväntade cirkumplexstrukturen. Bortsett ifrån Djupare förståelse var de icke-kontrastiva värdena som förväntat nära mitten av cirkumplexstrukturen.

Studie III byggde på en utökning av värdestrukturen där också känslor var inkluderade. Vart och ett av de åtta kontrastiva värdena antogs vara kopplade till en

specifik negativ och en specifik positiv känsla. Om tillgång till ett kontrastivt värde uppnått antogs en positiv känsla upplevas som en belöning, men också en negativ känsla eftersom tillgången till det motsatta värdet gått förlorat. Därför antogs tillgång till ett kontrastivt värde att leda till både en positiv och en negativ känsla. Dessutom antogs att känslor som är primärt kopplade till ett givet kontrastivt värde vara associerade till de andra värdena i cirkumplexstrukturen med en styrka som avtar med avståndet. Därför förväntades känslorna kopplade till de kontrastiva värdena bilda en analog cirkumplexstruktur.

I Experiment 1 deltog 120 studenter och lärare från Stockholms universitet. De besvarade en enkät på Internet i vilken de ombads att skatta på en skala om associerade positiva och negativa emotioner minskade eller ökade med tillgången till de olika värdena. En positiv och en negativ känsla antogs vara mest ökande för varje specifikt värde. Resultaten överensstämde i huvudsak med det förväntade mönstret. Det fanns några undantag. ”Känna självförnekelse” var inte högst på värdet prioritera andra och ”känna självbejakelse” var inte högst på värdet prioritera sig själv. När flerdimensionell skalning utfördes erhöles som förväntat en struktur som var lik den cirkumplexstruktur som belades i Studie II.

I Experiment 2 deltog 79 studenter från Göteborgs universitet. I en ny internetenkät skattade de hur mycket positiva och negativa känslor de upplevde när de hade 0%, 25%, 50%, 75% eller 100% tillgång till de 8 kontrastiva och 8 ickekontrastiva värdena. Försöksdeltagarna var indelade i tre grupper, där de värden som var motsatta till det värde som ingick i bedömningen var mer eller mindre framträdande. I den första gruppen informerades deltagarna om vilka de motsatta värdena var, i den andra gruppen var endast att det fanns motsatta värde, och i den tredje gruppen gavs ingen information om att det fanns ett motsatt värde. Som förväntat ledde 100% tillgång till de ickekontrastiva värdena till mer positiva och mindre negativa känslor än 100% tillgång till de kontrastiva värdena i alla tre grupperna. Ingen tillgång till de icke-kontrastiva värdena ledde till mer negativa och mindre positiva känslor än ingen tillgång till de kontrastiva värdena. Om försöksdeltagarna var informerade om de kontrastiva värdenas motsatser var de positiva och negativa känslorna lika starka om man hade 0% tillgång eller 100% tillgång till värdena. Vid 50% tillgång var dock de positiva känslorna högre. Detta resultat tyder på att en balans mellan två motsatta värden kan vara positiv om samma uppmärksamhet ägnas åt bägge värdena. Om närvaron av det motsatta värdet minskade förstärktes de positiva och försvagades de negativa känslorna när hög tillgång till de kontrastiva värdena uppnåddes.

I denna avhandling har ett delvis nytt klassifikationssystem av värden föreslagits och empiriskt verifierats. I detta system indelas värdena å ena sidan i kontrastiva som har värden som motpoler och å andra sidan icke-kontrastiva värden som saknar värden som motpoler. De empiriska resultaten i avhandlingen visar att de kontrastiva värdena bildar en struktur som är mer tydligt cirkumplex än den som föreslagits av Schwartz (1992). De icke-kontrastiva värdena visade sig med ett undantag ligga i mitten av cirkumplexstrukturen, vilket kan tolkas som att de utgör

centrala mål för de kontrastiva värdena. Dessa resultat ökar förståelsen för hur värden kan klassificeras och hur de är relaterade till varandra. I avhandlingen undersöktes också specifika positiva och negativa känslor som är relaterade till de kontrastiva värdena. De negativa känslorna befanns vara starkare om värdenas motpoler var mer framträdande. Om två motsatta värden var lika framträdande visade resultaten att man i genomsnitt kände mest positiva känslor om man hade lika mycket tillgång till bägge värdena. De icke kontrastiva värdena visade sig leda till mer positiva och mindre negativa känslor än de kontrastiva värdena.

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Introduction

In psychological research value has been given a prominent role for understanding and predicting attitudinal and behavioural outcomes (Rohan, 2000). For instance, Allport (1961) suggested that values are the “dominating force in life” since they direct all of a person’s activities towards their realization. Klukhohn’s (1951) stated: Without value systems “... individuals could not get what they want and need from other individuals in personal and emotional terms, nor could they feel within themselves the requisite measure of order and unified purpose” (p. 400).

Morris (1956) was one of the first researchers who tried to define systems of values. Rokeach’s (1973) value system was for a long time the most popular one. Schwartz’ (1992) system of values has been dominating the last decades. In this thesis, I have redefined Schwartz’ circumplex structure with more clear opposites and also included values which do not have any other values as opposites. I have also examined the relations between values and emotions.

In the following thesis summary I will first discuss different definitions of values. I will then describe different aspects and views of values. I will also describe different value taxonomies and circumplex structures, and the connections between values, needs, and emotions. Finally I will summarize the empirical studies in the present thesis and draw conclusions on the basis of the results.

Definitions of Values

The *Oxford English Dictionary* (1971, p. 3587) gives the following definitions of “value”:

1. That amount of some commodity, medium of exchange, etc., which is considered to be an equivalent for something else; a fair or adequate equivalent or return.
2. The material or monetary worth of a thing; the amount at which it may be estimated in terms of some medium of exchange or other standard of a similar nature.
3. Possessed of (a specified) material or monetary worth.
4. The equivalent (in material worth) of a specified sum or amount.
5. Worth or worthiness (of persons) in respect of rank or personal qualities.
6. The relative status of a thing, or the estimate in which it is held, according to its real or supposed worth, usefulness, or importance.

These definitions can be compared to Webster’s dictionary (Webster’s Ninth New Collegiate Dictionary, 1989, p. 1303) with the following definition of value:

1. A fair return or equivalent in goods, services, or money.
2. The monetary worth of something; marketable price.
3. Relative worth, usefulness, or importance; degree of excellence.
4. Something intrinsically desirable.

Table 1. Different Definitions of Values (After Rohan, 2000)

Source	Definition
Lewin (1952, p. 41)	<i>Values</i> influence behavior but have not the character of a goal (i.e. of a force field). For example, the individual does not try to “reach” the value of fairness, but fairness is “guiding” his behavior. It is probably correct to say that values determine which type of activity have a positive and which have a negative valence for an individual in a given situation. In other words, values are not force fields but they induce force fields. That means values are constructs that have the same psychological dimension as power fields.
Kluckhohn (1951, p 395)	A <i>value</i> is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable that influences the selection from available modes, means, and ends of action.
Heider (1958, p. 223)	We shall use the term <i>value</i> as meaning the property of an entity (x has values) or as meaning a class of entities (x is a value) with the connotation of being objectively positive in some way
Rokeach (1973, p. 5)	A <i>value</i> is an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence.
Feather (1996, p. 222)	I regard <i>values</i> as beliefs about desirable or undesirable ways of behaving or about the desirability or otherwise of general goals.
Schwartz (1994, p. 21)	I define <i>values</i> as desirable transsituational goals, varying in importance, that serve as guiding principles in the life of a person or other social entity.
Schwartz (1999, p. 24)	I define <i>values</i> as conceptions of the desirable that guide the way social actors (e.g. organizational leaders, policy-makers, individual persons) select actions, evaluate people and events, and explain their actions and evaluations.

There is agreement between these dictionaries in their definitions of value in that both define values as something with a worth, materially or personally.

In psychological research several different definitions have been proposed (see Table 1). Lewin (1952) does not see values as goals whereas Schwartz (1994) does. Kluckhohn (1951) sees values as conceptions, Heider (1958) as properties of entities

or classes of entities, whereas Rokeach (1973) defines values as beliefs. Feather (1996) also defines values as beliefs. A delimitation of the term “value” is to differentiate it from “facts”. Values are what you “should be” but facts are seen as “are”. In this thesis I have chosen Schwartz’ (1994) definition of values.

Common to all definitions something can either *have* a value or *be* a value in itself. For example, a car can have a value while security is a value in itself. The present thesis is concerned with values in the latter sense.

Views of Values

A view of a value is how it is conceptualized. Higgins (2007) noted five different views of values: value from need satisfaction, value from shared beliefs about what is desirable, value from actual self-relation to end states, value from evaluative inference, and value from experience.

Value from need satisfaction. During the beginning of the 20th century, many psychologists proposed that value comes from need satisfaction. This view relates to the ability to satisfy physical needs or reduce drives. This increases the individual’s survival in the world. According to the classic version of the theory, behaviour is directed toward the removal of tissue deficits (Woodworth, 1918) The value-from-need-satisfaction view is not only restricted to humans but may also be apply to animals.

Value from shared beliefs about what is desirable. Another answer to what values come from is that they are related to people’s shared beliefs about general desirable ends. This is what people usually mean when they talk about their personal values or others’ values. This viewpoint is restricted to humans. Rokeach (1980) describes values as “shared prescriptive or proscriptive beliefs about ideal modes of behaviour and end states of existence” (p. 262). Merton (1957) claims, “Every social group invariably couples its cultural objectives with regulations, rooted in the mores or institutions, of allowable procedures for moving toward these objectives” (p. 133). The cultural objectives are described as “things worth striving for” (Merton, 1957, p. 133). The “allowable procedures” are described as acceptable ways to strive for the worthwhile things – what has process value in the culture (see also Rokeach, 1979; Schwartz, 1992). This view may then include shared beliefs about both desired objectives or end states and desired procedures or means for attaining and maintaining them.

These cultural and socialized values make the human unique. They have received much attention in the research on values (Seligman, Olson, & Zanna, 1996), including the theories of Rokeach (1973) and Schwartz (Schwartz & Bilsky, 1987).

The view of values of shared beliefs is a complement to the view of value coming from need satisfaction.

Value from actual self-relation to end states. In a cybernetical view values function as a standards or reference points. Reaching a desired end state and avoiding

an undesired state is positive (Carver & Scheier, 1981, 1990). Values could be seen as what people ideally want to be (ideals) and what people should be (oughts). Ideals or oughts from others' standpoint can be shared by the own standpoint. When using ideals or oughts, congruencies (or matches) have positive value and discrepancies (or mismatches) have negative value (Higgins, 1987, 1991, 1998).

Research on social comparison often describes values from actual self-relation to end states. If comparing oneself with someone having something desirable, then one experiences negative value; if comparing oneself with someone who has something undesirable, it leads to experiences of positive value (Tesser, 1988). Positive and negative values can also be reached by comparisons with with desirable and undesirable groups (Hyman, 1942; Merton & Kitt, 1952).

There are two different ways this view can be treated. It is similar to the view of values as shared beliefs in that ideals and oughts are desired end states which can be seen as personal values. But the congruencies or discrepancies of the actual self from the ideals or oughts can be both positive and negative. This makes this viewpoint different from the ones described earlier.

Value from evaluative inference. Inference is not included in the view of values from actual self-relation to end-states. It is directly seen that it is positive with an actual-self congruency with ideals and oughts and that it is negative with an actual self-discrepancy with ideals and oughts. But sometimes people must infer what the value is to them. Bem (1965, 1967) proposed a theory of self-perception in which an element is self-inferences. People observe their own behaviour and are testing hypotheses about its meaning or significance. When they engage in activities, one hypothesis may be that they do this because they value them. Another hypothesis is that the force to perform activities comes from within. Still another hypothesis is that the basis for inferring values comes from without (from demand). The likelihood of drawing an inference from a behavior about a value decreases when the evidence of external forces that could have produced the value increases.

According to Andersen (1984), hypotheses about values are not necessarily restricted to publicly observable evidence but could instead come from inner thoughts and feelings or from stored knowledge and past experience.

Value from experience. Value from experience is an important view of values prevalent among philosophers. Hedonic experience is the value experience which has received most attention. It is based on the basic assumption that people approach pleasure and avoid pain. It has received attention since the old Greeks. It is still a viable view (Kahneman, Diener, & Schwarz, 1999). An early statement about values connected to hedonic experience comes from Bentham (1781/1988) who stated: "Nature has placed mankind under the governance of two sovereign masters, *pain* and *pleasure*. It is for them alone to point out what we ought to do, as well as to determine what we shall do. On the one hand the standard of right and wrong, on the other the chain of causes and effects, are fastened to their throne" (p. 1).

Utility refers both to seeking pleasure and avoiding pain. According to Kahneman (2000) this concept has two different meanings. The first is that utility is inferred from observed choices. The second is that utility is experienced.

Moral or ethical experiences are also important for values. Adam Smith (1759/1957) described “the first perceptions of right and wrong” (p. 182). These perceptions were derived from an immediate sense of feeling. He believed that there was a specific process underlying moral sentiment.

Another experience which can affect values is regulatory fit (Higgins, 2000), experienced when people’s goal orientation is sustained (or disrupted) by the manner in which the goal is pursued. If the goal is oriented as an accomplishment or aspiration it is called promotion focus. If it is oriented as a responsibility or security it is called prevention focus.

Aspects of Values

According to Rohan (2000) there are five aspects of the value construct. These aspects are different subjects connected to the value construct.

Aspect 1: Nouns and verbs. When a value is expressed as a verb a deeper meaning is associated to it. To value a car is an example of using the word value as a verb. When valuing a specific entity, one does not simply like it, one also thinks that it is good. Feather (1996) made the following comment: “We relate possible actions and outcomes within particular situations to our value systems, testing them against our general conceptions about what we believe is desirable or undesirable in terms of our own value priorities” (p. 224). It is hard to change people’s value priorities, and long-term changes are very rare.

When a value is expressed as a noun a dilemma occurs how it should be investigated. It can either be expressed from the entity being evaluated (e.g. How much value does this entity have?) or from the person evaluating it (e.g. What does this person value?). However, according to the standards of value research today, researchers use the perspective of the person. The value of security is an example of using the word value as a noun.

When people use their evaluation to value things in the environment (value as a verb) a cognitive structure to store the judgements is needed. This structure gives a meaning to the objects and events in the environment. Some cognitive scientists (Holyoak & Thagard, 1995, 1997) have made computer programs to simulate this structure. These analogical structures are generally referred to as values (value as a noun). When the value construct is described in this way it is generally seen as being an “active organization of past experience”.

A clear difference seems to exist between using general human values and valuing specific entities. But people use the words “I value” in both valuing entities and when using value structures. One can, for example, both say “I value that car” and “I value courage”. The problem is that one cannot see a car as a value but

courage is a value. But the word attitude can be used for both valuing specific entities and more abstract values. It is both an attitude to value a car and value courage. However, attitude usually concerns specific entities and “values” is mainly used for abstract entities on a high level of generality.

Aspect 2: Values, value types, value priorities, and value systems. Various researchers have tried to define different value structures. These will be described below.

Aspect 3: Value priorities are a function of what type of judgements? One problem in value research is if value priorities are what people ought to do (the desirable) or what people want to do (the desired). Braithwaite and Scott (1991) suggested that value priorities concern the desired rather than the desirable. But according to Schwartz and Bilsky’s (1987) value definition, values can be seen as both desired and desirable. They described the value construct as “cognitive representations of three types of universal human requirements: biologically based needs of the organism, social interactional demands for interpersonal coordination, and social institutional demands for group welfare and survival” (p. 551).

Values are often guides to survival. But survival is not the only goal. Some people sacrifice their lives to save others. Others may rather die than losing their religion. Values can also be guides to goodness. People can distinguish between what they want to do and what they think that they ought to do. Goodness is primarily what you ought to do. To live after what one ought to do instead of simple “instincts” has been discussed as the border between animals and humans (Tomkins, 1962). Some researchers believe that humans essentially strive to be moral or ethical (Aronson, 1992).

Values can also be guides to “best possible living”. Life is also about living as pleasantly and productively as possible. According to Aristotle (350 BCE/1980), the Greek word “eudaimonia” is the ultimate human goal. “Eudaimonia” means human flourishing rather than positive affect. Therefore, it is important to distinguish between “eudaimonia” and pure hedonism. “Eudaimonia” according to Aristotle is the ultimate goal which all human acting is directed to.

Aspect 4: Personal, social or ideological value systems? The fourth aspect according to Rohan (2000) concerns the question about “personal, social or ideological value systems”. A value system must not necessarily only be personal. A social value system is what a person believes about someone else’s value system. At least four complications are included when making a distinction between social and personal value systems. The first is how the distinction is defined. It is proposed that social value systems are people’s perception of other’s value systems. The second complication is if a social value system has a similar structure as a personal value system. Research supports that these systems are structured in the same way (Schwartz, 1999). Third, what does this distinction between social and personal value systems mean for the number of intra-psychic value systems? It seems reasonable to

believe that people only have one personal value system, but that there are several social value systems. But, fourth, in line with the idea that people are categorizing others with simplifying procedures, research has shown that they have a limited number of prototypes of value systems that are applied in categorizing different people (Cantor & Michel, 1979).

Aspect 5: Value systems, worldviews and ideologies. The fifth aspect according to Rohan (2000) deals with value systems, worldviews and ideologies. A worldview is what people believe about how the world works and ideologies are value-laden constructions people use when they make and after they have made decisions. Ideological value systems are connected to groups, such as a school, a culture, a religion or a club.

In many decisions the connection to the value system is unconscious. However, in more complex cases when the connection to the value system is not obvious, for example if the decision is about following the personal value system or someone else's value system (Wegner & Bargh, 1998), then people often need to argue for their decision, using arguments connected to the value systems. By referring to their values people feel that they are good, moral, or ethical and convince themselves that they are making the correct decision.

According to Feather (1971), the cognitive structure of value systems differs from the conscious mode, which gives information about the structure of the immediate environment. The word "worldview" can be used to distinguish between the value system and the conscious mode. A "worldview" can be seen as a "contemplation of the world, view of life". Parson (1951) argued that there is a strong link between the worldview and the value system. Therefore values can be used to guide one's worldviews.

Values and Needs

Human needs are strongly associated with values. Many needs such as sense of belonging and achievement can also be seen as values. But needs include more basic components as the need for food, water and oxygen. These are needs which are directly necessary for life. Without food one can only survive for a couple of weeks, without water it is a matter of days. Oxygen is something one can be without for just a couple of minutes. When social-psychological theorists identify basic human needs, they also include needs of control, understanding, or self esteem. It is worth thinking about what this use of the term "need" actually is intended to mean. One possibility is that some needs are necessary for the continuing human existence, but that the time scale is different. One can be without some needs for years or decades, instead of minutes, hours or days. An example is the need of belonging. A need of belonging is included into several theories. As a baby one needs attention all the time, and survival without assistance from others is not possible. But when growing older one manage

alone without damage for a considerable longer time. It is still considered to be a basic need, but the time scale is somewhat different.

Instead of using the definition of need as something required for existence, most social-psychologists define it as something for thriving. Deci and Ryan (2000) claim that basic needs influence a person's well being. Inadequate satisfaction of these needs may not lead to death, but may instead lead to the failure to achieve one's potential or to function as well as one might.

Baumeister and Leary (1995) argued that a fundamental need should: Produce effects readily under all but adverse conditions, have affective qualities, direct cognitive processing, lead to ill effects when thwarted (e. g., poor health or adjustment), elicit goal-oriented behavior designed to satisfy it – subject to motivational patterns such as object substitutability and satiation, be universal in the sense of applying to all people, not be derivative of other motives, affect a broad variety of behaviors, and have implications that go beyond immediate psychological functioning.

Murray (1938) made a list of 20 different needs divided into 9 groups. He also noted that these needs could be represented by 4 different reaction systems. The identified needs by Murray could therefore be 20, 9, or 4. Thus, the number of basic human needs depends on the level of definitional generality or specificity. The groups listed by Murray were the following: Need to dominate, need to achieve, need for sensual enjoyment, need for affiliation, need to nurture, need for self regard, need for safety, need for order, and need for understanding.

Maslow's (1943) theory about needs is built on a hierarchical structure, where some needs take precedence over others, and those more fundamental for existence must be satisfied before others will be addressed. The theory is often portrayed as having five levels representing five types of needs: Physiological, safety, belongingness, esteem, and self-actualization. But regardless of the number of needs that are specified, the invariance of any such hierarchy is easy to call into question. It is difficult to see how it can lead to testable predictions, especially at the higher levels of the hierarchy (Pittman & Zeigler, 2007).

Another way of theorizing about needs is to put one single need as the most important one. This root need is either more important than the others, is the one which the other needs are closely related to, or the one from which the others are derived. Stevens and Fiske (1995) claimed that there were five basic needs: belonging, understanding, controlling, enhancing self, and trusting. Belonging is the root need with the other needs connected to it. This theory is specially applied to social needs.

Value Taxonomies

Historically, a number of attempts at theorizing about values, value structures, and value priorities have been reported. Morris (1956) defined five different value types that describe the “way to live”: social restraint and self control, enjoyment and progress in action, withdrawal and self sufficiency, receptivity and sympathetic concern, and self indulgence (or sensuous enjoyment).

In empirical studies Rokeach (1973) asked people to rank values in order of importance to themselves. He distinguished between two types of values, goals (terminal values) and modes of conduct (instrumental values). Goals included, for instance, “a comfortable life” or “self respect”, modes of conducts “broad minded”, “forgiving” or “helpful”. The Rokeach Value Survey (Rokeach, 1973) has perhaps been the most popular method for measuring value priorities. However, Rokeach (1973) did not propose a theory of the underlying value structure.

Hofstede (1984) made an investigation of cultural dimensions in 53 countries and regions. Thirty-two questions were used divided into 4 dimensions. *Power distance* is how much a less powerful person accepts differences in power and considers it normal. *Individualism*, as a character of a culture, opposes collectivism. Individualist cultures assume that individuals look primarily after their own interests and the interests of their immediate family (husband, wife, and children). Collectivist cultures assume that individuals – through birth and possibly later – belong to one or more close “in-groups”. The in-group (whether extended family, clan or organization) protects the interests of its members, but in turn expects their permanent loyalty. *Masculinity*, as a characteristic of a culture, opposes femininity. Masculine cultures use the biological existence of two sexes to define very different social roles for men and women. They expect men to be assertive, ambitious, and competitive, to strive for material success, and to respect whatever is big, strong, and fast. They expect women to serve and to care for the nonmaterial quality of life, for children, and for the weak. Feminine cultures, on the other hand, define relatively overlapping social roles for the sexes, in which neither men nor women need to be ambitious or competitive. *Uncertainty avoidance*, as a characteristic of a culture, defines the extent to which people within a culture are made nervous by situations that they consider to be unstructured, unclear, or unpredictable, and the extent to which they try to avoid such situations by adopting strict codes of behaviour and a belief in absolute truths.

H. Montgomery and Johansson (1989) asked people to rate the importance and access to different values. By means of multidimensional scaling (MDS) they grouped the values in four categories: The “private life” category including values related to safety and happiness; the “life generally” category including values related to morality and having a rich life; the “external self” category including values related to performance and success, and; the “internal self” category including values related to maturity and competence.

The most recent attempt at theorizing is Schwartz and Bilsky's (1987, 1990) theory based on universal motivational concerns. The value system is assumed to be a stable meaning-producing, superordinate cognitive structure. Schwartz (2006) has specified six main features of the values:

- (1) Values are beliefs closely linked to feelings. If one succeeds to reach a value one will become happy, if the value is threatened one will become aroused, and if one do not succeed to reach the value one feel despair.
- (2) Values refer to desirable goals that motivate action. If one thinks that values such as helpfulness, justice and social order are important it is also important to pursue these goals.
- (3) Values transcend specific actions and situations. For example obedience can be important in family, in school, at work or when making sports. Attitudes are much more narrow concepts and connected to more specific situations.
- (4) Values serve as standards or criteria. The selection of policies, people, actions and events are guided by values. As a consequence of their values, people judge what is good or bad, legitimate or illegitimate, and worth doing or avoiding. But values are seldom conscious. They may become conscious when being in conflict.
- (5) Values are ordered by importance relative to one another. People thus have a hierarchy of values with different importance.
- (6) The relative importance of multiple values guides action. Different kinds of behaviour are typically affected by more than one value at the same time.

Schwartz (2001) found empirical support for the theory in studies employing value ratings by school teachers in 56 countries (N = approximately 14,000) and college students in 54 countries (N = approximately 19,000). MDS revealed the circumplex structure of value types shown in Figure 1. One underlying dimension is Openness to change – Conservation defined as to be open to changes of intellectual ideas or to preserve status quo in society. A second dimension is Self-enhancement – Self-transcendence implying a conflict between own and others' interests. The following 10 value types are positioned in the space defined by these two dimensions (see Table 2): Power, Achievement, Hedonism, Stimulation, Self-direction, Universalism, Benevolence, Conformity, Tradition, and Security.

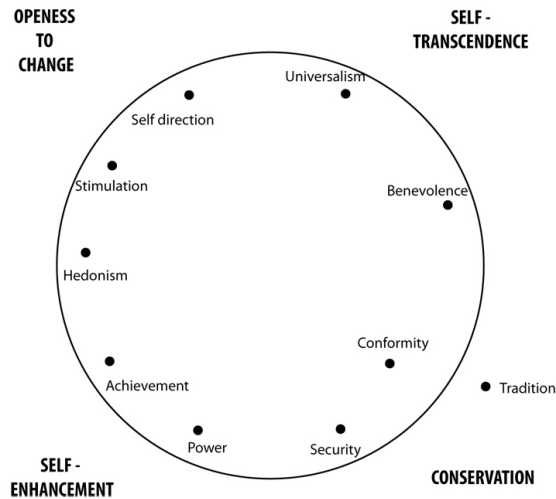


Figure 1. Theoretical model of relations among ten motivational types of values. (After Schwartz, 1992).

The values form a continuum with common features for those who are adjacent to each other. This makes the structure circumplex. The following common features are shared by neighboring values: (a) power and achievement--social superiority and esteem; (b) achievement and hedonism--self-centered satisfaction; (c) hedonism and stimulation--a desire for affectively pleasant arousal; (d) stimulation and self-direction--intrinsic interest in novelty and mastery; (e) self-direction and universalism--reliance upon one's own judgment and comfort with the diversity of existence; (f) universalism and benevolence--enhancement of others and transcendence of selfish interests; (g) benevolence and tradition--devotion to one's in-group; (h) benevolence and conformity--normative behavior that promotes close relationships; (i) conformity and tradition--subordination of self in favor of socially imposed expectations; (j) tradition and security--preserving existing social arrangements that give certainty to life; (k) conformity and security--protection of order and harmony in relations; (l) security and power--avoiding or overcoming threats by controlling relationships and resources.

Schwartz' values do not form contrasting pairs of opposite values, at least not clear contrasts. Self-direction is not a clear contrast of Security. Universalism is not a clear contrast of Power. Schwartz' two dimensions have consistently been confirmed empirically, but the proposed order between the ten values in the circle, as well as the circumplex structure as such, have not always been confirmed. In a study including 334 participants (Schwartz, 2007) single items were used for each value

Table 2. Definitions of Schwartz' Motivational Value Types, SVS (After Schwartz, 200.)

<p><i>Power</i>: Social status and prestige, control or dominance over people and resources (social power, authority, wealth, preserving my public image)</p> <p><i>Achievement</i>: Personal success through demonstrating competence according to social standards (successful, capable, ambitious, influential)</p> <p><i>Hedonism</i>: Pleasure and sensuous gratification for oneself (pleasure, enjoying life)</p> <p><i>Stimulation</i>: Excitement, novelty, and challenge in life (daring, a varied life, an exciting life)</p> <p><i>Self-direction</i>: Independent thought and action choosing, creating, exploring (creativity, freedom, independent, curious, choosing own goals)</p> <p><i>Universalism</i>: Understanding, appreciation, tolerance, and protection of the welfare of all people and for nature (broadminded, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment)</p> <p><i>Benevolence</i>: Preservation and enhancement of the welfare of people with whom is in frequent personal contact (helpful, honest, forgiving, loyal, responsible)</p> <p><i>Tradition</i>: Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide the self (humble, accepting my portion in life, devout, respect for tradition, moderate)</p> <p><i>Conformity</i>: Restraints of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms (politeness, obedient, self-discipline, honoring parents and elders)</p> <p><i>Security</i>: Safety, harmony, and stability of society, of relationships, and of self (family security, national security, Social order, clean, reciprocation of favors)</p>

Note: The following values that were included in Schwartz' (2001) value inventory were not used to form indexes of the importance of each value type because they failed to exhibit equivalence in meaning across cultures: social recognition, intelligence, self-respect, inner harmony, true friendship, a spiritual life, mature love, meaning in life, detachment, sense of belonging, and health.

type. The results showed that the values were not in the expected order in the circumplex. Aavik and Allik (2002) made a study employing 56 items from Schwartz' (1992) value inventory and found again deviations from the expected order but that the structure was circumplex and the basic dimensions remained. Hinz, Brähler, Schmidt, and Albani (2005) used the Portrait Value Questionnaire (PVQ) in a study of 1,896 participants and found several deviations from the expected circumplex structure. When Schwartz (2006) summed the results from 71 samples in 32 countries using PVQ, in 42 the values had the expected order. The remaining

samples involved reversals of the order around the circle or mixing of two values, but always included values that are adjacent in the circle.

Davidov, Schmidt, and Schwartz (2008) tested the validity of the ESS scale, which is a shorter version of PVQ, with Confirmatory Factor Analysis (CFA). They found that with this scale there was strong correlations between Benevolence and Universalism, Power and Achievement, and between Tradition and Conformity, and thus they could be seen as only three value types. But according to Knoppen and Saris (2009), this has to do with the choice strategy for selecting items from the PVQ, and that the problem therefore is specific for the ESS scale.

In this thesis a set of eight contrastive values divided into four pairs of opposites are posited. These are expected to form a purer circumplex structure than the values investigated by Schwartz (1992). Also eight non-contrastive values without opposites are posited and not expected to fit into the circumplex structure.

Circumplex Structures

Guttman (1954) presented a new model for structuring quantitative data which later has been called a circumplex structure. This has been an alternative to simple structure models (Thurstone, 1947). In a circumplex structure the correlations between the variables are highest when the variables are close to each other and then gradually decrease when they are further away. In this way a continuum with a circular shape is formed where the variables opposite to each other have the lowest correlations.

There are at least three reasons why circumplex structures are attractive. First, if it is a perfectly circumplex structure, it can be specified by only one free parameter which is parsimonious. This parameter specifies the correlation between two opposite variables in the circumplex and then it is possible to calculate the correlations between the rest of the variables (Rounds, Tracey, & Hubert, 1992). This is because the variables are positioned in one circular continuum. This continuum also makes a circumplex structure rich in information with the possibility of an infinite number of bipolar dimensions (Wiggins, 1979) with endpoints located opposite to each other in the circumplex (Tracey & Rounds, 1996). A circumplex structure also provides a theoretical challenge. One may ask how, when and why variables form a circumplex structure?

In areas of research outside the domain of values, circumplex structures with contrasting pairs have frequently been identified. Perhaps the first circumplex structure within psychology which has been identified is the Interpersonal Circumplex (Freedman, Leary, Ossario, & Coffey, 1951; LaForge, Leary, Naboisek, Coffey, & Freedman, 1954). It describes individual's interpersonal relations. It has 16 characteristics divided into 8 opposite pairs. The main axes are Dominant – Submissive and Hostile – Friendly.

Peabody (1987) developed a theory resulting in a circumplex model of personality traits. Here the types of personality traits are contrasting with one positive structure and one negative structure. Each structure has 40 items divided into 6 main traits. These traits form a circumplex structure. The six main traits form contrastive pairs in each structure. In the positive structure the pairs of main traits are the following: Assertiveness – Unassertiveness, Impulse Expression – Impulse Control, and Affiliation – Conscientiousness. In the negative structure the pairs of main traits are the following: Undesirable Assertiveness – Undesirable Unassertiveness, Undesirable Impulse Expression – Undesirable Impulse Control, and Non-Conscientiousness – Non-Affiliation.

Benjamin (1974) developed a structure of social behavior (SASB) with three circumplex structures, with focus on others, self and the intrapsychic. Here the opposite pairs are also contrasting, but with one negative and one positive side.

Russell (1980) suggested that affect can be structured in a circumplex structure with the dimensions excitement – depression and contentment – distress. In the most recent version of the affect circumplex (Russell & Feldman Barrett, 1999), the dimensions are labeled valence and activation. The dimensions have a negative and a positive pole.

Value and Emotions

Emotions were already discussed by Plato and were clearly defined in the writings of Rousseau with the *Romanticism thesis* (Oatley, Keltner, & Jenkins, 2006; Solomon, 1976). According to Rousseau, emotions are powerful, involuntary forces and the experience of emotion guides patterns of reasoning, self expression, and social behavior that are vital to healthy social communities. But for other contemporary philosophers, such as Kant, emotions are not important for moral judgment and social organization.

After these early theorists, emotions were not described in a systematic way for a long while. The behaviorists asserted that the emotions are not observable and cannot be measured with scientific methods (Skinner, 1948). But when cognitivism grew stronger a new interest for emotions followed during the last 30 years. This development led to a paradigm shift in the study of human nature (Damasio, 1994; Davidson, Scherer, & Goldsmith, 2003; Frank, 1988; Keltner, 2009; LeDoux, 1996). Emotions were seen as central to parent-child attachment and to children's navigation of their environment prior to language acquisition (Barrett & Campos, 1987; Campos, Campos, & Barrett, 1989; Cohn & Tronick, 1983). It was discovered that the right hemisphere of the brain preferentially responds to the emotional content of stimuli (Gazzaniga, 1985). Other studies showed that the pattern of emotions is universal (Eibl-Eibesfeldt, 1989; Konner, 2003). Research has also examined how emotions shape memory (Bower, 1981) as well as judgment and decision making (Isen, 1987; Schwarz & Clore, 1983).

In social psychology emotions now has a central role (Tiedens & Leach, 2004; Zajonc, 1998). Thus, emotions are presently seen as an important component of human nature.

Definitions of Emotions

A definitive answer of what an emotion is has been hard to reach. It has been debated which emotions are “basic” and encoded in the nervous system and which are secondary and constructed from other emotions (Ortony & Turner, 1990; Ekman, 1992). It has also been discussed if emotions are discrete entities or natural kinds (Ekman & Davidsson, 1994; Barrett, 2006; Keltner, Ekman, Gonzaga, & Beer, 2003; Panksepp, 1998).

Emotions can be differentiated from other kinds of affective experience. Affective experiences can be studied at four levels of analysis (Kahneman, 1999; Rosenberg, 1998). First, emotional traits can persist across context and time (Larsen & Ketelaar, 1989; Shiota, John, & Keltner, 2006). Gratefulness is an example of an emotional trait. Second, moods typically last longer than emotions, but can be more temporary than traits (Watson & Tellegen, 1985). Irritability is a mood. Third, emotions are assumed to be briefer than moods and traits (Ekman, 1992; Schwarz, 1990). Finally, there are sensory experiences of pleasure and pain. These are believed to have unique temporal dynamics (Fredrickson & Kahneman, 1993).

Table 3 shows definitions of emotions from different theorists (James, 1984; Arnold & Gasson, 1954; Lutz & White, 1986; Barret & Campos, 1987; Tooby & Cosmides, 1990; Lazarus, 1991; Ekman, 1992; Frijda & Mesquita, 1994). Many of them mentioned that they are related to the environment (Arnold & Gasson, 1954; Barret & Campos, 1987; Lazarus, 1991; Frijda & Mesquita, 1994). Some mentioned that they are psychophysiological (James, 1984; Lazarus, 1991).

Table 3. *Definitions of Emotions (After Keltner & Lerner, 2010)*

James, 1884	My thesis ... is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion.
Arnold & Gasson, 1954	An emotion or an affect can be considered as the felt tendency towards an object judged suitable, or away from an object judged unsuitable, reinforced by specific bodily changes.
Lutz & White, 1986	Emotions are primary idiom for defining and negotiating social relations of the self in a moral order.
Barret & Campos, 1987	We conceive of emotions as bidirectional processes of establishing, maintaining, and/or disrupting significant relationships between an organism and the (external or internal) environment.
Tooby & Cosmides, 1990	An emotion corresponds to a distinctive system of coordination among the mechanisms that regulate each controllable biological process. That is, each emotional state manifests design features “designed” to solve particular families of adaptive problems, whereby psychological mechanisms assume unique configuration.
Lazarus, 1991	Emotions are organized psychophysiological reactions to news about ongoing relationships with the environment
Ekman, 1992	Emotions are viewed as having evolved through their adaptive value in dealing with fundamental life-tasks. Each emotion has unique features: signal, physiology, and antecedent events. Each emotion also has characteristics in common with other emotions: rapid onset, short duration, unbidden occurrence, automatic appraisal, and coherence among responses.
Frijda & Mesquita, 1994	Emotions... are, first and foremost, modes of relating to the environment: states of readiness for engaging, or not engaging, in interaction with that environment.

Appraisals

According to several researchers emotions are effects of appraisals. Emotion appraisals can generally be seen as evaluations if an event is good or bad, and if it corresponds to one’s goals and expectations (Carver & White, 1994; Davidson, 2004; Higgins, 1997; Russell, 2003). Emotion-eliciting appraisals are defined as the “meaning-making process” behind the emotions (Clore & Ortony, 2008; Roseman,

1984; Roseman, Spindel, & Jose, 1990; Roseman, Wiest, & Swartz, 1994; Scherer, 1997; Scherer & Wallbott, 1994; Smith & Ellsworth, 1985). Lazarus (1991) focused on specific themes related to different emotions which can be seen as appraisals. For example, people feel angry when they appraise an unjustified offense against themselves or others. According to Folkman & Lazarus (1989) there are two different stages of appraisals. First one decides if an event is congruent with one's goals. Then one considers a casual attribution for the event, potential responses, and future consequences of different courses of action.

There are discrete approaches to appraisals which are applicable in specific contexts (Rosenberg, 1998). There can, for example, be specific stimuli which can make some people angry. But there are also dimensional approaches to appraisals that are more general, and when they are combined result in different emotions. These dimensions can be classified according to the following criteria's (Scherer, 1999):

1. Intrinsic characteristics of objects or events, such as novelty or agreeableness.
2. The significance of the event for the individual's needs or goals.
3. The individual's ability to influence or cope with the consequences of the event, including the evaluation of "agency".
4. The compatibility of the event with social or personal standards, norms, or values.

Table 4 shows elementary appraisals posited in different theories (Frijda, 1986; Roseman, 1984, 1991; Roseman, Antoniou & Jose, 1996; Scherer, 1984, 1986, 1988; Smith & Ellsworth, 1985).

Not only emotions, but also values are strongly linked to appraisals. Values can even be seen as a kind of appraisal even if being more positive than negative, whereas appraisals are more neutral. This thesis has tried to find a relationship between values and emotions. Few researchers have tried that before. Nelissen, Dijker, and de Vries (2007) investigated the relationship between Schwartz' (2001) value structure and basic emotions. The participants' ratings of how important the values were and how much they felt different emotions were compared. Several correlations between values and emotions were found. For example, anger correlated with Power, interest with Self-Direction, and excitement with Stimulation. How regulatory focus affects emotions was examined by Idson, Lieberman, and Higgins (2000). Different scenarios were presented which described success or failure of prevention or promotion focus and the participants were asked how positively or negatively they felt about it. The results showed that the participants felt more positive when they succeeded with promotion focus than if they succeeded with prevention focus, but felt more negative if they failed with prevention focus than if they failed with promotion focus. However a systematic way of uncovering negative and positive emotions connected to the access of specific values does not seem to have been reported.

Table 4. Comparison of Appraisal Criteria Posited in Different Theories (After Scherer, 1999)

Scherer	Frijda	Roseman	Smith/Ellsworth
Novelty	Change		Attentional activity
Suddenness			
Familiarity	Familiarity		
Predictability			
Intrinsic pleasantness	Valence		Pleasantness
Goal significance		Appetitive/aversive motives	
Concern relevance	Focality		Importance
Outcome probability	Certainty	Certainty	Certainty
Expectation	Presence		
Conduciveness	Open/closed	Motive consistency	Perceived obstacle/ Anticipated effort
Urgency	Urgency		
Coping potential			
Cause: agent	Intent/self-other	Agency	Human agency
Cause: motive			
Control	Modifiability	Control potential	Situational control
Power	Controllability		
Adjustment			
Compatibility standards			
External	Value relevance		Legitimacy
Internal			

Summary of Empirical Studies

Overview

The aim of this thesis is to examine the structure of human values and emotions connected to them. The general hypothesis is that there are contrastive values forming a circumplex structure. These values are both associated with a specific positive and a specific negative emotion. The positive emotion increases with access to a value, whereas the negative emotion is experienced because one at the same time

looses access to the opposite value. There are also non-contrastive values without opposites which can be seen as values that do not fit into the circumplex structure. These are only associated with positive emotions. In addition there are different dimensions in the structure. These dimensions are overlapping each other and explain how the values form a circumplex structure.

In Study I twelve values and three goals were investigated. The values were contrastive and the goals were non-contrastive. The values were measured on seven different measures of value salience. Regression analyses were performed with the goals as dependent variables and the values as independent variables. MDS was performed at the values to determine whether they formed a circumplex structure. In Study II eight contrastive and eight non-contrastive values were investigated. The values were measured on five different measures of value salience. MDS was performed to determine whether the contrastive values formed a circumplex structure and if the non-contrastive values were located in the middle of the structure. Study III investigated if the contrastive values were associated with specific positive and negative emotions. It also investigated how the positive and negative emotions differed between the non-contrastive and contrastive values, depending on their salience and the access to them.

Study I

Schwartz's (1992) value system is solely focusing on importance of different values, and some values do not fit into the model. Neither does it seem to be possible to organize the values in contrasting pairs, which would facilitate understanding of how the values are related to each other. In Study I it is hypothesized that values are organized in opposite contrastive pairs where the opposite of a given value is a value having positive qualities that are lacking in the other value. The values are Enjoyment, Unification with others, Love, Health, Ability, Power, Being modest, Solitude, Independence, Risk health for something more important, Test new things, and Loyalty. They are divided into six bipolar pairs and are assumed to form a circumplex structure (see Figure 2). The values are measured on seven different measures of value salience. Each value can be connected to all measures of value salience and each measure of value salience can be connected to all values. The measures of value salience are Access, Self – Others, Imagination – Reality, Comparison, Importance, Negative – Positive and Confidence. Included were also 3 different goals, Happiness, Meaningfulness and Energy. The goals are central in life and it is hypothesized that the values lead to the goals.

Data were collected by means of a web-based questionnaire in which the values, measures of value salience, and goals were operationalized in the form of verbally

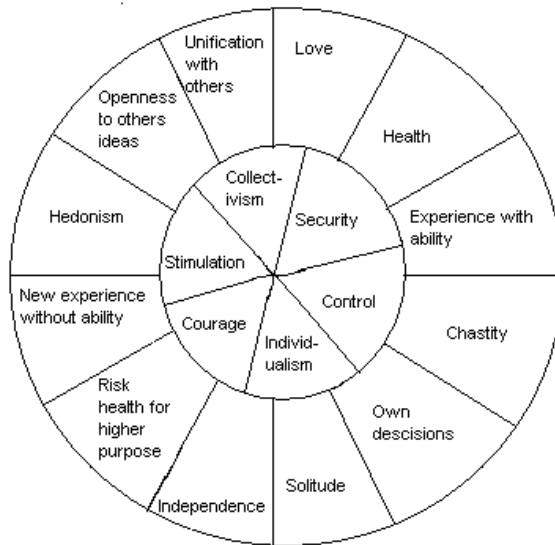


Figure 2. Theoretical structure of the values in Study 1.

defined rating scales. Analyses of variance were conducted to examine the extent to which and how the mean ratings of measures of value salience for each value differ from each other. Correlations between the ratings of the values and MDS were used to examine the validity of the circumplex structure. Regression analyses were performed to determine if the goals are related to the values and the measures of value salience, and if so to determine which values and measures of value salience have the strongest effects.

Participants were 76 men and 155 women recruited from an available pool of undergraduates at the University of Gothenburg, Göteborg, Sweden. In emails sent to participants they were asked to access an internet address where the questionnaire was presented. First they had to indicate their gender and age. Then they were asked about their access to the three goals. After that they were asked to rate on nine-point scales the measures of value salience of the values.

The measures of value salience ratings showed that different values are associated with different patterns of measures of value salience. The results furthermore showed several deviations from a circumplex structure, which indicated

that the value model needed to be revised. All values and all measures of value salience were to some extent related to the goals.

Study II

A partly different value structure was tested in Study II and revised based on the results of Study I. The values are called contrastive values and the goals are now referred to as non-contrastive values. Instead of twelve contrastive values there were 8, divided into four opposite pairs. These are more clear opposites than in Study I. The expected circumplex structure of these values is presented in Figure 3. The contrastive values are Security, Get help, Adaptation, Prioritize others, Courage, Management by your own, Own will, and Prioritize self. The structure is divided into two different dimensions in two different ways. The first dimensions are Comfort – Challenge or Person focus – Social focus. The second dimensions are Independence – Dependence or Self preservation – Self transcendence.

There were five different measures of value salience, Access, Importance, Ability, Positive-Negative, and Engagement. Reality – Imagination, Comparison, Self – Others and Confidence were not correlating enough with the other measures and were therefore removed from the inventory. Instead Ability and Engagement were included.

Non-contrastive values were included. These are not expected to fit in a circumplex structure of values, but to be located in the middle of the structure since they are connected to several values. The non-contrastive values were Deeper understanding of the world, Health, Achievement, Respected, Happiness, Meaningfulness, Love and Enjoyment. Energy was instead seen as a measure of value salience (Engagement).



Figure 3. Theoretical structure of the values in Study 2.

Experiment 1 enrolled as participants 144 students and teachers at the Department of Psychology, Stockholm University, Sweden. They answered a web-questionnaire. First, they were asked about their gender and age. Then they were asked to rate the measures of value salience connected to each contrastive value on nine-point scales. MDS revealed the expected circumplex structure. The measure of value salience with the clearest circumplex structure was Access. This is perhaps because it is most obvious that one cannot have access to two opposite values at the same time. CIRCUM (Browne, 1992) was used to calculate a more exact statistical measure of the degree of fit to a circumplex structure. It was found that the value structure was closer to a circumplex than tests of Schwartz' value structure based on comparable data.

Another 143 undergraduate students at the Department of Psychology, Stockholm University, participated in Experiment 2. They also answered a web-questionnaire in which they were first asked about their age and gender. In order to familiarize them with the values, they were then asked to rate on nine-point scales their access to the eight contrastive and eight non-contrastive values. In the next section descriptions were presented of 16 fictitious individuals with high access to each of the values. The participants were each time asked to rate on nine-point scales ranging from "a very small extent" to "a very large extent" how much access they believed the individual had to each of the other values. On the basis of these data a similarity measure was constructed and submitted to MDS. The results showed that

the contrastive values formed the expected circumplex structure. Except for Deeper Understanding, the non-contrastive values were as expected close to the centre of the circumplex structure.

Study III

Each of the eight contrastive values were in Study III hypothesized to be associated with one specific negative and one specific positive emotion (see Figure 4). If access to a contrastive value is reached, a positive emotion was supposed to be experienced, but also a negative emotion since access to the opposite value is lost. Therefore, access to a contrastive value was supposed to lead to both a positive and a negative emotion. In addition the emotion terms were supposed to be associated more to neighbouring values in the circumplex and less to more distant values. Therefore, it was hypothesized that the contrastive values would form a circumplex structure if the ratings of the emotion terms were used as cases. Access to non-contrastive values was hypothesized to lead to more positive and less negative emotions than access to the contrastive values.

In a pilot study, 21 students from Gothenburg University were enrolled as participants. They answered another web-questionnaire where they were asked to indicate to which extent the values and their related emotion terms were seen as emotions. It was found that all emotion terms were seen more as emotions than the values they were supposed to be associated with. But some emotion terms, for example “feel free from responsibility”, were seen as something between values and emotions.

In Experiment 1, 120 students and teachers from Stockholm University were recruited as participants. The participants answered a web-questionnaire. First they were asked about their age and gender. Then they were asked to rate on a scale from -4 to 4 if eight positive and eight negative emotions were decreasing or increasing if one had high access to the different values. One positive and one negative emotion were expected to peak at access to each value. This pattern was close to supported by the results. There were only a few exceptions. “Feel self denial” did not peak at prioritize others and “feel self affirm” did not peak at prioritize oneself. But they were both second. When MDS was performed on the values with the ratings of the emotion terms as cases, a structure similar to the circumplex structure in Study II was revealed. In Experiment 2, 79 undergraduates were recruited from Gothenburg University. They answered a web-questionnaire and were asked to rate how much positive and negative emotions they were experiencing when they had 0%, 25%, 50%, 75%, and 100% access to the eight contrastive and eight non-contrastive values. The participants were also assigned to three groups. In the first group they were informed about the opposites to the values, in the second group about the existence of opposite values, and in the third group they did not receive any information about

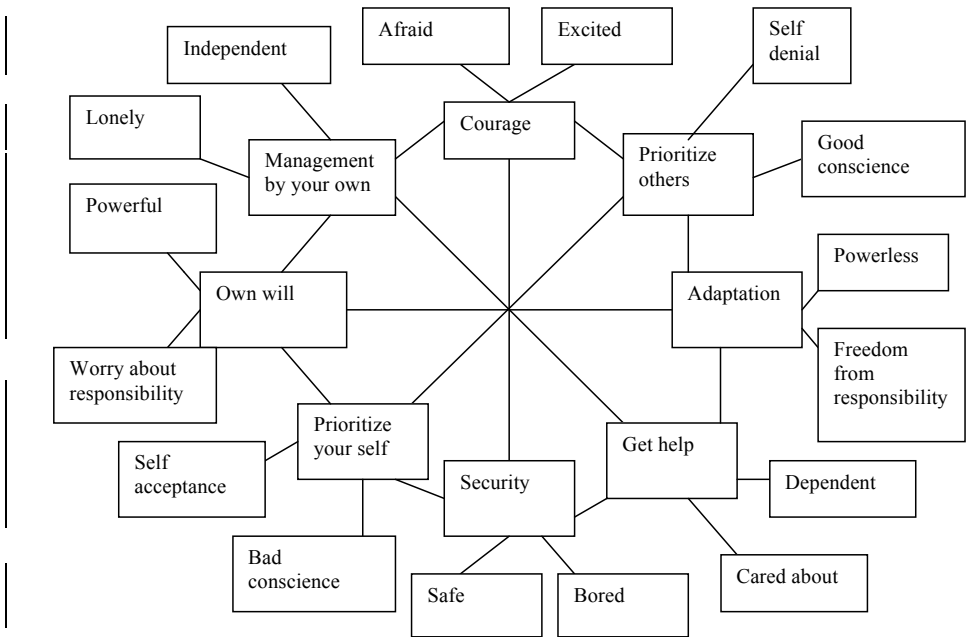


Figure 4. Theoretical structure of the contrastive values and their related emotions.

opposite values. In this way the salience of the opposite value was varied. As expected, for all three groups 100% access to the non-contrastive values lead to more positive and less negative emotions than 100% access to the contrastive values. No access to the non-contrastive values led to more negative and less positive emotions than no access to the contrastive values. High access to the contrastive values led to more positive and less negative emotions if the salience of the opposite value were low. If the salience was evenly distributed between a contrastive value and its opposite the positive and negative emotions stayed the same at both low and high access to the values, but the positive emotions were highest when the access to the contrastive values were 50%. The emotions connected to the non-contrastive values were not affected by salience.

Discussion

The purpose of the empirical studies was to find a circumplex structure of contrastive values (values with other values as opposites). This is a development of Schwartz' (1992) structure of values where some values do not have a clear opposite. It is a way to try to understand why contrastive values form a circumplex structure. Non-contrastive values were also included which did not fit in a circumplex structure since they lack opposites which can be seen as values. This makes it possible to divide values into two different groups with different features. To investigate if the circumplex structure holds for several measures and not only for a single measure of importance, several measures of value salience were used which have not been used before in research about value structures.

In Study I there were differences between ratings of value salience across values and between ratings of values across measures of value salience. There was also an interaction which indicated that different patterns of measures of value salience were connected to different values. In regression analyses all values were correlated with different goals for at least one measure of value salience. The values did not form a complete circumplex structure. Being moderate was in the wrong position and Enjoyment was too close to the middle of the circumplex. Therefore, some revision of the value structure was called for. This revision was tested in Study II.

In Study II the values in Study I were replaced by contrastive values. The goals could also be seen as values and were instead called non-contrastive values. One value in Study I, Love, was seen as contrastive in that study, with the opposite Independence. But Independence is not a real opposite of Love, one can be loved and independent at the same time, and therefore Love was seen as a non-contrastive value in Study II. This is because the idea of contrastive values is that one cannot experience the opposites at the same time.

The revised version of the value structure with contrastive values in Study II yielded a more clear circumplex structure, especially when the means of the measures of value salience were used. When the measures of salience of each value were used separately there were still some overlap between the values in the structure. Getting help were partly overlapping with Security, but overall the values came in the right order.

With relatively few participants results have been obtained showing a circumplex structure. When Schwartz (2006) conducted a study using one single value for each of the 10 value types in his system, he did not succeed to find a circumplex structure, even if the values could be mapped as expected on the dimensions Self Enhancement – Self Transcendence and Openness for Change – Conservation. The reason why the thesis has succeeded better than Schwartz in finding a clear circumplex structure is probably that the present values are more clear contrasts, and therefore they logically form a circumplex structure. This logic is most

clearly applicable to access of values which also was the measure of value salience which gave results most clearly in line with a circumplex structure. If one, for example, in actual behaviour (access) prioritizes oneself to a high extent, one must prioritize others to a lower extent. The results of Experiment 2 in Study II also showed that the circumplex structure of contrastive values also holds within subjects. Here the non-contrastive values were included. These values do not have any opposite value. Instead of wanting a balance between two opposite values which may be the case of the contrastive values, one wants more of non-contrastive values. These non-contrastive values are related to many contrastive values at the same time and were therefore located in the middle of the structure. Happiness, Meaningfulness, Love, and Enjoyment had central positions, while the other non-contrastive values with the exception of Deeper understanding of the world, at least were located inside the contrastive values.

As an extension of the value structure, there are two sets of dimensions on which contrastive values could be mapped. The first set is Self-transcendence – Self-preservation and Independence – Dependence. The dimension of Independence – Dependence is not included in Schwartz' value model. The reason for this may be that Schwartz has not included Get Help, which is a dependent value, and not Management by your own which is an independent value. Dependence may appear to be something negative, but Get help is at the same time positively loaded – one earns something when one gets help. The second set of dimensions is Person Focus – Social Focus and Comfort – Challenge. It is inspired by Fontaine, Poortinga, Delbeke and Schwartz (2008) who also defined two additional pairs of dimensions. The two sets are overlapping each other and how they are related to the values can be seen in Figure 3.

The contrasting poles of the contrastive values may shed light on how people make decisions. To choose between two values that are opposing each other is a kind of decision. If one chooses to prefer one of these values one gets less of the other. It is possible to apply these values in different decision scenarios and see how these are connected to the alternatives in the scenarios.

The results of Experiment 1 in Study III showed that almost all contrastive values were strongly associated with one specific positive and one specific negative emotion. Although largely as expected, there were also some exceptions. Feel independent did not peak at Management by your own, and Feel self denial did not peak at Prioritize others. Therefore, it is possible that the model still needs further developed. When MDS was performed on the value-emotion ratings with the emotion terms as cases, a structure similar to the circumplex structure in Study II was still revealed.

In Experiment 2 of Study III it was shown that high access to the non-contrastive values leads to more positive and less negative emotions than high access to the contrastive values. It was also shown that low access to the non-contrastive

values leads to more negative and less positive emotions than low access to the contrastive values. This is because the non-contrastive values do not have opposites which can be seen as values. It was also shown that salience of the opposite values affected the positive and negative emotions connected to access to the contrastive values. If salience of an opposite value was low, one felt more positive and less negative emotions connected to high access to the contrastive values than if salience of an opposite value was high. It was also shown that if the salience of two opposite contrastive values were equal most positive emotions were felt when access to them were 50%. This finding indicates that a balanced value structure is most positive.

The associations between values and emotions should have impact on research on emotions. Few studies have examined these associations. An exception is Nelissen, Dijker, and de Vries (2007) who investigated the relationship between Schwartz' (2001) value structure and basic emotions. The participants were asked about the importance of Schwartz's (2001) values and how much they felt basic emotions. Several correlations were found between values and emotions. The new finding in the present thesis is that contrastive values are closely linked to both positive and negative emotions. If one gets access to one contrastive value, one experiences a positive emotion. But at the same time one will experience a negative emotion since one is losing access to the opposite value. Therefore, both a positive and a negative emotion are supposed to be experienced if one has access to a contrastive value. In contrast, non-contrastive values are supposed to lead to positive emotions when access to them is reached. This is because they lack opposites. Therefore, one does not necessarily lose access to another value when reaching access to a non-contrastive value. Additional research is needed to understand more about how and why the values are connected to specific emotions.

This thesis has some limitations. The sample of participants only consisted of university students and teachers. This is a limited sample and additional studies with more heterogeneous samples are needed. Moreover, the obtained circumplex structure of values were not perfect even if it was closer to a circumplex structure than comparable data. All non-contrastive values were not in the middle of the structure as expected. Some of the emotions in Study III did not peak as expected and others were not seen as emotions to a very high extent. Therefore, the theory presented in this thesis need further refinements .

The research in this thesis has clarified the role of a circumplex structure of values. It has also increased the understanding of why contrastive values form a circumplex structure. It has further shown that the circumplex structure holds both within and between individuals, and for different measures of value salience. Non-contrastive values have also been included and the research has shown that these values are located in the middle of the value structure. The research in this thesis has also suggested a new system of negative and positive emotions connected to the contrastive values. Furthermore, it was found that salience of the opposite values

affects how much positive and negative emotion one feels connected to access to the contrastive values. This system of values and emotions can be used for research in various fields in psychology such as personality, values, emotions, and decision making, and in development of cognitive therapy as a test of how balanced value structure the patients have in terms of emotions, and if they have emotional problems with reaching access to certain values.

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