Feeling & thinking in attitudes
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CHAPTER 1

Introduction
Imagine you receive a letter. It is from the Department of Health. In the letter you are asked to send it back with an answer indicating whether or not you want to become an organ donor. You decide to deal with it later. Three weeks later, you meet up with some friends. At one point the discussion turns to organ donation. “Of course everyone should be an organ donor” seems to be the opinion of you and your friends. But then you suddenly remember the unreturned letter. You start to wonder. “Why didn’t I return the letter?”

This dissertation is about attitudes, more specifically, about feelings versus thoughts in attitudes. The distinction between feelings and thoughts has been made since the Greek philosophers. At the same time it is often neglected when assessing attitudes (Eagly, Mladinic & Otto, 1994). However, your feelings and thoughts do not always coincide and could even contradict each other. For example, it could be that your thoughts about organ donation are quite favorable, while your feelings are more mixed. This could explain the discrepancy between your favorable opinion about organ donation and your behavior. As we will see in this dissertation, it is also possible that people’s overall attitudes toward organ donation are favorable, but that this overall attitude deviates from their feelings. In this dissertation, I argue that the affect-cognition distinction is a crucial distinction that is essential for our understanding of attitudinal processes.

Identifying feelings versus thoughts in attitudes immediately raises the question of what an attitude encompasses. We could adopt the definition of attitudes proposed by Eagly and Chaiken (1993, p. 1): “The psychological tendency to evaluate a particular entity with some degree of favor or disfavor”. However, when you make a distinction between feeling and thinking, or cognition and affect, the starting-point is that there is more to attitudes than overall evaluations. So how can attitudes, and feeling versus thinking in attitudes, best be conceptualized? There currently exist different views about how attitudes are structured.
In this Introduction, I will first introduce a definition of affect and cognition in attitudes. Then I will give an overview of several models that incorporate affective, cognitive, and at times also an overall evaluative factor of attitude. I will then turn to attitude measurement, and end with an outline of this dissertation.

Defining affect and cognition in attitudes

Before discussing models of attitudes, it is vital that affect and cognition in attitudes are well defined. This depends on whether or not attitudes are viewed as consisting of different factors\(^1\) (McGuire, 1969; Rosenberg & Hovland, 1960; Zanna & Rempel, 1988), as predominantly cognitive structures (e.g., Fishbein & Ajzen, 1975), or as a combination of automatic and deliberate processes, with a primary role for automatic processes (e.g., Bargh, Chaiken, Govender & Pratto, 1992; Fazio, 1995). In the latter tradition, an attitude is usually conceptualized as consisting of one factor (an exception is Wilson, Lindsey, & Schooler, 2000). Within this tradition, there are notable differences in how affect is defined: Affect has been used as a general term to denote feelings and emotions (e.g., Cacioppo, Petty, & Geen, 1989; Fazio, 1995), or as a term to denote a preference, or a positive or negative evaluation (e.g., de Houwer, 2003; Zajonc, 1980). An example of the first definition of affect is the fear relating to the American intervention in Iraq, whereas an example of the second definition of affect is the positive or negative evaluation of this intervention. In this latter case, affect seems very close to the meaning of attitude as described by Eagly and Chaiken (1993). Thus, according to this latter view, affect and attitudes are almost interchangeable.

When attitudes are seen as comprised of different factors, there is less divergence in how affect is conceptualized. Most researchers who distinguish different factors of attitudes have defined affect as referring to general emotions and feelings associated with the attitude object (e.g., Breckler & Wiggins, 1989; Crites, Fabrigar, & Petty, 1994; van der Pligt, Zeelenberg, van Dijk, de Vries, &
Richard, 1998). It is this conceptualization of affect that we employ in this dissertation.

As for the cognitive factor of an attitude, it can be described as evaluative thoughts about an attitude object (Breckler, 1984; Haddock & Zanna, 1999). This also deviates from the perspective on cognition that is shared by several unitary attitude perspectives, which generally regard cognitions as not necessarily inherently evaluative. An example of such a conceptualization is a deliberation of the form: ‘taxes lead to more governmental involvement’ which varies in perceived likelihood of occurrence (Fishbein & Ajzen, 1975). The evaluation only arises in connection with the perceived desirability of these outcomes, and attitudes are assumed to be based on a combination of various attributes unique to the attitude object, weighted by the evaluation of these attributes.

Although the utility of these expectancy-value approaches is acknowledged, they are less well suited to the business of comparing (the effects of) affect versus cognition in attitudes. One reason for this is that there is a need to achieve a similar level of specificity for measures of affect and cognition in attitudes. That is, when measuring cognitions toward taxes in the manner as described above, the affective factor should be measured at a comparable level of specificity. However, when asking for feelings in this way, the affective measure becomes something like “I hate it that taxes lead to more governmental involvement”, which is at best a combination of affective and cognitive factors.

A more general way of measuring affect on, for example, a Likert scale could reflect feelings more genuinely. An example would be: ‘I hate taxes’. Conversely, the cognitive measure should be on a comparable level of specificity. An example of the cognitive counterpart would be ‘taxes are useless’. This is an inherently valenced measure, just like the affective measure. The need to measure affect and cognition in attitudes on a common evaluative continuum has been described before by Breckler (1984). An additional
advantage is that this cognitive measure is valid for almost any attitude-object, and can therefore be applied more easily.

Thus, when identifying and comparing affect and cognition in attitudes, it could be advantageous to regard affect and cognition as factors with an evaluative connotation, and that these factors can be applied generally. Research findings have shown that affect and cognition thus defined are independent factors of attitude (Breckler, 1984).

A closer inspection of previous research also stresses the importance of being clear about how affect and cognition in attitudes are defined. Different operationalizations of the affect-cognition distinction in attitudes have led to research that defined cognition as not valenced and affect as valenced (e.g., Ostrom, 1969; Verplanken et al., 1998), affect as subliminally presented information and cognition as supraliminal presentations for cognition (Edwards, 1990), and affect as a direct experience and cognition as an indirect experience (Edwards, 1990; Fabrigar & Petty, 1999; Huskinson & Haddock, 2004).

Although the rationales underlying these approaches may well be that these differences in part stand for inherent differences between the factors (e.g., affective evaluations are often formed in direct experience with the attitude object), they also introduce additional differences (direct vs. indirect experience, subliminal vs. supraliminal presentation, or evaluative vs. not evaluative) between the factors that do not seem necessary, and can only partly account for any observed differences between affect and cognition. In any case these different operationalizations illustrate the need to be clear what affective and cognitive factors of attitudes comprise.

Models of attitudinal factors

There also exist various interpretations of how affect and cognition in attitudes are related. Original multi-component models identified attitudes as a combination of cognitive, affective and behavioral factors (Breckler, 1984;
Rosenberg & Hovland 1960). An overall evaluative factor is often added to this model (Petty, Fabrigar, & Wegener, 2003). This overall evaluative factor consists of ratings on more general evaluative scales, such as ‘positive-negative’, and is similar to what has been described as an attitude by Eagly and Chaiken (1993).

Research on affect (defined as feelings) and cognition in attitudes has investigated the relation of affective and cognitive factors to this overall evaluative factor. When the relation between the overall evaluative factor and the affective factor is relatively strong, the attitude is assumed to have an affective base, and when the correlation between the overall evaluative factor and the cognitive factor is relatively strong, the attitude is assumed to have a cognitive base (Abelson, Kinder, Peters, & Fiske 1982; Crites, Fabrigar, & Petty, 1994; Giner-Sorolla, 2001; 2004, Petty et al., 2003). This implies that cognitive and affective factors are seen as determining the overall evaluative factor. Thus, according to this research, the overall evaluative factor is a summary evaluation based on affect and cognition.

Whereas many researchers regard the overall evaluative factor as a summary evaluation, some see it as an evaluation that is to some extent separate from these factors. The overall evaluation is then described as ‘a statement in memory in addition to storing the component beliefs, feelings and behaviors’ (Maio & Haddock, 2004; p. 428; italics added). In more specific terms, it has been argued that

‘Individuals do not have the time, energy, or ability to access and review all of the contents of the relevant representational structure(s) each time they are confronted by a stimulus. Attitudes, therefore, can be viewed as having evolved along with representational processes and structures to serve as rapid, cognitively inexpensive heuristics...’ (Cacioppo, Petty, & Geen, 1989, p. 297).
This is in line with theories of automatically activated attitudes that state that an (overall) attitude has an association with the attitude object in its own right (Bargh, 1999; Fazio, 1995).

Thus, several possible models of factors of attitude can be identified. For convenience, behavior is also depicted in each model. However, because it is not included in the present theorizing it is represented in grey. First, the original multi-component model without an overall evaluative factor is depicted in Figure 1.1 Breckler (1984) has contrasted this model with a model in which attitude is represented as a single construct with no differentiation among attitude factors. He found that a model that describes attitudes as separate affective, cognitive and behavioral factors is to be preferred over attitudes represented as a single construct.

*Figure 1.1. Attitude model as proposed by Breckler (1984)*

![Attitude Model Diagram](image.png)

Second, an overall evaluative factor can be incorporated into models of attitude that included affective and cognitive factors. The relationship between these factors is usually (but sometimes only tacitly) described as hierarchical (Abelson et al., 1982; Breckler & Wiggins, 1989; Crites et al., 1994; Giner-Sorolla, 2001; 2004; Haddock & Zanna, 1999; Olson & Maio, 2003; Millar & Tesser, 1986a; Petty et al., 2003). This relationship is shown in Figure 1.2. In this scheme the affective and cognitive factors determine the overall evaluative factor.
However, when the overall evaluative factor is seen as something that is at some point stored in memory, this implies a theoretical representation as depicted in Figure 1.3., where affective, cognitive, and overall evaluative factors are distinguished from each other and interlinked but not causally related.

**Figure 1.3. Non-hierarchical model of attitude with separate but related factors**

In this model there is no causal relationship between affect and cognition, on the one hand, and the overall evaluative factor, on the other. Although this model follows from the prior ideas about a separate but related overall evaluative factor, and is less restricted than the model in Figure 1.2, it has not been used before. As we will see later in this dissertation, adopting either the hierarchical model shown in Figure 1.2. or the non-hierarchical
model shown in Figure 1.3. as a starting-point has important repercussions for the way affect versus cognition in attitudes can be investigated.

Positive and negative attitude measures

The inclusion of an affective factor in attitudes also raises another important issue: Can positive and negative evaluations be regarded as two poles of the same dimension (bipolar or one-dimensional) or can they be seen as two separate dimensions (unipolar or bi-dimensional)? In emotion research, bipolarity has been challenged for some time now (e.g., Cacioppo & Gardner, 1999). For attitudes, the question is whether evaluative measures can or cannot be regarded as one-dimensional. One-dimensionality means that more positive evaluations necessarily imply less negative evaluations. For instance, a tax-cut may result in an evaluation of taxes that both becomes more positive and at the same time less negative. This has been the predominant view since the beginning of attitude measurement (see Thurstone, 1928). If, on the other hand, positive and negative measures are regarded as two dimensions, a more positive evaluation does not necessarily lead to a less negative evaluation. This means that a tax-cut may lead to a more positive evaluation of taxes, but at the same time could leave the level of negativity unchanged.

There are several reasons why this latter view can be seen as a better reflection of what happens when attitudes change. Findings on affect suggest that a two-dimensional view characterizes positive and negative affect better (e.g., Cacioppo, Berntson, & Gardner, 1999; Larsen, McGraw, & Cacioppo, 2001; Schimmack, 2001). The basic argument of these researchers is that different emotions can exist together, e.g., it is possible to feel joy and fear at the same time. This argument can be extrapolated to affective evaluations (Cacioppo & Berntson, 1994; Cacioppo, Gardner & Berntson, 1997).

The bi-dimensional view of valence need not be restricted to affective evaluations, however. Research has shown differences in physiological responding as a function of whether the evaluation is positive or negative (e.g.,
Smith, Cacioppo, Larsen, Chartrand, 2003). Moreover, ongoing research on ambivalent attitudes demonstrates that people can have concurrent positive and negative evaluations (Jonas, Diehl, & Brömer, 1997; de Liver, van der Pligt, & Wigboldus, 2006; Newby-Clark, McGregor, & Zanna, 2002; Thompson, Zanna, & Griffin, 1995). To investigate possible distinct effects of positive and negative measures, unipolar scaling will be used for most measures in the research reported in this dissertation.

Overview of the Present Dissertation

I will address several issues relevant to the role of affect and cognition in attitudes. The second chapter is dedicated to the investigation of models of factors of attitude. In doing so, we built upon research of Breckler (1984), who demonstrated that affect and cognition can be seen as separate but related factors of attitude, and that an attitude model that has separate but related affective, cognitive and behavioral factors is to be preferred over an attitude model that consists of one factor. We added an overall evaluative factor to this model, and investigated whether this influenced the findings reported by Breckler (1984). When the overall evaluation is viewed as a summary of affective and cognitive factors, all three evaluations could be represented as one attitude. However, it is also possible that overall, affective, and cognitive factors are still best modeled as separate but related constructs.

In Chapter 3, I report research in which we investigated a follow-up question. When the overall, affective, and cognitive evaluative factors are indeed conceptualized as related but separate factors of attitude, they can also differ in their prediction of behavioral decisions. In particular, decisions could be guided more by one factor than another. Thus, it could be that for example the affective attitudinal factor predicts a specific decision, whereas the cognitive and/or overall evaluative factors of the attitude do so to a lesser extent.

In Chapter 4, I report research investigating the effects of framing information in affective or cognitive terms on attitudes. Aside from effects
shared by the overall evaluative factor, we expected that affective framing of information would have a specific impact on the affective attitudinal factor; similarly cognitive framing of information was expected to have a specific impact on the cognitive attitudinal factor. We expected similar effects on memory; i.e., people were expected to be more prone to falsely recognize information that stems from the same affective or cognitive category as the information presented to them. In addition, we explored whether the overall attitudinal expression also had an impact on affective and cognitive factors. Affective and cognitive factors of attitude could not only influence the overall evaluative factor, but the overall evaluative factor could also influence affective and cognitive factors. This is in line with the view of separate but related attitudinal factors.

Chapter 5 further expands on the notion of affect and cognition as general categories in information processing. Previous research on attitudes has shown that it matters whether people are asked to focus on their thoughts or their feelings (Millar & Tesser, 1986). In Chapter 5 I report research investigating the effects of an unobtrusive affective or cognitive focus on the formation of attitudes and memory for attitudinal information. We hypothesized that focus would influence which information is salient and that this, in turn, would guide the attitude, and possibly also have an effect on the evaluative process.

In Chapter 6, I discuss the findings reported in the preceding chapters and draw conclusions in light of the models described in this introduction, and point to several possible directions for future research.
Endnotes

1These theories generally incorporated a behavioral aspect in attitudes as well. Although we acknowledge its importance, the behavioral factor of attitudes will not be discussed in this dissertation.