

From social science concepts-by-intuition to assertions

The first chapter discussed that there are different ways to operationalize a variable of interest. The distinction between concepts-by-postulation and concepts-by-intuition was that some concepts are intuitively clear while others require theoretical and empirical support. In the remainder of Part I of the book we concentrate on the operationalization of concepts-by-intuition. In this chapter we will show how assertions can be formulated for the most common concepts-by-intuition of the social sciences. In doing so, we discuss the linguistic links between these concepts-by-intuition and the different possibilities of their verbal expression in assertions. By use of these rules one can be sure that the assertions generated represent the concept-by-intuition of interest. In the next chapter we will discuss the transition from an assertion to a request for an answer. Any verbal expression of an assertion should at minimum refer to a concept-by-intuition (e.g. behavior, norm, or evaluation) for an object of interest (e.g. government, family, or work). The selection of the concept and object of a request are rather arbitrary but depends mainly on the issue of investigation. Therefore, before we discuss these choices, we will talk about survey items and the link between requests for answers and assertions.

2.1 DESCRIPTION OF THE COMPONENTS OF A SURVEY ITEM

Andrews (1984) defined a survey item as consisting of three different parts of text or components, namely: an introduction, one or more requests for an answer and a response scale. Molenaar (1986) also uses quite similar survey item components. In this chapter we propose to build on their work but to distinguish even more components of a survey item.

In our opinion a survey item can contain the following: an introduction, a motivation, information regarding the content, information regarding a definition, an instruction of the respondent, an instruction of the interviewer, the request for an answer, and response categories or scales. Figure 2.1 summarizes the basic components of a survey item.

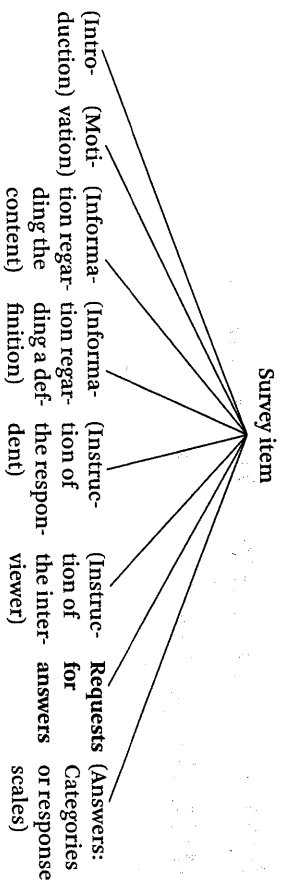


FIGURE 2.1: *Decomposition of a survey item into its components.*

The components indicated within parentheses in Figure 2.1 are optional for the designer of the survey. This implies that the request for an answer is the core unit of a survey item. It also means that the simplest form of a survey item is just an open request for an answer and nothing more. However, Figure 2.1 shows that a survey item can consist of many more components. How many and which ones are frequently used in survey research will be discussed further in Chapter 6. In this chapter we concentrate on the request for an answer.

2.2 ASSERTIONS AND REQUESTS FOR AN ANSWER

In order to clarify the link between basic concepts-by-intuition and verbal expressions of requests, the linguistic components of the sentences that represent the different concepts must be discussed first. The starting point of the discussion is the sentence structure. A *sentence* is defined as a group of words that when written down begins with a capital letter and ends with a full stop, a question mark or an exclamation mark. But, a sentence also can be classified according to its *linguistic meaning* where a distinction is made between *declarative* sentences or *assertions*, *interrogative* sentences or *requests*, *imperative* sentences or *orders*, and *exclamations*. As we will see later in this section, the first three linguistic forms of sentences are used to elicit answers from a respondent, and not only the interrogative form. Therefore, we speak of “requests for answers” and not of questions. The fourth form is not used in survey research.

Most of the items in Table 1.1 (Chapter 1) were declarative sentences or assertions representing specific concepts-by-intuition. The respondents are asked whether they agree or disagree with these assertions. It is not necessary to use such statements. It is also possible to use normal requests. But we will show how an assertion (example 2.1) can be transformed into a request (2.2). The assertion is

- 2.1 *Immigrants living here should not push themselves where they are not wanted.*

To transform this assertion into a request, we only have to add “Do you think that” then we get

- 2.2 *Do you think that immigrants living here should not push themselves where they are not wanted?*

In this or similar ways, any statement can be transformed into a request.

It is also possible to transform any request into an assertion (Harris 1978; Givon 1990). The assertion corresponding to the abovementioned request has already been given. Another example of a request is item 8 in Table 1.1. The request was as follows:

- 2.3 *Has there been much real change in the position of black people in the past few years?*

By inverting the term “there” and the auxiliary verb “has,” we obtain from this request the following assertion:

- 2.4 *There has been much real change in the position of black people in the past few years.*

Similar changes can be performed on any request in order to get an assertion.

Instead of requests or assertions, surveys sometimes use instructions or directives that are called “imperatives” in linguistic terminology. These imperatives can also be transformed into assertions. The following example illustrates this:

- 2.5a *Tell me if you are in favor of the right of abortion.*

This imperative can be transformed into an assertion as follows:

- 2.5b *I am in favor of the right of abortion.*

We have shown above that imperatives and interrogatives can be used to elicit answers from the respondents and can also be linguistically transformed into assertions or statements. Although this is true, it should be clear that there are fundamental differences between “requests requiring an answer” and the related assertions. In fact, a request for an answer, whatever the form of the request may be, presents the respondent with a set of possible answers, called the *uncertainty space* by Groenendijk and Stokhof (1997). On the other hand, an assertion is a specific choice from the set. Take example 2.5a, where the request was:

- 2.5c *Tell me if you are in favor of the right of abortion.*

This request for an answer allows not only for the assertion 2.5d:

- 2.5d *I am in favor of the right of abortion.*

but equally for the assertion 2.5e

- 2.5e *I am not in favor of the right of abortion.*

Although this inequality exists between the requests for an answer and the assertions, we prefer to discuss the link between concepts and requests for an answer on the basis of the related assertions. (We need to keep in mind that there is an almost unlimited number of forms for the requests of an answer¹). The use of assertions therefore simplifies the discussion. In Chapters 3 and 4 we will discuss how these assertions can be transformed into requests for an answer. In order to discuss the link between the basic concepts and their related assertions, the next section introduces the structure of assertions.

2.3 THE BASIC ELEMENTS OF ASSERTIONS

Sentences can be divided into sentence constituents or phrases and their syntactic functional components. In this section we will discuss the decomposition of assertions into these elements in order to determine how concept-by-intuition can be formulated in assertions and what parts of assertions can indicate the concept-by-intuition that is represented.

In linguistics a simple assertion is decomposed in two main components: a noun phrase (NP) and a verb phrase (VP). A *noun phrase (NP)* consists of one or more words with a noun or pronoun as the main part. A *verb phrase (VP)* is a phrase that has one or more verbs. But next to the verb, verb phrases contain all the remaining words in the sentence outside the noun phrase, which can be complements, objects, or adverbials. The reader should be aware that we use here the definition of verb phrase as employed in transformational generative grammar (Richards et al. 1993: 399). Example 2.6a might illustrate this:

2.6a *Clinton was a good president.*
NP + VP

Example 2.6a shows a *simple sentence or clause* where the NP is “Clinton” and “was a good president” is the VP. Although this decomposition in NP and VP is very common, for our purposes a more detailed decomposition is more useful. This decomposition is indicated in 2.6b and all the following examples. One can always use the distinction between NP and VP but we will concentrate on the parts of these components:²

2.6b *Clinton was a good president.*
Subject + Predicator + Subject Complement.

As example 2.6b illustrates “Clinton” functions as the *subject* that indicates what is being discussed in the sentence. The *predicator* or the verb is “was” and connects the subject with the remaining part of the sentence, which is again

a noun (“president”) with an adjective (“good”) as modifier of the noun. This specific remaining part expresses what the *subject is* and is therefore called a *subject complement*. Predicators that indicate what a subject is/was or becomes/became are called *link verbs (LV predicator)*. Other examples of verbs that can function as link verbs (connecting a subject with a subject complement) are “get,” “grow,” “seem,” “look like,” “appear,” “prove,” “turn out,” “remain,” “continue,” “keep,” “make,” and so on. (Koning and Van der Voort 1997: 48–49). We suggest that the negations of these verbs are also classified as link verbs, for example: “not look like,” “being unlike,” and “being different from.” According to the linguistic functions of the words, the sentence structure of example 2.6b can be formalized as structure 1:

Structure 1: Subject + LV predicator + subject complement.

It can easily be shown that one can make different assertions that refer to different concepts using this structure. As an illustration, we will create different assertions using as subject “my work” and as link verb “is” while the subject complement varies across the examples:

2.7a *My work is useful.*
2.7b *My work is pleasant.*
2.7c *My work is important.*
2.7d *My work is visible.*

We see by these examples that changing the subject complement (which is each time a different adjective) the sentence refers to a different concept-by-intuition. These examples refer to an evaluation, a feeling, an importance judgment, and a neutral cognitive judgment. We will see later that structure 1 is the basic structure for assertions expressing evaluations, feelings, importance, demographic variables, values, and cognitive judgments.

A second relevant linguistic structure is illustrated in example 2.8a:

2.8a *My mother had washed the clothes.*
Subject + predicator + direct object.

This example has a subject (“my mother”), the predicator “had washed,” and a direct object is “clothes.” Koning and Van der Voort (1997: 52) define a *direct object* as the person, thing, or animal that is “affected” by the action or state expressed by the predicator. The linguistic structure of example 2.8a thus can be summarized as structure 2:

Structure 2: Subject + predicator + direct object.

It can easily be shown through examples that changing the predicator in this structure, changes the concept-by-intuition that the assertion refers to. In the

¹ In the survey literature the term “stem” of a question is used (Bartelds et al. 1994; Dillman 2000) in a similar manner to the term assertion, but the term “stem” is used for different meanings. Consequently we prefer the term “assertion.”

² The linguistic aspect of this section is based on the work of Koning and Van der Voort (1997). We would like to thank dr. Van der Voort for his useful comments on this chapter.

examples we always use “I” as subject and “my clothes” as direct object. By varying the predicator we formulate different sentences which refer to different concepts-by-intuition:

- 2.8b *I washed my clothes.*
 2.8c *I should wash my clothes.*
 2.8d *I shall wash my clothes.*
 2.8e *I prefer to wash my clothes myself.*
 2.8f *I hate to wash my clothes.*

Although the subject and the direct object remain the same, variation in the verb changes the meaning of the assertion. In sequence of appearance above, the sentences refer to a behavior, a norm, a behavioral intention, a preference, and a feeling. Note that example 2.8e even displays a second direct object (“myself”).

As we will show structure 2 can be used to formulate relations, preferences, duties, rights, actions, expectations, feelings, and behaviour, to name only a few examples. These will be discussed further in the following sections. Structure 2 has predicators called *lexical verbs* in linguistic terminology. This means that these verbs have full meanings on diverse topics in contrast with link verbs (structure 1) Thus the use of various lexical verbs in predicators explains for a great deal why the concepts change in these assertions. Sometimes the lexical verb is preceded by an auxiliary verb such as “should” (2.8c) and “shall” (2.8d). Its function in 2.8c is to modify the lexical verb in the predicator into an obligation, and in this way it contributes to the change of the concept by intuition. In example 2.8d the auxiliary “shall” modifies the lexical verb into the future tense and this contributes again to the change of the concept-by-intuition.

There is a third linguistic structure relevant to the context of expressing assertions. Example 2.9a illustrates its structure:

- 2.9a *The position of the blacks has changed.*
 Subject + predicator.

Example 2.9a has a subject “the position of the black” and a predicator “has changed.” In linguistics these verbs which are not followed by a direct object are called *intransitive*. The basic structure of these assertions can be summarized in structure 3:

Structure 3: Subject + predicator

It can be shown that the meaning of the sentences is easily changed by changing the predicator as previously in structure 2. However, the number of possibilities is much more limited because of the reduced number of intransitive verbs. Some examples are provided below:

- 2.9b *I will go to sleep.*
 2.9c *I slept.*

Here the subject is “I” and the first sentence (2.9b) indicates a behavioral intention while the second (2.9c) is a behavior. Here are two more examples:

- 2.9d *The position of blacks will change.*
 2.9e *The position of blacks has changed.*

In 2.9d the subject is “the position of blacks” and the first sentence indicates a future event and the second, 2.9e, a past event. This structure is frequently used to present behavior, behavioral intentions and past and future events.

So far, we have discussed the basic components of three possible linguistic structures of assertions that can be extended with other components, as will be explained in the next sections.

2.3.1 Indirect objects as extensions of simple assertions

The first extra component that can be added to the basic structures discussed above are indirect objects. An *indirect object* is defined as the person and sometimes also the thing that benefits from the action expressed by the predicator and the direct object (Koning and Van der Voort 1997: 56). Examples 2.10a and 2.10b are illustrations:

- 2.10a *Honesty is very important to me.*
 Subject + LV predicator + subject + complement indirect object

Example 2.10a has structure 1 but an indirect object “to me” is added to it. Example 2.10b illustrates the same extension for structure 2:

- 2.10b *He bought an apartment for his mother.*
 Subject + predicator + direct object + indirect object

In this example the subject “he” is connected by the predicator “bought” and followed by a direct object “apartment” and then an *indirect object* “for his mother.” The general structure of this assertion is the same as structure 2 with the addition of an indirect object.

2.3.2 Adverbials as extensions of simple assertions

Another component that can be added to the basic structure is an adverbial. An *adverbial* gives information about when, where, why, how and under what circumstances, or to what degree something takes place, took place or will take place. Adverbials can occur in all three structures and can have quite different forms (Koning and Van der Voort 1997: 59). Examples 2.11, 2.12, and 2.13 illustrate this:

- 2.11 *Clinton was president from 1992 to 2000.*
 Subject + predicator + subject complement + adverbial.

This is an extension of structure 1 with an adverbial indicating *when* it happened.

2.12 *My mother had washed the clothes in the washing machine.*
Subject + *predicator* + *direct object* + *adverbial*.

This is an extension of structure 2 with an adverbial indicating *the way* it was done.

2.13 *He worked a lot.*
Subject + *predicator* + *adverbial*.

This is an extension of structure 3 with an adverbial indicating *a degree* of working.

2.3.3 Modifiers as extensions of simple assertions

Another very common component attached to nouns is a modifier. A *modifier* specifies a noun. The modifiers can be placed before and after the noun and can be related to the subject but also to the object. Examples 2.14, 2.15, and 2.16 illustrate the use of modifiers for the three basic structures.

2.14 *The popular Clinton was president.*
Subject (modifier + noun) + *predicator* + *subject complement*

This is an extension of structure 1 with a modifier for the subject Clinton.

2.15 *My mother had washed the dirty clothes.*
Subject + *predicator* + *direct object* (modifier + noun).

This is an extension of structure 2 with a modifier of the noun in the direct object.

2.16 *The son of my brother died.*
Subject (noun + modifier) + *predicator*

This is an extension of structure 3 with a modifier (of my brother) attached to the subject. The noun phrase as a whole including the modifier is seen as the subject not just the main word in the phrase. For that reason we have put the modifier and the noun in brackets because together they form the phrase mentioned before. In this way the basic structure is immediately evident.

2.3.4 Object complements as extensions of simple assertions

Koning and Van der Voort (1997: 54) define the object complement as a noun, adjective or prepositional phrase that follows the direct object and expresses what the direct object is or becomes. Please see examples 2.17 and 2.18 below:

2.17 *They are driving me crazy.*
Subject + *predicator* + *direct object* + *object complement*

2.18 *I consider him as a friend.*
Subject + *predicator* + *direct object* + *object complement*

These structures of 2.17 and 2.18 are the same as structure 2 with an additional object complement "crazy" or "as a friend." Although this kind of expression occurs seldom in survey research, for the sake of completeness it has been presented here.

2.3.5 Some notation rules

So far we have described three distinct forms of assertions that are relevant for concepts-by-intuition in the social sciences.

Structure 1 of an assertion connects the grammatical subject (X) by means of a link verb (I) in the predicator to a subject complement (sc). The form of this assertion is denoted simply by (XISC). In principle the "sc" could be anything, but the most frequently occurring sc's are denoted as follows:

- c denotes a neutral judgment like "large/small," "active/passive," "obvious" etc.
- ca denotes a relation such as "(to be) the cause/ reason /source of" etc.
- d denotes a demographic variable like "age," "profession," "date of birth/ marriage" etc.
- e denotes an evaluation like "good/bad," "valuable," "advantageous/disadvantageous," etc.
- f denotes a feeling or affective evaluation such as "nice/awful," "pleasant/unpleasant," "happy/unhappy," etc.
- i denotes "important," "interesting"
- pr denotes a preference such as "for/against," "in favor/in disfavor" etc.
- ri denotes a right like "permitted/allowed/justified/accepted" etc.
- s denotes "similarity" or "dissimilarity" such as "alike/unlike," "similar/dissimilar" etc.

The subject (X) can also be represented by anything, but we use specific symbols for frequently occurring subjects for coding purposes:

- g stands for government or politicians
- o denotes anyone or everybody
- r denotes the respondent himself
- v denotes a value

Structure 2 is denoted by (XPY), where the grammatical subject (X) is connected by the lexical verb (P) to the predicator "y," which contains a direct object in the simplest form. Also the same subjects as mentioned previously can be applicable. In this structure the predicators play a major role. Since there are some very frequently employed lexical verbs for predicators that relate to the intuitional concepts of social science, we will denote them with specific symbols:

- C indicates relationships where the subject causes or influences the object
- D indicates deeds such as "does," "is doing," "did," or "has done"
- E indicates predicators specifying expectations such as "expects," or "anticipates"

- F specifies feelings as links such as “like/dislike”, “feel”³ “worry about,” etc.
- FD indicates a predicator referring to future deeds such as “will,” “intends,” “wishes”
- (H+I) specifies a predicator which contains words like “has to” or “should,” “is necessary,” etc. followed by an infinitive
- HR specifies predicators like “has the right to” or “is allowed to”
- J specifies a judgment connector such as “consider,” “believe,” “think”
- PR indicates predicators referring to preferences such as “preferred to”
- S indicates relationships where a similarity (closeness) or difference (distance) between the subject and the object is indicated

Structure 3 for assertions will be denoted by (XF). Here the predicator (F) and a subject (X) are present without a direct object. An adverbial can follow the predicator. The same choices can be made for the subject and the predicator as enumerated previously.

Having discussed the basic structures of simple assertions in general the next section will discuss the characteristics of the typical assertions for the most commonly used concepts-by-intuition in survey research.

2.4 CONCEPTS-BY-INTUITION IN SURVEY RESEARCH

In this section we will describe how assertions that are characteristic of the concepts-by-intuition employed in survey research can be generated. Most researchers dealing with survey research (Oppenheim 1966; Sudman and Bradburn 1983; Bradburn and Sudman 1988; Smith 1987) make a distinction between factual or demographic requests, requests of “opinion” or “attitudes” and where they arise, requests of knowledge and behavior. The terms *opinion* and *attitude* are often used in these studies for any type of subjective variables. “Attitude” is not discussed here because we consider attitudes as concepts-by-postulation. Since we want to make a distinction between different kinds of opinions, the term “opinion” itself is also not used in this book.

In the sections that follow the structure of the connected assertions are introduced for different concepts. We start with so called subjective variables.

2.4.1 Subjective variables

By subjective variables, as stated, we understand variables for which the information can only be obtained from a respondent because the information exists only in his/her mind. The following concepts-by-intuition are discussed: evaluations, importance judgments, feelings, cognitive judgments, perceived rela-

³ Note that verbs such as “like,” “feel,” and “resemble” are linguistically mostly considered as linking verbs followed by a subject complement. However, we prefer to classify them according to their semantic meaning as feelings and similarity like lexical verbs. But the part that follows should grammatically always be considered as a subject complement.

tionships between the x and y variables, evaluative beliefs, preferences, norms, policies, rights, action tendencies and expectations of future events. We begin with evaluations.

Evaluations are seen by most researchers as concepts-by-intuition of attitudes (Fishbein and Ajzen 1975; Bradburn and Sudman 1988; Van der Pligt and de Vries 1995; Tesser and Martin 1996). Their structure (X|E) generates assertions that certainly are expressions of “evaluations” (a₂). Typical for such assertions is that the subject complement is evaluative. Examples of evaluative words are good/bad, positive/negative, perfect/imperfect, excellent/poor, superior/inferior, favorable/unfavorable, satisfactory/unsatisfactory, sufficient/insufficient, advantageous/disadvantageous, useful/useless, profitable/unprofitable, lucrative/unlucrative, and so on. Examples 2.19 and 2.20 are typical examples of assertions indicating an evaluation:

2.19 *Clinton was a good president.*

It is very clear that this assertion indicates an evaluation: the (X) is “Clinton,” the evaluative subject complement (E) is “a good president” and the link verb predicator (I) is “was.”

2.20 *Their work was perfect.*

Also this is clearly an evaluative assertion where the subject is “their work,” the linking verb is “was,” and the subject complement is “perfect.” Using structure 1 combined with an evaluative subject complement ensures that the assertion created is an evaluation of the chosen subject.

Importance is the next concept to discuss. The structure of an “importance” assertion (a₃) is (X|I) which means “x is important.” This assertion has the same form as the assertions indicating evaluations. The only difference is that the subject complement is in this case an expression of “importance.” Example 2.21 illustrates this:

2.21 *My work is important.*

“My work” is the subject (X) and “important” represents the subject complement (I), while “is” is the link verb (I). Values are often used as subjects. A value (V) can be defined as a basic goal or state for which individuals strive such as “honesty,” “security,” “justice,” and “happiness” (Rokeach 1973; Schwartz and Bardi 2001). A typical example is:

2.22 *Honesty is very important to me.*

In example 2.22 (X) is the value “honesty,” the predicator (I) is “is,” and “very important” is the subject complement of “honesty,” while “to me” is an indirect object. There is no doubt that assertions generated with structure 1 and an importance subject complement represent importance judgments.

Feelings or affective evaluations have in the past been considered as belonging to evaluations (Bradburn and Sudman 1988; Van der Pligt and de

