

“Wavering respondent loyalties:”

Comparing three models of stability in political attitudes ”

Table of Contents

Table of contents	2
Abstract	4
Introduction	6
Scientific relevance	6
Problem formulation	6
Theoretical framework	8
Conceptualization of attitudes	8
Definition	10
Beliefs	11
Link between attitudes and beliefs	11
Definition of belief	11
Ideologies and beliefs	11
Measurement of attitudes	12
Reliability	12
Single- versus multiple items	12
Internal consistency	12
Validity	13
Stability	13
Stability in political attitudes	13
Variables	14
Confidence in institutions	14
Political efficacy	15
Models of attitude change	16
The Converse model	16
The Achen model	17
The Zaller model	19
Receive-acceptance model	19
Hypotheses	20
Data and methods	22
Data	22
Methods	22
Variables	23

Political attitudes.....	23
Education.....	25
Political awareness	25
Missing values	27
Non response.....	27
Representativeness of the panel.....	27
Results	28
Reliability	28
Stability	28
Interpretation of the stability and measurement error	29
Intervention of education	30
Intervention of education: confidence.....	30
Intervention of education: internal efficacy	31
Intervention of education: external efficacy.....	32
Intervention of political awareness.....	34
Intervention of awareness: confidence.....	34
Intervention of awareness: internal efficacy	35
Intervention of awareness: external efficacy.....	36
Correlation between education and political awareness.....	37
Estimation of the model	38
Model specification	38
Specification of the Achen model	38
Specification of the Converse model.....	40
Specification of the Zaller model.....	41
Fit indices.....	43
Chi-square	43
Root Mean Square Error of Approximation	43
Expected Cross Validation Index	44
Aikake’s Information Criterion	44
Stability of political attitudes.....	45
Conclusion and discussion	46
Limitations and further research.....	47
References	50

Abstract

This thesis focuses on the methodological problem of instability in political attitudes. Measured attitude change can be caused by the actual attitude change of the respondent or by measurement error. This research aims to provide insight in this last part of measured attitude change. On the one hand, this measurement error has a nonsystematic or random part that can reduce the reliability and the stability of the measurement over time. On the other hand, the part of instability that is measurement error might be systematically influenced by background variables. In other words, particular groups of respondents might be more stable in their attitudes than others. We look into the systematic and non-systematic part of the measurement error in the measurement of political attitudes over time using data collected in the LISS panel in 2007, 2008 and 2009.

Three theories of attitude change were evaluated. The first one is the traditional model of Achen, who defines attitudes as fixed entities and considers measurement error non-systematic. Secondly, we evaluated the model of Converse, who considers attitudes “top-of-the-head-responses” and argues that stability of these attitudes is systematically influenced in favor of the “elite”. Finally, we evaluated the model of Zaller, who agrees with Converse that the measurement error is systematic but draws a more complex model around stability in which political awareness is the key variable.

The results showed that stability differs between three political attitudes. Confidence in institutions is relatively stable, whereas the variables internal and external efficacy are considerably less stable. Furthermore, we learned that there was no empirical evidence for the theory of Converse that more educated respondents were more stable. The evidence for a systematic relation between political awareness and stability, in line with the model of Zaller, was somewhat stronger. However, we found no evidence that measurement error is systematically influenced, which means that the traditional model of Achen has the best explanation for instability in political attitudes from these three models. This indicates that the measurement error in measuring stability of political attitudes has an important random part.

These results indicate that although we cannot rule out the relation between education and instability, and more important; between awareness and instability, there is empirical evidence that random error, possibly caused by the survey, is a larger part of the instability than Converse and Zaller might expect. In this context, scholars could also focus on the exact source of random error that causes stability in political attitudes instead of seeking for a systematic influence on stability. Moreover, considering the fact that random error might be an important factor in instability, further research could focus on the relation between level of education and sources that cause random error, for instance the formulation of survey

questions. The same suggestion can be made for respondents who are less aware. The difference in stability between respondents who are not aware and those who are fairly or very aware was considerably larger than the differences for education. Respondents who are less aware, might be more sensitive to vague survey questions because they have less information and consequently, less formed opinions.

The last limitation that is discussed concerns the specification of the models by means of structural equation modeling. First of all, the models that are specified in LISREL are a simplified version of the theoretical models of Achen, Converse and Zaller, made in order to draw conclusions about the comparison of these models. A detailed analysis of all the exact workings of these separate models would involve specific evaluation of each model based on data collected for this purpose, which was not possible in this research. However, this possibility of omitted variables bias does not give rise to any conjectures about the direction of the results. New variables can strengthen or weaken the relation between awareness and stability, but are not likely to change the direction of the relation. In this research, measurement error is probably random and there is no reason to suspect that one of the other models will turn out much better in a more detailed analysis. However, further research that is able to simulate all the exact underpinnings of these models is called for in order to confirm this suspicion.

1 Introduction

The aim of this master thesis is to get insight in the dynamics of political attitude instability. I will search an answer to the question whether the attitude of individual respondents is instable on certain political survey questions and what the causes of the instability are. The research will focus on the methodological aspect of attitude change. Theories of the interpretation of measurement error in measuring political attitudes will be evaluated. In order to draw conclusions about the causes for instability, I will compare data collected in a panel study in three years. Before we turn to the theoretical framework of instability of attitudes, the scientific relevance is explained and the problem is formulated.

1.1 Scientific relevance

Fluctuation in political attitude stability and consistency is a problem that researchers have been interested in for decades. Research in this area has increasingly focused on political behavior; scholars have been seeking the explanation for changing attitudes in the behavioral theories of the political individual. However, there is another side to this problem that is pure methodological. Instability of political attitudes can be considered a measurement problem of the researcher. This methodological angle gives rise to debate among scholars on several related concepts. Concerning the field of research on the attitude, it depends on the conceptualization of attitudes whether one expects them to remain stable. This research on stability of attitudes can make a modest contribution to the empirical evidence that grounds the theorization about the concept and measurement of attitudes and more specifically, political attitudes. Furthermore, this research can provide empirical evidence concerning the evaluation of theories that explain measurement error in instability. Moreover, based on the findings of this research, research in the area of measurement of political concepts might gain knowledge concerning how to cope with the problem of instability and improving their methods of the measurement of political concepts. Consequently, this research can lead to an improvement in the quality of survey research in political attitudes.

1.2 Problem formulation

Attitudes of respondents are often measured in surveys. We initially have no reason to expect that these respondents change their attitudes, but from survey research we learn that attitudes do not remain stable. Instability can be considered a problem since we do not have sufficient insight in what causes the instability. Firstly, there is the possibility that respondents actually change their attitude over time. If the measured attitude change is not actual attitude change, measurement error is considered the main cause for this kind of instability. This research aims to provide insight in this part of measured attitude change. Measurement error in research concerning attitudes is quite difficult to see through. On the

one hand, measurement error has a nonsystematic or random part that can reduce the reliability and the stability of the measurement over time. On the other hand, the part of instability that is measurement error might be systematically influenced by background variables. In other words, particular groups of respondents might be more stable in their attitudes than others. There is not sufficient insight in the source of measurement error in the stability of political attitudes. The evaluation of this problem is the main interest of this research. We look into the systematic and non-systematic part of the measurement error in the measurement of political attitudes over time.

The research question in this thesis is:

“Is measured attitude change of three political attitudes, aside from actual change of the respondent, caused by random or systematic measurement error?”

1. To what extent are political attitudes unstable?
2. Is the instability due to measurement error or actual change?
3. Is there a systematic bias in this change related to education?
4. Is there a systematic bias in this change related to political awareness?

2 Theoretical framework

Fluctuation in attitudes is a problem that has interested researchers for decades. Respondents tend to give different answers to the same questions over time, whereas we would initially expect attitudes to be stable. In survey research there is debate among scholars concerning this instability. In order to retrieve insight in the problem of instability of attitudes, we must first turn to the problems concerning the conceptualization and measurement of attitudes. We will discuss the problems that center around the conceptualization, definition and measurement of attitudes. Furthermore, the focus on specific political attitudes will be clarified.

2.1 Conceptualization of attitudes

The concept of attitudes is widely discussed since World War II. In this paragraph, I discuss the definition of attitudes and the components of attitudes. In order to make a valid and reliable measurement of an attitude, we must overcome the problem of defining an attitude. Concerning the definition of an attitude, there exists a variety of definitions on this concept. I discuss the most important issues that center round the debate on the definition of attitudes and finally, I will discuss the definitions for an attitude.

We can make a general distinction between five dimensions of this concept (Kiesler, Collins and Miller, 1967, pp. 3). First, the psychological locus of the term needs to be determined. This varies from “mental and neural states” (Allport, 1924) and “collection of responses” (Campbell, 1954) to “motivational, emotional, perceptual and cognitive” (Krech and Crutchfield, 1948). The distinction between those definitions of locus mostly concerns what exactly is the psychological object of an attitude. The consequence of defining the locus as a ‘mental and neural state’ and ‘a collection of responses’ is that the concept of attitudes becomes very difficult to measure. It suggests the difference between the covert motivation between the overt response that is the answer to the questionnaire. In this study, we are interested in the overt response of the respondent to the questions in the survey, instead of the source that motivates the response. Consequently, we determine the psychological locus as a cognitive, perceptual, motivational or emotional overt response.

Secondly, we must indicate whether attitudes should be defined as a response or as a readiness to respond. The readiness to respond can be considered a disposition here. The disposition can be the source for the response. More precisely, many responses can be considered manifestations of an underlying personality characteristic that lead to dispositions. These dispositions are not directly measurable and a different concept than the responses that follow from these dispositions. Since the dispositions are not directly measurable and the responses are, it is a more adequate method to measure responses which we will follow in this thesis.

A third issue concerns to what degree attitudes are organized. This regards the question to what extent attitudes are made up of separate components and whether this differs among attitudes towards different objects. The organization of attitudes relates to the debate about the function of attitudes and opinions and how these functions must be categorized. In this field of study, there are two general functional theories explaining the function of attitudes. Katz (1960) categorizes the functions of an attitude in four categories: instrumental, ego-defensive, knowledge and value-expressive.

The other functional theory of Smith, Bruner and White (1956) categorizes the same functions as social adjustment, externalization, object appraisal and quality of expressiveness. It is beyond the purpose of this thesis to discuss all the substantive concepts here, but we must note the differences between these views here. Although these two sets overlap considerably, the view on attitudes of Smith, Bruner and White is much more functional. While Katz includes all needs which an object might serve; Smith, Bruner and White focus on the social functions served by the attitude. The lack of agreement on categorization shows when Katz (1960) does in fact stress the importance of the reflection of the past experience of the respondent with objects in reality in what he defines as the utilitarian function of attitudes. Smith, Bruner and White emphasize the same point in their theory, but categorize this function as the knowledge function of attitudes. However, the categorization of Katz has inspired more quantitative empirical research and makes specific predictions for quantitative studies of attitude change, whereas the categorization of Smith, Bruner and White is based on detailed case studies. The relevance of the categorization of Katz for this study is that it has stimulated research that has made predictions concerning attitude change of particular groups of respondents that have characteristics related to one or more functions in this categorization. It provides a conceptualization in which the functional categories are based on more than just utilitarian purposes.

A fourth dimension that the authors describe concerns the extent to which attitudes are learned through previous experience. There is a common consensus among scholars that attitudes are forged out of previous experience. The argument that attitudes are only partly based by previous experience indicates that there much room left for other factors to influence an attitude. The consequence of this line of thinking is that there might be numerous factors that influence attitudes over time that we have no knowledge of. In this case, systematic error over time in measuring the concept of attitude in this way should be taken into account. In this study we believe that attitudes may initially not be merely based on previous experience, but we do believe that they are fixed over time which leaves little room for alternative explanations than previous experience.

The last dimension concerns the extent to which attitudes play a directive-knowledge function or a dynamic-motivational function. Basically, this is a specification of one of the

functions of an attitude mentioned earlier: the knowledge function of Katz. According to Katz (1960), respondents seek knowledge in forming attitudes in order to “give meaning to what would otherwise be an unorganized chaotic universe” (Katz, 1960, pp.175). In other words, respondents form attitudes because they help to apply standards or frames of reference for understanding their world. According to the conflicting theory from Smith, Bruner and White (1956), the knowledge function (which they call ‘object appraisal’) stresses the role that gathering information plays in the day-to-day adaptive activities of the individual. Attitudes aid people in classifying for action the objects of the environment, and they make appropriate response tendencies available for coping with these objects (Smith, Bruner and White, 1956, pp.41).

The difference between the two views discussed above is that the view of Smith, Bruner and White is more utilitarian. Utilitarian attitudes reflect an individual’s past experience with certain objects, and utilitarian attitudes are aroused and changed in the context of dealing with new problems in the environment. The consequence of this line of thinking is that forming the attitude is considered to be formed in order to make some kind of contribution, which indicates that the attitude is driven by an underlying purpose. In the case of the conceptualization of Katz, the individual seems to form the attitude without that prior incentive but in order to apply his cognitive capacities, making sense of problems with objects in the environment. In this study, we assume that an attitude exist without being ‘forced’ to exist merely in order to utilize in daily coping with the environment. We follow this view of Katz (1960), because it provides a more profound explanation of the cognitive function of attitudes that states knowledge is used in order to categorize information and form attitudes, instead of merely aroused in order to overcome daily problems. Moreover, Katz his functional theory has stimulated more empirical research on among others, political attitudes. It is a common starting point in attitude studies.

2.2 Definition

Following from the discussion on the conceptualization of attitudes, we can conclude that the definition must include that attitude is not a disposition but a response. Ajzen (1988) defines attitudes as “a disposition to respond favorably or unfavorably to an object, person institution or event” (Ajzen, 1988, pp. 4). Kiesler, Collins and Miller try to make a distinction between opinions and attitudes and suggest that ‘opinions should be defined as an overt expression of a covert attitude” (Kiesler, Collins and Miller, 1967, pp.4). This comes closer to the concept of an attitude that we use in this study, but suggests that we actually discuss opinion. Eagly and Chaiken define attitudes as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly and Chaiken, 1993, pp.1). This definition evidently speaks of attitudes and stresses the point of expression and evaluation. This definition is most suitable considering the concept of an attitude in this study.

2.3 Beliefs

In the discussion about attitudes, the concept of beliefs is an important predictor. There is consensus among scholars that beliefs influence attitudes. In this section, I will first discuss the link between attitudes and beliefs, the definition of beliefs and the relation between ideologies and beliefs.

2.3.1 Link between attitudes and beliefs

Attitudes are strongly related to beliefs. Eagly and Chaiken (1993) define beliefs as “the associations or linkages that people establish between the attitude object and various attributes”. Attitudes and beliefs are linked because respondents are considered to have long represented beliefs forming propositions that link an attitude object to some other entity by means of a verb that expresses association or disassociation. For instance, when respondents answer that they favor punitive solutions for crime, the punitive solutions are the attitude object, favor is the verb that shows association and crime is the other entity that the attitude object applies to. In sum, we must consider beliefs an important general motivator system for attitudes.

2.3.2 Definition of belief

This brings us to the definition of beliefs. Beliefs are often seen as the motivator for a response of a respondent to an attitude question. The beliefs that people hold are often linked to other beliefs in various ways. Beliefs can imply similar degrees of evaluative meaning or can be linked via causal, logical or other sorts of linkages (Eagly and Chaiken, 1993, pp.123). When these similar beliefs are bound together through similar evaluative meaning or logic, a system exists. A belief system exist when “a configuration of ideas and attitudes are bound together by some form of constraint or interdependence” (Converse, 1964, pp.207). Constraint may be taken to mean the success we would have in predicting, given initial knowledge than an individual holds a specified attitude, that he holds certain further ideas and attitudes. In this study, we follow this line of thinking about belief systems.

2.3.3 Ideologies and beliefs

Concerning attitudes on political items, belief systems are closely related to ideologies. Ideologies have typically been defined as clusters or configurations of attitudes and beliefs that are interdependent or organized around a dominant societal theme such as liberalism or conservatism (Eagly and Chaiken, 1993, pp.123). Respondents that have an ideology are expected to derive their attitudes on specific policy problems from their ideology. Since this study focuses on political attitudes, ideology is an important concept for this study.

2.4 Measurement of attitudes

Now we have established the conceptualization of attitudes, we must consider how to measure attitudes. Concerning measurement, there are three relevant dimensions in measurement that must be mentioned here. In this section, I discuss the measures of an attitude in terms of validity, reliability and stability. A conclusion will be drawn with regard to the issues that relate to the measurement of attitudes used in this study.

2.4.1 Reliability

This dimension of measurement refers to the extent to which hypothetically repeated assessments of the same attitudes produce equivalent results. Otherwise, we can say that reliability of a measure is the extent to which it is free from random error. In this paragraph, I will discuss single versus multiple items and internal consistence.

2.4.2 Single- versus multiple items

Ajzen (1988) discusses single-item measures. Survey-questions that directly ask respondents to report their attitudes can have proved quite adequate for the assessment of particular attitudes, but the drawback of this method is that it can be a problem for assessment of reliability. Single responses tend to lead to low correlations between repeated observations due to just different responses or misinterpreted questions or incorrect responses (Ajzen, 1988, pp.10). Consequently, because this possibility increases with single-items, random error in the measurement of attitudes will be higher. Multi-item measures increase the reliability of attitudes measures. In multi-item scales, an attitude is being measured with multiple items that together form the construct of the attitude. For instance, political efficacy is often measured with a few statements that the respondent can show a certain amount of agreement or disagreement with. In this case, the reliability of the measure increases because there are multiple items. Due to the fact that responses are 'summarized' in order to measure a construct, random error will be lower. Additionally, a small scale with a few items increases our confidence that the results will generalize to a universe of an attitude items (Kiesler, Collins and Miller, 1969, pp.22). A construct can also consist of multiple items that all measure a different part of the construct. The variable political trust, which is discussed in more detail later on in this thesis, is also measured with multiple items. Concluding, multi-item scales produce less random error than single-item scales and consequently, they are more reliable.

2.4.3 Internal consistency

A second measure for reliability is the internal consistency of the constructs. We expect that the items in multi-item scales measure the construct in a consistent manner. Internal consistence refers to the degree to which items on a scale inter-correlate with one another. A common indicator for the internal consistence of measures for an attitude is Cronbach's alpha. Cronbach's alpha is the current statistic for assessing the reliability of a scale

composed of multiple items. Measures of an attitude that score high on the Cronbach's alpha statistic are more internal consistent and considered more reliable.

2.4.4 Validity

The validity of the measurement of attitudes obviously is an important topic for research that focuses on how to adequately measure attitudes, but that is not the main topic of interest in this research. Since we are mainly interested in the non-systematic part of measurement error in studying the stability of attitudes, we are much more interested in the reliability of measurement than the validity of measurement of attitudes. However, in order to draw the context of the problem of non-systematic error, it is useful to retrieve some insight in the validity of measurement of attitudes. The validity of an attitude scale refers to the extent to which the scale truly measures the attitude it is intended to measure (Eagly and Chaiken, 1993, pp.68). Most research concerning the validity of the measurement of attitudes focuses on the question whether an attitude can be measured more validly with a behavioral measure or a self-report technique. Since situational differences, norms and expectations can vary while the attitude remains constant, this can create differences in behavior that are unrelated to the attitude (Kiesler, Collins and Miller, 1993, pp.29). This indicates that behavioral measures are a less valid measure.

2.4.5 Stability

The stability of measurement of attitudes is differentiated from internal consistency measures because this may include changes in true scores over time in addition to random error (Eagly and Chaiken, 1993, pp.68). For instance, test-retest methods measure the correlation between attitudes measured at timepoint 1 and timepoint 2. In this study, we are interested in stability over a longer period. When measuring stability over a longer period and the test-test interval is long, differences between the two observations might reflect changes in the underlying attitudes rather than mere random error. This is exactly the issue that this study focuses on.

In order to describe the context in which the problem exists that we are interested in here, the problems with measurement of attitudes are summarized here. Problems with measurement can occur as problems with reliability, validity and stability over time. Systematic error that would compromise the validity of measurement of attitudes is initially not an issue here. Within this framework, we are interested in problems concerning the reliability and stability of the measurement of attitudes.

2.5 Stability in political attitudes

Political attitudes are a central element in this study. Political attitudes have been an important aspect of the study of political behavior. Research in political science has since that date been focused on empirical research on political behavior and institutions. However, in the study of political behavior, there is not one dominant theory of political behavior.

Visser (1998) compared five theories that all explained voting behavior from another perspective. One of the psychological approaches that Visser described, originated in the Michigan School, is centered around the concept of party identification (Visser, 1993, pp.42). Intervening variables are perception, opinion and the attitude. In explaining voting behavior, political attitudes have an intervening function since they are a predictor for vote choice. In three of the other approaches, political attitudes also play an important intervening function which makes them one of the most important political constructs.

Also Lane (1959) emphasizes the importance of political attitudes in a larger segment of attitudes and beliefs. He connects political attitudes of respondents directly to other psychological factors. Political attitudes, for instance political efficacy, are caused by psychological factors as childhood experience and are a factor in a larger cluster of attitudes and beliefs (Lane, 1959, pp.168).

Political attitudes are a central element in the study of political behavior. If we determine whether respondents remain stable on their attitudes about politics, we might be able to say something about the influence of political attitudes over time in the general study of political behavior. Concerning this research, we initially expect political attitudes to remain the same. Not only on issue questions where respondents are asked to give their position on should be stable, but also attitudes about political trust and efficacy should remain the same.

2.6 Variables

There are three variables in this study that form an important construct in the study of political behavior: confidence in institutions, internal efficacy and external efficacy. All three variables are significant relevant in the study of political behavior because high instability in respondents' attitudes in these concepts would have major consequences for people's general attitude towards politics. These variables and their scientific relevance are discussed in more detail in the following paragraphs.

2.6.1 Confidence

In studying stability of political attitudes, confidence is perhaps one of the most interesting variables because of the major consequences that instability of confidence in institutions may have on democracy. The concept of confidence in institutions is widely discussed by scholars in the study of the individual in political behavior, as discussed above, but also in comparative research explaining democratic changes over time. The importance of consequences of unstable confidence in institutions is reflected in the studies of among others, Dalton (2004) and Norris (1999). They describe a slowly declining trend in confidence in political institutions in quite a great deal of Western societies. This has given cause to varying levels of alarm (comp. Dalton (2004) and Thomassen (2007)), but also gives cause to the question to which extent respondents attitudes towards institutions is an impulsive choice, influenced by recent affairs in politics, or a fixed attitude.

2.6.2 Political efficacy

The concept of political efficacy is also a central element in the study of political behavior. Political efficacy is selected for this study of stability because of its high involvement in among other concepts; electoral participation. Denters and Geurts (1993) argue that political powerlessness (sense of efficacy) or distrust in government are very important intervening variables in the “funnel of causality” where respondents’ personal conditions are leading to their political behavior (Denters and Geurts, 1993, pp.1). They find that political efficacy directly influences turnout. The exact causal scheme underlying this relationship is complicated, but most scholars agree that the relation between efficacy and other intervening variables can partly be explained by making a distinction between internal and external efficacy.

Lane (1959) defines the first component, internal efficacy, as the individual’s sense of political competence, the person’s assessment of his capabilities to act politically. The second component, external efficacy, is defined as the respondent’s sense of political responsiveness and refers to the openness of the political system to the citizen’s needs and demands: do citizens believe that governmental authorities are truly interested in their demands and take these into account.

The importance of the distinction between internal and external efficacy is pointed out by Niemi, Craig and Mattei (1991), who find empirical evidence for this distinction. Four items show high consistency on the internal efficacy scale: self-qualification in politics, understanding in politics, self-rating in public office and being politically informed. Grouped together, these items show to be significantly different from the external efficacy items: complexity of politics, “no say” in politics and “politicians don’t care”. Lane emphasizes the importance of the concept of political efficacy as intervening variable in the funnel of causality between background variables and voting behavior (Lane, 1959, pp.168). With regard to the Michigan approach in explaining political behavior, all variables confidence in institutions and political internal and external efficacy are highly salient issues to be studied.

3 Models of attitude change

In the previous chapter, we have been introduced with the problem of instability over time in the measurement of attitudes. Initially, we expect attitudes to remain the same over time, but empirical evidence has shown otherwise. Concerning the question what causes instability of attitudes, there are different views on the role of measurement error in this issue. When we expect attitudes to be fixed at all times, all empirical change in attitudes must be due to random measurement error. If we believe that attitudes are unstable, they must be influenced by intervening factors that cause systematic error. The contrast in these theories is as follows: On the one theoretical extreme, attitudes can be considered always stable and every change can be due to measurement error. On the other theoretical extreme, answers to survey questions are only random top-of-the-head responses, because fixed attitudes simply do not exist according to the theory. In this thesis, I elaborate on this stability of attitudes in the light of this discussion. Three theoretical models that account for attitude change are presented. Firstly, I discuss the Converse model that assumes that attitudes are subject of systematic factors. Secondly, the Achen model is presented that argues that attitudes are fixed and all change is due to random measurement error. Finally, I elaborate on the vision of Zaller, who takes a bit of both theories in accounting for attitude change.

3.1 The Converse Model

The Converse model assumes that attitudes are unstable in character. In this section, I elaborate on the background of Converse his findings and draw a conclusion of this relevance of this model for this thesis.

According to Converse (1964), the foundation of an attitude forming lies within the belief system of the respondent. The respondent holds certain ideas and attitudes (Converse, 1964, pp.207) and we expect this to show in consistency among items in one scale, for instance political trust. Moreover, we also expect this in the whole questionnaire that when a respondent answers conservative on a particular set of items, he will also answer conservative on other items. This means that we expect respondents to favor issues that are congruent with their political preference and that 'fit' within their belief system.

However, at the same time, Converse introduced the theory that a large majority of the public does not adhere to a full set of beliefs, neither do they know what an ideology is (Converse, 1964). Their answers to survey questions are highly unstable because they are unaware of the existence of their own attitudes. Converse makes an exception for this skeptic view though. The main point of Converse his theory is that belief systems are for just a small amount of the people leading for their answers to survey questions. In sum, according to Converse there are background variables that influence the change of attitudes systematically.

The way that attitudes are influenced is through new ideas that have come up central in the belief system. New information or other cues, for instance when a political party changes stand on a particular issue, forces the respondent to choose which element is more central and less likely to change in the belief system (Converse, 1964, pp.208). However, it is important to point out that central idea-elements, on which the respondent might base her answers, can also change in their relative centrality. This means that over time, respondents can change in their choice which idea-element is most salient when asked for an attitude. Answers can be different over time due to a change in the centrality of idea-elements. In short, attitudes actually can change through evaluation of ideas when the respondent has received new cues. Attitudes do not seem to be fixed by nature.

We have seen that Converse emphasizes that belief systems are an important foundation for respondents attitudes and their responses to survey questions only for respondents with certain characteristics; in other words: their change in attitudes is systematically influenced by background variables. He states that not all respondents are fully aware of the consistency among a cluster of attitudes that logically follows from the belief system. He organizes respondents in categories of awareness. The respondents that are very well aware of the range and consistency of their belief system, who are by Converse often referred to as “the elite”, will answer more consistent and stable to survey questions. They are influenced positively by their background characteristics in the stability of their attitudes. The category of respondents that has no clue of the range and consistency of their belief system tend to answer less consistent and stable to survey questions. According to Converse, this is the largest group.

The relevance of this theoretical model for this study is that it provides an understanding of why attitudes measured in this study might not remain stable. If we follow this line of thinking, we should find the cause of the instability in the background characteristics of the respondents, mostly education and social-economic status. However, this indicates a systematic distortion of the measurement of stability and that is that part of the error that we are not mainly interested in in this thesis. It might still be useful when we find instability that cannot be explained by random measurement error to take into account the relation between stability and the mentioned variables in the direction that Converse has specified.

3.2 The Achen Model

Achen (1975) has a different view on the foundation of attitudes measured in survey questions. In this paragraph, an overview will be given of the theory of Achen and the consequences for this thesis.

The model of Achen is the direct opposite of the theory of Converse in this matter. According to Achen, all respondents have true attitudes and apart from actual considered attitude change, these attitudes are fixed. Achen does not assume that there is a perfect

correlation between respondents answers' over time, but suggests that these answers may vary somewhat around their mean position for the subject. In survey research, this would indicate that a respondents' attitude would be not a single point, but rather a distribution of points around some central position (Achen, 1975, pp.1220). However, this central position is existent and should be stable. Respondents have a true attitude and do not give random responses that are that moment at the top of the head of the respondent.

This does not mean that the true attitude cannot change. Attitude change is also in the model of Achen possible. There are two possible explanations for attitude change according to Achen: the respondent has actually changed his mind, or the measured attitude change is pure random error due to vague questions or inconsistent answer categories in the survey. Concerning this last matter, the instability refers to the inaccuracy with which the underlying attitude is reflected by the survey instrument. Achen does make a suggestion how to distinguish true change from random error. Achen argues that when a respondent is stable in his views and all observed variability is measurement error, correlations between attitudes will be equal across time periods. At the other extreme, when a voter is unstable (changes his mind) and there is no systematic measurement error, correlations should become smaller at a predictable rate as time periods become more distant from each other (Achen, 1975, pp.1221). Over time, correlations between attitudes will decrease because the respondent has changed his opinion. If the data between these two time points differs for a respondent, this is due to measurement error. He expects on average a positive association between opinion changes in adjacent time intervals.

There are some common assumptions in the models of Achen and Converse. They both realize that attitudes can actually change over time. However, their explanations differ on the explanation for this change. The difference between the model of Achen and the model of Converse is that Achen considers the concept of attitude as true and existent whereas Converse sees the concept of attitude as just a reflection of top-of the head responses reflected by systematic background factors. The consequence for the explanation for attitude change is that Achen underlines the non-systematic part of this change and does not acknowledge that attitude change is influenced by systematic factors. Converse points out the strong systematic part that influences attitude stability.

The implications of this model for this thesis are twofold. Firstly, it provides us with a new explanation for attitude change, more specifically random measurement error due to question wording in the survey. This explanation accounts for the random part of the measurement error that we are interested in in this research. This allows us to hypothesize about the explanation for instability of attitudes. Secondly, the theory of Achen provides a method to distinguish between true attitude change and measurement error. This method can be useful when we analyze the correlations between attitudes over time.

3.3 The Zaller Model

Zaller's (1992) view falls between the two models of Converse and Achen discussed above. In this section, I will elaborate on this view and more specifically, elaborate on the question-answering model that forms the foundation of Zaller's view. In addition, the differences between this model and the models of Achen and Converse will be discussed as well as the implications of the Zaller Model for this thesis.

3.3.1 Receive-acceptance model

Zaller (1992) defines attitudes initially as non-existent. According to Zaller, attitudes are mainly coincidental top-of-the-head responses. Respondents' attitudes are mostly influenced by cues from the media about elite discourse on issues and the intensity of this. Individual differences in awareness of this discourse and differences in respondents' political preferences determine to what extent respondents are influenced. Awareness and preferences are the receive and acceptance (RAS) components of the model. This model deals with how respondents form attitudes in response to the particular stimuli that confront them (Zaller, 1992). Four assumptions are the foundation of this model. Firstly, respondents differ substantially in their attention to politics and therefore their exposure to elite sources of political information. Secondly, respondents react critically to political communication only to the extent that they are knowledgeable about political affairs. Thirdly, people rarely have fixed attitudes on specific issues; rather they construct preference statements on the fly as they confront each issue raised. Finally, in constructing these statements, people make use of ideas that are the most immediately salient to them. Usually these are the ideas that have recently been called to mind or thought about since it takes less time to retrieve these or related considerations from memory and bring them to the top of the head for use (Zaller, 1992, pp.20).

The direction of his hypothesis is that the greater a respondents' level of political awareness, the more likely he is to receive these cues. Furthermore, the greater a respondents' level of political awareness, reject cues that are inconsistent with his initial political preference. This is the case because more aware respondents will have more considerations about the cues that they receive be more selective in which cues are consistent with their predispositions. Following this model, Zaller understands attitude change as a change in respondents' long term response probabilities (Zaller, 1992, pp.45). New cues cause new considerations in the head of the respondent. From all considerations in the head of the respondent, the balance in answering survey questions can shift towards another preference. This depends on the amount and intensity of the cues.

The vision of Zaller has some differences agreements and disagreements with those of Converse and Achen. Zaller agrees with Converse that there is a great deal of uncertainty, tentativeness, and incomprehension in the typical mass response and that this problem goes deeper than just vague questions (Zaller, 1992, pp. 94). On the contrary, Zaller agrees with

Achen that the assumption of Converse that most response fluctuation is due to essentially random guessing by people, who have no meaningful opinions, is not entirely true. Zaller argues that although people are expressing completely opposite positions at different times, they may still be expressing real feelings, in the sense that they are responding to the issue as they see it at the time of the response.

The implications for this research are that Zaller offers us an alternative explanation for attitude change that nuances the views of Converse and Achen. The drawback of the theory of Converse is that it leaves no room at all for the suggestion that the concept of attitude exist and that respondents express real feelings in answering survey questions. This means that in our analysis we can include an explanation that both explains the non-systematic error (respondents base their answers on real feelings and these answers are expected to remain stable, the error is non-systematic) and the systematic error in measuring attitude stability (respondents' answers are systematically influenced by underlying factors (awareness)).

3.4 Hypotheses

In this theoretical framework, I have mainly focused on literature concerning models of attitude change and measurement error in measuring political attitudes. Basically, there are three models that deal with attitude change and that have a different view on the existence of attitudes and the role of measurement error. The analysis will not be conducted from the perspective of one of the theoretical models, neither will all models be 'tested' against empirical evidence in order to determine which one has most empirical ground. However, the analysis of the source of measurement error will partly be based on the analysis in Converse, Achen and Zaller. In sum, this means that I want to check what causes instability: do respondents actually change their attitudes or are respondents stable and is attitude change solely measurement error? Initially I expect there to be no measurement error, and I expect the respondent to be stable. However, when there is measurement error, this will negatively influence stability of attitudes. I will find out first whether there is measurement error. After this, I will check whether there is reason to believe that the bias is systematic.

I will follow Achen his theory in this matter by looking at the difference between answers given at time point 1-2 and time point 1-3. Whenever this correlation decreases over time, I assume the respondent has actually changed attitude. When the correlation increases or remains at the same level, I assume the instability is caused by measurement error. A more detailed description of the methods and information about data involved in this thesis can be found in the next chapter.

The following (nul)hypotheses are based on the theory of Achen. When these hypotheses cannot be supported by empirical evidence, alternative hypotheses influenced by the theory of Converse are tested.

Hypotheses:

H1: *Respondents are highly stable in their answers on particular political attitudes on three time points with intervals of one year.*

H2: *Stability in respondents' answers at political attitude questions will show a decrease when periods between intervals become larger.*

H3: *Measurement error that is present in the correlation between time points will show no systematic relation with certain levels of the variable education.*

H4: *Measurement error that is present in the correlation between time points will show no systematic relation with certain levels of political awareness.*

4 Data and Methods

In the previous chapter, a short overview was given of the methods that I will use in order to measure the source of measurement error in stability. In this chapter I will elaborate on the data, methods and variables that are involved in this study.

4.1 Data

For this study I have used data from the “MESS panel”, a longitudinal panel study that includes a “politics and values” component. The data are collected by means of a self-administered webquestionnaire at three time points: December 2007 (referred to as T1), December 2008 (T2) and December 2009 (T3). The datafile consists of the three spss-files merged together. There has been some attrition in the waves, as well as new respondents that have entered in the second and third wave. The recruitment for new respondents is based on the characteristics of the respondents that have left the panel. For the first wave, 8204 household members were approached of whom 6811 (83%) people responded. For the second wave, 8289 household members were approached, of whom 6037 people (73%) responded. For the third wave, 9398 household members were approached, of which 6327 people (68%) responded. The selection of households from this panel was done ad random among LISS panel member ages 16 years and older. More information on the response can be found in section 4.5.

4.2 Methods

The main research question to be answered is what the source of the measurement error is in attitude instability. The first model to be analyzed, the model of Achen, is based on the assumption that when respondents change their attitude, a decrease in correlation between answers given at T1 – T2 and T1 – T3 should be measured. This is because the voter has had less time to “move away from his initial attitude” compared to T3 (Achen, 1975, pp.1221). This results in the construction of the latent variable attitude change. There is one main statistical model that explains instability of attitudes. This model is specified below (Alwin D.F., Krosnick, J.A, 1991, pp. 177):

$$1 \quad Y(i) = T(i) + E(t)$$

$$2 \quad T(i) = \beta(t,t-1)T(t-1) + v(t)$$

Where Y is the variable for which stability is measured, T involves a model of attitude change in which the variances of the variable remain constant over time and an error term.

The second equation represents this model, in which the variable y at time t is dependent on $t - 1$. This model accounts for all three theories of instability. It depends on the assumptions within the model whether we follow the theory of Achen. The assumptions of this model that are in line with the model Achen are the following:

- the over-time measures are assumed to be equivalent, except for true attitude change
- that measurement error is random (Alwin, D.F., Krosnick J.A., 1991, pp.177).

In order to distinguish between the three theoretical models, we check whether the model holds under these assumptions. Especially the assumption that measurement error in stability is random distinguishes the model of Achen from the models of Converse and Zaller. In the models of Converse and Zaller the measurement error is systematic, but the models differ in the source of this systematic error. In the model of Converse the variable education is related to political attitude instability, in the model of Zaller the variable political awareness is related to political attitude instability.

4.3 Variables

Attitude change

I subtract the latter correlation (T1-T3) from the former correlation (T1-T2) and this is the value for the variable measurement error. This variable is continuous and has a meaningful zero. We can consider this variable measured at ratio level.

Stability

With the variable stability, I intend to measure the extent to which respondents hold the same attitude over time. Stability is measured with two items:

- the correlation between answers on the same item given at time point 1 and 2;
- the correlation between answers on the same item given at time point 2 and 3.

These items are continuous variables measured on an interval scale. The correlations are measured with the coefficient Pearson's R.

4.3.1 Political attitudes

Three attitudes are selected for this analysis: confidence in institutions; internal efficacy and external efficacy.

The first variable is measured by three items that concern the following question: *Can you indicate, on a scale from 0 to 10, how much confidence you personally have in each of the following institutions?*

The institutions that are included in the analysis are the Dutch government, the Dutch parliament, the legal system, the police, politicians, the political parties, European Parliament and United Nations. These items were chosen to construct confidence based

mainly on the variable confidence as used in the European Social Survey. These items are all examples of institutions that relate to a government authority in the Netherlands or abroad and which are all indirectly authorized by the Dutch voters to perform their task. The first item, the Dutch government, is not in the European Social Survey but is included in the questionnaire of the LISS panel. This item is included because it is one of the most important public institutions quite different from the Dutch Parliament. The items are not asked in a random order.

I will measure the consistency between the individual confidence items over time, but I have also created a variable "Confidence" from the internal consistency of all items. This new variable has the values 0 to 10.

Internal efficacy is measured by means of three items that concern the following three statements:

- *I am well capable of playing an active role in politics;*
- *I have a clear picture of the most important political issues in our country;*
- *Politics sometimes seems so complicated that people like me can hardly understand what is going on.*

This variable is dichotomous, so respondents can answer "that is true" or "that is not true".

External efficacy is measured by means of three items that concern the following three statements:

- *Parliamentarians do not care about the opinion of people like me;*
- *Political parties are only interested in my vote and not in my opinion;*
- *People like me have no influence at all on government policy.*

This variable is dichotomous, so respondents can answer "that is true" or "that is not true".

Because the items in internal efficacy and external efficacy are all dichotomous, it is problematic draw conclusions concerning the stability of these particular items over time. We can measure stability, but due to the dichotomous nature of the variable the results cannot be generalized to ordinal variables. In order to create variable with ordinal level of measurement, I have created a new variable "internal efficacy" and "external efficacy" from the mean of all items. Both variables can have the values 0, 1, 2 or 3. The measurement level of the variable is ordinal now.

4.3.2 Education

The variable education is included in the second model in the analysis and has a specification function. This means that the variable education is expected to specify the initial relationship between the correlations T1-T2 and T2-T3 for a certain level of education. This function can be illustrated in the following graph:

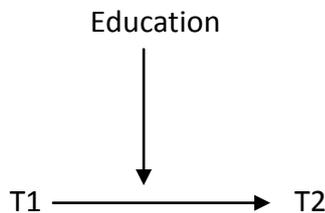


Figure 1. Specification model with education as an intervening variable

The different levels of education relate differently to the correlation between T1 and T2 (or T2 and T3). This means that stability can differ for different levels of education.

The variable education is nominal and respondents can choose from the following values:

- *Primary education*
- *VMBO (intermediate secondary education) and MBO (intermediate vocational education)*
- *HAVO/VWO (higher secondary education)*
- *HBO (higher vocational education) and WO (university)*

My starting point in this analysis, as formulated in the hypotheses at the end of the previous chapter, is that I do not expect education to interact with stability. Present differences between levels of education in stability will be random.

4.3.3 Political awareness

The variable political awareness is included in the third model in the analysis and has a specification function. Stability can differ for different levels of awareness. The variable awareness is constructed in the dataset. We include this variable to test the model of Zaller. The concept of the variable of political awareness has a knowledge function in the model of Zaller (1992). Zaller measures political awareness through questions that ask for knowledge of political concepts at the time the questionnaire is taken. Since the dataset of the MESS panel is a webquestionnaire, it is problematic to measure political knowledge because respondents can look up the answers when they are filling in the questionnaire. Because of this problem, political knowledge will be measured with error. Instead of items that measure political knowledge, there are items present in the questionnaire that ask for attention to political concepts. These items are closer to the concept of political interest than to the concept of political knowledge. This concept obviously differs from the concept of political knowledge, but these items also ask for attentiveness to political issues and in this context,

political knowledge and political interest are likely to be highly correlated. Consequently, no systematic bias can be expected from this difference in conceptualization. The items that are included in the analysis are the following:

Are you very interested in the news, fairly interested or not interested?

If the newspaper reports international news, for example about government issues, how often do you read it? (seldom or never, once in a while, often, almost always)

If you are in the company of other people and the conversation turns to national news, do you usually participate in the conversation, listen with interest, do not listen or do not have any interest?

If the newspaper reports international news, for example about tension or talks between countries, how often do you read that? (seldom or never, once in a while, often, almost always)

Are you very interested in political topics, fairly interested or not interested?

From these items, the variable political awareness is constructed by avering. The variable has the following categories:

- *Very aware*
- *Fairly aware*
- *Not aware*

In order to ensure the internal consistency of the scale, I calculated Cronbach’s Alpha for political awareness on all three time points:

Table 1
Cronbach’s Alpha Political Awareness

T1	T2	T3
0,831	0,839	0,842

Cronbach’s Alpha is high on all time points, so we can consider the scale to be reliable. Based on the model of Zaller, I expect political awareness to interact with stability. For respondents with different levels of awareness, stability will differ. As was already stated in the hypothesis at the end of the previous chapter, I expect that differences of stability between levels of awareness are random.

4.4 Missing values

A note concerning the missing values in this database is necessary here. Because we are looking at stability, we are interested in the mean of answers respondents have given over time. However, not all same respondents are included in all waves. In order to solve this problem, I have listed missing values listwise in SPSS. This means that the analysis is performed on respondents that have responded in all three waves. The number of respondents in each analysis will be shown in the tables. Because of attrition, new respondents and item non-response, the number of respondents can differ between waves.

4.5 Non response

As mentioned earlier, the response in all waves was 83%, 73% and 68% respectively. Non response can form a serious threat for validity and reliability of survey research. This depends on the type of non-response and the characteristics of the respondents that do not respond. In the politics and values study of the LISS panel, the reasons not to participate in the questionnaires are limited to refusal (for several reasons). Reasons like “not reached” are less applicable because the sample consists of a panel in which respondents are recruited for in an earlier stage.

4.5.1 Representativeness of the panel

The information on the characteristics of the non-respondents concerning this specific study is limited. However, there is information about non-respondents in the panel, so-called “sleepers” that do not respond to all questionnaires. There are three types of respondents that participate less often in the LISS panel: the elderly, single persons and non-western immigrants (Knoef and de Vos, 2009 and Van der Laan, 2009). Centerdata tries to solve this problem by oversampling underestimated groups. On the time points 1, 2 and 3 (2007, 2008 and 2009) there was a underestimation of approximately 5% for these three groups. No problems for the validity can be expected from this underrepresentation.

5 Results

The results of the analysis introduced in the previous chapter are reported here. First, the internal consistence of the variables is determined. Consequently, we will start with the analysis of the stability of confidence in institutions, internal efficacy and external efficacy at three time points.

5.1 Reliability

The reliability will be assessed with the coefficient for reliability Cronbach's Alpha. This statistic determines the internal consistence. Internal consistence refers to the degree to which items on a scale inter-correlate with one another. The table shows the value of Cronbach's Alpha for confidence, internal efficacy and external efficacy on all three time points.

Table 2

Cronbach's Alpha Confidence, Internal Efficacy, External Efficacy

	<i>Confidence</i>	<i>Internal efficacy</i>	<i>External efficacy</i>
2007	0,931	0,513	0,747
2008	0,941	0,521	0,763
2009	0,944	0,528	0,744

As table 2 shows, the reliability of the confidence scale is very high over all waves. The reliability of internal efficacy is relatively low. However, considering the small amount of items included in the scale (3), Alpha is still acceptable. We do have to take the low internal consistency into account in our analysis.

5.2 Stability

In this section I display the results of the correlations between time points 1 and 2, time points 2 and 3, and time points 1 and 3. The correlations are measured with the Pearson's R statistic. I will present the results for the variable confidence, internal efficacy and external efficacy respectively.

Table 3

Stability

	T1 and T2	T2 and T3	T1 and T3
Confidence (N=3419)	0,730	0,758	0,701
Internal efficacy (N=4111)	0,554	0,584	0,545
External efficacy (N=4111)	0,589	0,613	0,564

All correlations are significant on the $\alpha=0,01$ level

N=3419

The variables show relatively high correlations. The variable confidence seems to be relatively stable which is in line with our first hypothesis. The correlation is not perfect though. The error term of the variable stability is approximately 0.3.

The correlations show a slight increase in time points T2 - T3 compared to time points T1 – T2, but is a very small difference (0,028). Measured over a longer period of two years (time points T1-T3), the correlation drops. The correlation over the longer time period T1-T3 is smaller than both short time period correlations, so this indicates that respondents might indeed have changed their attitudes. Still, the difference in correlation is small (respectively 0,029 and 0,057 compared to correlations T1-T2 and T2-T3. This is in line with our second hypothesis that correlations remain stable and reduce over time. However, the differences are so small that we can hardly call it substantial evidence for this hypothesis. The hypothesis is not rejected either.

Internal efficacy seems to be a less stable attitude than confidence. This does not support the first hypothesis. The correlations are lower than the correlations for confidence, but they do not differ from each other considerably. The same pattern exists as the results showed for the variable confidence: correlations increase on time points T2-T3 and drop over time. The correlation increase with 0,03 and drops with 0,009 (compared to T1 and T2) and 0,039 (compared to T2 and T3). Again, differences are too small to be meaningful support for the second hypothesis. We cannot confirm or reject our first hypothesis with this data.

External efficacy shows a slightly higher correlation than internal efficacy and is somewhat more stable. However, the evidence for the first hypothesis is weak. Correlations increase with 0,024 after the first time point and decrease with 0,025 (compared to T1 and T2) and 0,049 (compared to T2 and T3). The correlations show again the same pattern: they increase in time point T2-T3, but decrease when the time period gets longer. This is hardly evidence for the second hypothesis because of the small differences between the correlations T1-T3 and T1-T2.

5.3 Interpretation of stability and measurement error

Concerning the first hypothesis, we found that the stability for the variable confidence was relatively high. The variables internal efficacy and external efficacy are less stable. The question remains what the nature of the error that these variables show, could be. The explanation for the error term will be explained in the next chapter.

Concerning the second hypothesis, we have seen that the correlations in all cases dropped over time. This is in accordance with hypothesis H1. In the line of reasoning of this model, this could indicate that respondents have actually changed their attitude within two years. However, we cannot state this conclusion based on these findings. The differences in correlations over time were very small and are not enough evidence to support the attitude change theory of Achen. Because we cannot support the hypothesis that respondents have actually changed their attitude, we can interpret the variability in the correlations as the

possibility for measurement error instead of attitude change. From the results in this chapter, it is not yet clear whether this error has a systematic ground. This means that we must doubt the assumption that measurement error is mere random error. An alternative explanation for the lack of stability for the variables confidence, internal efficacy and external efficacy is called for. An alternative hypothesis can be formulated, based on the theory of Converse. In his line of thinking, the “elite” is better aware of their belief system and will answer more stable to survey questions. The variable that represents “the elite” is in this case high education. In the next paragraph, we test the third hypothesis concerning the influence of the variable education.

5.4 Intervention of education

In this paragraph, we take education into account in the analysis concerning stability. This means that we sort the data for the variable education. The correlations between T1-T2, T2-T3 and T1-T3 are calculated for four different levels of education. The category “other” consists of respondents that responded to this question with another type of education or who did not start education yet. The stability is calculated for the variables confidence, internal efficacy and external efficacy.

5.4.1 Intervention of education: confidence

Table 4 shows the correlations for the stability of confidence layered by education. The correlations between the variables are all around 0,7. The correlations do not differ considerably; the correlation T1-T2 for the category VMBO/MBO is somewhat lower than the other categories. For the correlations T2-T3 and T1-T3 these differences are even smaller. The correlations in the category HBO/University are aside from the category other the highest. This category seems to be the least suffering from measurement error. The category VMBO/MBO is the least stable on time point T1-T2 and T2-T3. However, the differences between the correlations are very small.

Table 4

Stability of Confidence Layered by Education

	T1-T2	T2-T3	T1-T3
Primary education (N=91)	0,739	0,739	0,693
VMBO and MBO (N=1653)	0,688	0,730	0,673
HAVO/VWO (N=247)	0,739	0,763	0,672
HBO/University(N=1377)	0,741	0,765	0,700

All correlations in this table are significant on $\alpha=0,01$ level

Internal consistence variables per level of education: confidence

In order to see whether respondents have changed their attitude, we look at the internal consistence of the variable confidence for all levels of education at three time points. When the internal consistency of confidence differs between levels of education and the stability

differs for the same levels, it might be more likely that measured attitude change is measurement error instead of actual attitude change. As table 5 shows, the differences of internal consistency between the levels of education are small. Cronbach's alpha is high for all levels of education. The internal consistency for the level HBO and University is somewhat lower, but the stability of confidence is high for this group. There is no evidence for the hypothesis that measurement error is the cause of measured attitude change. The differences between the levels of education are small and the direction of the results is not what we expected. This indicates that the differences are coincidental, or with other words, random.

Table 5
Cronbach's Alpha Confidence Layered by Education

	T1	T2	T3
Primary education	0,936	0,955	0,957
VMBO and MBO	0,933	0,944	0,945
HAVO/VWO	0,933	0,933	0,942
HBO and University	0,913	0,921	0,930

5.4.2 Intervention of education: internal efficacy

Table 6 shows the correlations over time for the variable confidence. The differences in correlations T1-T2 between the categories of education are higher for internal efficacy. The stability of internal efficacy is the smallest for respondents with primary education and the largest for respondents with HBO/University education. This is also the case for the correlations on timepoints T2-T3 and T1-T3. The difference between primary education and HBO/University on timepoints T2-T3 is almost 0,2 and timepoints T1-T3 the difference is 0,17. These differences in correlations between levels of education for the variable internal efficacy are considerably higher than for the variable confidence.

Table 6
Stability of Internal Efficacy Layered by Education

	T1-T2	T2-T3	T1-T3
Primary education (N=133)	0,413	0,385	0,355
VMBO and MBO (N=2055)	0,480	0,517	0,496
HAVO/VWO (N=291)	0,544	0,572	0,497
HBO/University (N=1568)	0,548	0,581	0,525
Other (N=64)	0,517	0,534	0,514

All correlations in this table are significant on $\alpha=0,01$ level

Internal consistence variables per level of education: internal efficacy

In order to see whether respondents have changed their attitude, we look at the internal consistence of the variable internal efficacy for all levels of education at three time points. As table 7 shows, Cronbach's Alpha is relatively low for all levels of education. However, for primary education, Cronbach's Alpha is considerably lower than for the other levels of education. We also found that respondents with primary education are less stable in their attitudes, so this indicates that the measurements for this group might be more sensitive to error. However, the internal consistence of internal efficacy is overall very low. This might influence the results.

Table 7

Cronbach's Alpha Internal Efficacy Layered by Education

	T1	T2	T3
Primary education	0,291	0,383	0,413
VMBO and MBO	0,459	0,451	0,463
HAVO/VWO	0,468	0,485	0,514
HBO and University	0,511	0,507	0,519

5.4.3 Intervention of education: external efficacy

Table 8 shows the stability of the variable external efficacy. For external efficacy, the differences are somewhat higher for the correlation at time points T1-T2. The low correlation for respondents with primary education is striking, but can be seen as an outlier. This correlation is 0,302 lower than the correlation for HBO/University. The differences between the other categories are smaller. Respondents with primary education show the lowest correlations on all time points. On time points T2-T3 and T1-T3 we find the highest correlations for the categories HAVO-VWO and HBO/University respectively.

Table 8

Stability of External Efficacy Layered by Education

	T1-T2	T2-T3	T1-T3
Primary education (N=133)	0,272	0,504	0,416
VMBO and MBO (N=2055)	0,558	0,570	0,514
HAVO/VWO (N=291)	0,552	0,605	0,510
HBO/University	0,574	0,596	0,559

All correlations in this table are significant on $\alpha=0,01$ level

Internal consistence variables per level of education: external efficacy

In order to see whether respondents have changed their attitude, we look at the internal consistence of the variable external efficacy for all levels of education at three time points. The internal consistence of external efficacy is relatively high for all levels of education. There were some small differences in the stability between levels of education (respondents with primary education were somewhat less stable), but we do not see these differences in the internal consistence. There is no evidence for the hypothesis that measurement error is the cause of measured attitude change.

Table 9

Internal Consistency of External Efficacy Layered by Education

	T1	T2	T3
Primary education	0,749	0,800	0,741
VMBO and MBO	0,724	0,745	0,730
HAVO/VWO	0,734	0,750	0,682
HBO and University	0,726	0,730	0,727

The variable education seems to have a different influence on all three variables. We did not find major differences in the level of education for the variable confidence, but the differences between levels of education for internal and external efficacy are larger. Furthermore, the internal consistency for internal efficacy is low. Respondents with primary education are overall the least stable and respondents with HBO/University education are the most stable. The internal consistency of internal efficacy is also lower for respondents with primary education. Only for the variable confidence, VMBO/MBO shows the lowest correlation. Concerning the difference in intervals; there is no difference between the correlations for different levels of education with a one-year interval or correlations with a two-year interval.

However, the evidence that education influences stability is mostly based on the results for internal efficacy. Since the internal consistence of this variable is overall low, we must interpret these results with caution. Additionally, the internal consistence of external efficacy and confidence is not influenced by education, so it is more likely that respondents with low education just changed their attitude over time. The drop in correlation over time (T1-T3) compared to the correlations with a one-year interval (T1-T2 and T2-T3) strengthen this finding.

Based on these results, we cannot rule out the possibility that measured attitude change is measurement error and that this error is systematically influenced by education, but the evidence for a systematic relation is not strong. The effect seems to be different for the three variables, but we cannot abandon the assumption of systematic error influencing the stability of respondents' answers here. The model of Zaller might provide a better

explanation for a systematic error in measuring stability. In the following section, we introduce the variable political awareness.

5.5 Intervention of political awareness

In order to make a distinction between the models of Converse and Zaller, the variable political awareness can be included in the model. Awareness is the central variable in the model of Zaller. The variable awareness provides an alternative explanation for the systematic influence on stability. In this section, we check the correlations for levels of the variable awareness. The stability is calculated for the variables confidence, internal efficacy and external efficacy.

5.5.1 Intervention of political awareness: confidence

Table 10 shows the stability of the variable confidence. The correlations differ somewhat in level of awareness. The differences are not very large, but we can see a pattern. The respondents that are very aware, are most stable in their attitudes. The correlations are somewhat lower for the group of respondents that are fairly aware. These correlations are around 0,03 lower than those for the very aware respondents. The lowest are the correlations for the respondents who are not aware, but these differences are small. These correlations are around 0,05 lower than those for respondents who are fairly aware. The difference over time is the smallest for the not aware respondents. The correlation T1-T3 is only 0,02 lower than the correlation T1-T2, whereas this difference is 0,032 and 0,33 for those who are respectively fairly aware and very aware respectively. The fact that we found that the correlations are the highest for very aware is not in line with hypothesis H4, but the differences are very small so we cannot reject H4 based on these findings.

Table 10
Stability of Confidence Layered by Political Awareness

	T1-T2	T2-T3	T1-T3
Very aware (N=227)	0,789	0,799	0,756
Fairly aware (N=2165)	0,745	0,767	0,713
Not aware (N=1014)	0,679	0,728	0,659

All correlations are significant on the $\alpha=0,01$ level

Internal consistency confidence per level of awareness

The internal consistency of confidence is shown per level of awareness in table 11. For all levels of awareness, the internal consistence of confidence is very high. The difference between the levels of awareness are small and there is no reason to expect that one of the groups of respondents are more sensitive to measurement error.

Table 11

Cronbach's Alpha of Confidence Layered by Political Awareness

	T1	T2	T3
Very aware	0,928	0,935	0,930
Fairly aware	0,930	0,938	0,940
Not aware	0,933	0,946	0,951

5.5.2 Intervention of political awareness: internal efficacy

Table 12 shows the stability of the variable internal efficacy for all levels of political awareness. For internal efficacy, we do not see the same pattern. Correlations are very low for respondents who are very aware on time points T1-T2 and T2-T3. This means that these respondents are not stable in their attitudes concerning internal efficacy. The correlations for respondents in the category fairly aware are considerably higher. The respondent who are not aware show lower correlations than those who are very aware, but higher correlations on time points T1-T2 and T1-T3. The findings for the very aware level of this variable differ from the other findings so far.

Table 12

Stability of Internal Efficacy Layered by Political Awareness

	T1-T2	T2-T3	T1-T3
Very aware (N=235)	0,307	0,501	0,226
Fairly aware (N=2485)	0,495	0,539	0,497
Not aware (N=1406)	0,419	0,453	0,410

All correlations are significant on the $\alpha=0,01$ level

Internal consistency of internal efficacy per level of awareness

In the following table we can see the internal consistency of internal efficacy per level of awareness. The internal consistency of internal efficacy is low for all levels of awareness. However, the internal consistency for respondents that are very aware is the lowest. This group of respondents is also less stable in their attitudes. This could indicate that this group of respondents is more sensitive for measurement error, but is more likely that these results are influenced by the overall low internal consistency of the construct internal efficacy.

Table 13

Cronbach's Alpha of Internal Efficacy Layered by Political Awareness

	T1	T2	T3
Very aware	0,305	0,344	0,212
Fairly aware	0,431	0,436	0,464
Not aware	0,395	0,414	0,413

5.5.3 Intervention of political awareness: external efficacy

Table 14 shows the stability per level of awareness for the variable external efficacy.

The correlations for the variable external efficacy show the same pattern as the correlations for the variable confidence. The correlations are the highest for those respondents that are very aware, they drop around 0,01 for those who are fairly aware. This difference is very small, but the difference with the category not aware is considerably larger. Especially the correlation T1-T3 for the category not aware is much lower than those for the categories very aware and fairly aware. This means that respondents who are not aware are less stable in their attitudes on external efficacy when the time interval gets larger.

Table 14

Stability of External Efficacy Layered by Political Awareness

	T1-T2	T2-T3	T1-T3
Very aware (N=235)	0,611	0,625	0,595
Fairly aware (N=2485)	0,600	0,623	0,582
Not aware (N=1406)	0,534	0,575	0,500

All correlations are significant on the $\alpha=0,01$ level

Internal consistency of external efficacy per level of awareness

In table 15, we can see the internal consistency of external efficacy per level of awareness. The internal consistency of external efficacy differs a little between the levels of awareness. Cronbach's Alpha is relatively high for all levels of awareness. For respondents who are very aware, the internal consistency is high. For external efficacy, the respondents who are not aware were less stable. The internal consistency for this group is somewhat lower than the other groups, but still high. The difference between those who are very aware and those who are not aware is almost 1 point, but the other differences are smaller. There is not very much reason to expect that this group is more vulnerable to measurement error. Consequently, it is more likely that respondents who are not aware have changed their attitude more often than respondents who are very aware

Table 15

Cronbach's Alpha of External Efficacy Layered by Political Awareness

	T1	T2	T3
Very aware	0,816	0,797	0,789
Fairly aware	0,744	0,757	0,741
Not aware	0,728	0,752	0,728

5.6 Correlation between education and political awareness

In order to make sure that there is a clear distinction between the models of Converse and Zaller, the correlation between the two intervening variables is measured. The correlation between education and awareness is 0,174 on the first time point, 0,176 on the second time point and 0,175 on the third time point. The correlation between education and awareness is low, which means that there is a clear difference between the models of Converse and Zaller. Education and awareness are related, but definitely not the same empirical concepts.

The findings of stability for respondents on three levels of awareness, differs from the previous findings for the variable education. For confidence and external efficacy, there was a weak pattern visible explaining that the most aware respondents are more stable in their attitudes. The differences in correlations were quite small, but the pattern was more visible than for education. For internal efficacy, the findings are different. Very aware respondents are less stable in their attitudes concerning internal efficacy (on time points T2-T3 and T1-T3) than respondents that are not aware or fairly aware. Also, the internal consistency of this group of respondents is lower which indicates that the overall low internal consistency of the construct internal efficacy influences the results.

It might be that stability is different for different variables on several levels of awareness. There is no evidence in this chapter to reject the hypothesis that political awareness has systematic influence on stability of political attitudes. However, we cannot base a final conclusion on this about the source of measurement error in the measurement of political attitudes. It could be that the model is more complex and that the variables at one time point are related as well as education and awareness. Moreover, from these correlations we can only conclude that there is a relation between awareness and stability, but we cannot conclude whether one of these variables can explain for the variance in stability. We evaluate all models, without intervening variable (Achen), with education (Converse) and with awareness (Zaller) with LISREL in the next chapter, which gives us more insight in the explaining power of the full models with education and awareness included.

6 Estimation of the model

In the previous chapter, the results showed that the source of the variation in the instability of political attitudes does probably not relate to education and relates slightly to awareness. However, a definite conclusion cannot be drawn concerning the evaluation of the theoretical models of Achen, Converse and Zaller. This analysis will provide more information about the results we found for the hypotheses H3 and H4. The original model of Achen is tested first. Subsequently, we will check whether the results for this model differ for education and political awareness. We discuss the specification of the models, the results of the analysis and the interpretation of the fit indices.

6.1 Model specification

We will test the fit of the Achen model in this section. In order to see whether education has influence on stability, we will compare the coefficients between groups. The same analysis will be performed for political awareness. The model is Achen is the traditional model. In order to draw a path analysis in LISREL, the relations in this model must be defined. First, we include the following latent variables: confidence T1, T2 and T3 (CONF1, CONF2, CONF3) and external efficacy T1, T2 and T3 (EXT1, EXT2, EXT3)). Internal efficacy is left out of the model because of the low internal consistence. Including internal efficacy into the model would be likely to compromise the fit of the model. Consequently, we would not be able to get a clear view of the fit of the model. The observed variables included in the model are the items in the dataset that are earlier mentioned in the methodology section. Confidence is measured at three time points by 8 items (conf11 – conf 38) and external efficacy is measured at three time points by 3 items (ext11 – ext33).

6.1.1 Specification of the Achen model

The paths between the latent variables in the model that are drawn to measure stability are the following:

- CONF2 is caused by CONF1 and EXT2;
- CONF3 is caused by CONF1, CONF2 and EXT3;
- EXT2 is caused by EXT1 and CONF1;
- EXT3 is caused by EXT1, EXT2 and CONF3.

However, since this concerns the estimation of a full model we must also consider the relations between the variables at the same time point (between for instance CONF2-EXT2). These relations are not our primer interest, but we must take these paths into account in order to estimate the fit of the full model. The reciprocal paths between confidence and

external efficacy account for the close relations of these two variables. I have set the reciprocal relations equal in LISREL. We have to define independent and dependent variables in LISREL, so we choose conf1, int1 and ext1 as independent variables. In the following figure the path model of Lisrel is presented:

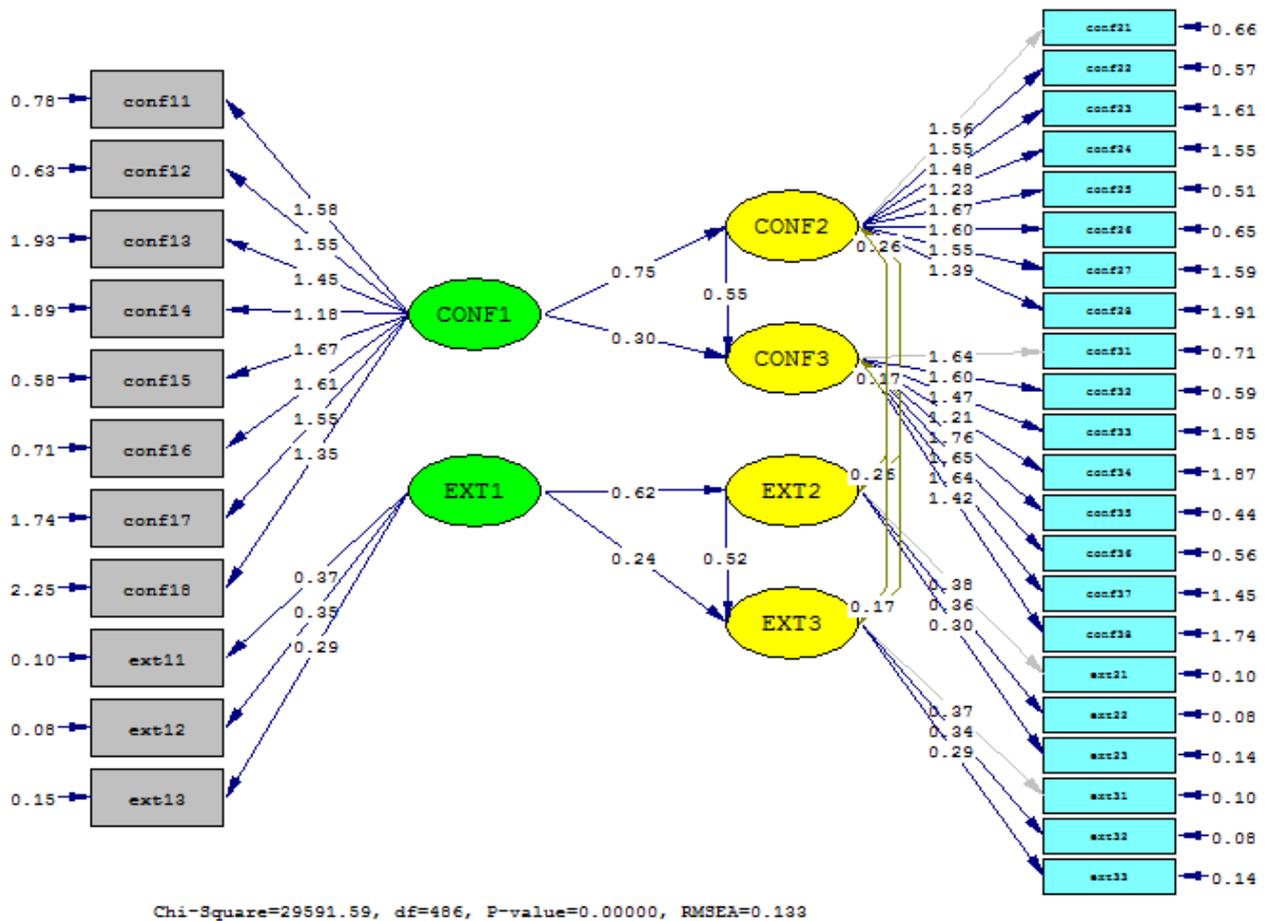


Figure 2. Image of the path model of the Achen model in LISREL

The path coefficients for this model are shown in the figure. The coefficients between CONF1 – CONF2 and EXT1 – EXT2 are high. Because the path coefficients are standardized measures, they provide information about the relative weight of the explanatory variables. The variable CONF2 is influenced by both CONF1 and EXT1, but CONF1 is a stronger indicator because of the relative weight (0.75). Also EXT1 is the most important indicator for EXT2. The variables CONF3 and EXT3 have three explanatory variables, of which CONF2 and EXT2 are the strongest. Attitudes at time point 2 are mostly influenced by the same attitude at time point 1, and attitudes at time point 3 are mostly influenced by attitudes at time point 2. The other indicator at the same time point has the least influence.

6.1.2 Converse Model

In order to find out whether education plays a role, as we specified for the model of Converse, we compare groups of educational levels in LISREL. Since there is no latent variable stability, we cannot include education in the model and specify a relationship between education and stability. This means that the conceptual diagram of Achen remains unchanged. The comparison of groups in LISREL checks three assumptions. First, it checks whether the factor loadings are equal between groups. Basically, this analysis checks whether the internal consistence of the latent variables differs between the levels of education. Subsequently, LISREL does the same for the factor correlations. Whereas different factor loadings tell us something about the different reliability of the latent variables per educational level, different factor correlations tell us something about the stability per level of education. Thirdly, LISREL offers the possibility to check whether error variances differ between groups. This analysis could reveal that measurement error per item differs per educational level.

Results group comparison education

Due to a lack of data on some levels of education, two levels of education were created (high education and low education). The former categories primary school and VMBO/MBO are low education and HAVO/VWO and HBO/University are high education. When we checked for varying factor loadings, factor correlations and error variances it appeared that LISREL could only find the solutions for the model that is highly constrained (factor loadings, factor correlations and error variances cannot vary among groups), and for the model where the factor loadings vary. The other models could all not be identified by the program or provided an extremely high chi-square or structural equation coefficient. The first model that could be identified and of which the outcome falls between lines of reasonability, was the model where factor loadings, factor correlations and error variances are constrained (Chi-square = 22870, df = 1042 and RMSEA = 0.13). The second model that could be identified by LISREL was the model in which only the factor loadings are set free to vary among groups (Chi-square = 22549, df = 1010 and RMSEA = 0.13). Both models have a very poor fit, but the second model is somewhat better. However, because of the poor fit of both models and the relatively small difference in chi-square, it would be arbitrary to conclude that the factor loadings are different between groups based on this information. What we do know from this analysis is that factor correlations and error variances probably do not differ between groups. Factor loadings might differ somewhat, but the analysis in the previous chapter showed that differences in internal consistency per level of education are small. Consequently, it is likely that both stability and internal consistence do not differ very much between respondents with different levels of education.

In the light of hypothesis H3, we found evidence that the assumption that the variable education has an intervening function in explaining instability in political attitudes is not true. There is evidence that neither the factor loadings, factor correlations and error variances

differ between groups. This indicates that the variable education is not likely to be the key variable that accounts for instability in political attitudes. We will compare these findings with the findings of the Zaller model.

6.1.3 Zaller model

The Zaller model is specified with the variable awareness. Two samples containing data with respondents who are aware and not aware respectively were compared. Again, the dataset with respondents who are very aware was too small to for LISREL to compute the estimates. The group ‘aware’ consists of the groups very aware and fairly aware. The same tests for the model of Zaller will be conducted: we will check whether the factor loadings, factor correlations and the error variances are different among groups. Unlike the results for the Converse model showed, for the Zaller model there were four models for which LISREL could find a reasonable solution. The first model that LISREL found a solution for is the model in which factor loadings, factor correlations and error variances are invariant (Chi-square = 25597, df = 1043). In the second model only the factor loadings vary (Chi-square = 23292, df = 1010). The third model is the model in which factor loadings and factor correlations vary (Chi-square = 23265, df = 1002). In the fourth model, only the factor correlations vary (Chi-square = 23341, df = 1035). Based on these results, we cannot conclude that factor correlations or factor loadings differ between the groups. This outcome is consistent with the findings in the previous paragraph, where we found small differences between the groups that were not large enough to suspect systematic measurement error. There is not enough evidence to support the hypothesis that political awareness is an intervening factor in stability of political attitudes, but this is less evident than the finding that education is not an intervening factor.

Because we also found in the previous chapter that the internal consistency and stability differed slightly between groups, we look at the structural equations for the model with varying factor loadings and factor correlations in table 16 (group aware) and table 17 (group not aware):

Table 16
Structural Equations of the Zaller Model Group Aware

Variable			
CONF2	0.16*EXT2	1.37*CONF1	
CONF3	0.60*CONF2	0.11*EXT3	0.61*CONF1
EXT2	0.16*CONF2	1.13*EXT1	
EXT3	0.11*CONF3	0.77*EXT2	0.78*EXT1

Table 17

Structural Equations of the Zaller Model Group Not Aware

Variable			
CONF2	0.14*EXT2	1.13*CONF1	
CONF3	0.62*CONF2	0.10*EXT3	0.57*CONF1
EXT2	0.14*CONF2	0.97*EXT1	
EXT3	0.10*CONF3	1.11*EXT2	0.32*EXT1

Differences between the path coefficients are quite small. For external efficacy, it seems that respondent who are aware are more stable over time and respondents who are not aware base their attitudes much more on the last time point. For confidence, respondents who are aware seem somewhat more stable. These structural equations confirm that there are differences between these two groups, but that these differences are very small.

Concerning the hypothesis H4, we found evidence that different levels of awareness might relate slightly different to stability of political attitudes. However, the differences are very small and far for conclusive. In order to get a more profound insight in the fit of this whole model, the fit indices are illustrated below. We compare the model without any constraint on the data (Achen) with the model with all constraints on education (Converse) and the model with constraint on the factor loadings and factor variances of political awareness (Zaller). The findings for the Zaller model were less evident, but the findings in the previous chapter already showed that there is a small difference between internal consistence and stability between levels of awareness. The fit indices of the Zaller models with and without these constraints only differ slightly in fit, so we do not expect bias in the results due to this decision.

6.2 Fit indices

The fit indices for the models are listed in the following table. The Achen model, Converse model and Zaller model are compared based four measures calculated by LISREL.

Table 18

Fit Indices LISREL

	<i>Achen Model</i>	<i>Converse Model</i>	<i>Zaller Model</i>
Chi-square	22476.56 (df = 486)	22870.77 (df = 1042)	23265.19 (df =1002)
RMSEA	0.13	0.13	0.13
90% confidence interval RMSEA	(0.13; 0.13)	(0.13; 0.13)	(0.13; 0.13)
P-value RMSEA	0	0	0
AIC value	29741.59	29718.96	30222.67
AIC fitted model	395598.09	360817.42	393653.17
AIC saturated model	1122	2244	2244
ECVI-value	8.74	8.87	8.9
ECVI 90% confidence interval	(8.57; 8.91)	(8.7; 9.03)	(8.73; 9.06)
ECVI fitted model	116.25	176.62	115.86
ECVI saturated model	0.33	0.33	0.33

In the comparison of these three models, none of them really stands out. All three models have a very poor fit. Since the Converse and Zaller model are basically variants of the Achen model, we will discuss the results of the fit indices of the model of Achen here in more detail.

6.2.1 Chi-square

The Chi-square of 22476.56 with 486 degrees of freedom for the Achen is significant, as well as the Chi-square for the other two models. The Chi-square is very high which indicates a poor fit of the model. However, since the dataset is very large, we must interpret the significance of the model with caution. Moreover, the Chi-square measure is influenced by the size of the correlations in the model: the higher the correlations, the poorer the fit (Bollen and Long, 1993). Since the results in the previous chapter have already shown that the correlations in the model are very high in some cases, the poor fit according to the Chi-Square can be explained. Consequently, it can be helpful to look at other fit measures.

6.2.2 Root Mean Square Error of Approximation

The Root Mean Square Error of Approximation (RMSEA) provides a fit measure that is less sensitive for high correlations between variables in the dataset (Bollen and Long, 1993). The RMSEA focuses on the size of the discrepancy between a perfect model fit and the approximation of this fit by a model that does not fit the data perfectly. Because this measure is based on the number of degrees of freedom, the complexity of the model is taken into account. The RMSEA measures “how well would the model, with unknown but

optimal parameter values, fit the population variance matrix if it were available” (Diamantopoulos and Siguaw, 2000). Models that fit well have a RMSEA of 0.05 or less. This indicates that the models do not fit data. In addition, the 90% confidence interval is far from zero. The ‘P-value for a test of close fit’ tests the alternative hypothesis that RMSEA is greater than 0.05. Obviously, the P-value of 0 indicates that the alternative hypothesis is significant, and it can be concluded that based on the RMSEA measure, the fit of the Achen model is poor.

6.2.3 Expected Cross Validation Index

Where the RMSEA is based on the error due to approximation, the Expected Cross Validation Index (ECVI) focuses on overall error, with other words the difference between the population covariance matrix and the model fitted to the sample (Diamantopoulos and Siguaw, 2000). Because the ECVI measure assesses whether a model is likely to cross-validate across samples of the same size from the same population, it can be considered a good measure for the overall fit of the model. However, the ECVI value is in itself not very informative because this measure is not standardized; there is no appropriate range of values for the ECVI coefficient. This coefficient must be compared to other models in order to determine which model has the best fit. The model with the lowest ECVI coefficient has the best fit. This indicates that the model of Achen has the best fit, but the differences are very small. The ECVI for the fitted (or independence) model calculates the fit of the model when all observed variables are independent from each other. The ECVI for the saturated model calculates the fit when all the parameters have to be estimated and there are zero degrees of freedom. The fit for this model is far better than the fit for the original model, which indicates that modifications to the model can be made, especially when more parameters are to be estimated, in order to create a better fit.

6.2.4 Akaike’s Information Criterion

The Akaike’s Information Criterion (AIC) indices are information measures based on the chi-square and the number of degrees of freedom. Information criteria attempt to incorporate the issue of model parsimony in the assessment of model fit by taking the number of estimated parameters into account (Diamantopoulos and Siguaw, 2000). The AIC values do not provide information about the fit of one model because these measures are not scaled, but we can compare them with the estimates of the other models. The model with the lowest value on these information measures, is considered to have the best fit. The AIC values of Converse Model is somewhat lower compared to the AIC value of the other models. Again, the relative differences are so small that we cannot make conclusions based on these fit measures. However, the AIC for the saturated model is lower than the AIC value for the original model. In addition to the findings for the ECVI indices, this also means that modifications must be made to the model in order to create a much better fit.

6.3 Stability of political attitudes

The models of Achen, Converse and Zaller were evaluated by means of structural equation modeling in this chapter. The Converse and Zaller model were analyzed with multiple samples. It turns out that separate groups of education do not respond differently to stability of political attitudes. For political awareness, we find small differences but the relation is very weak. However, the overall fit of these models is far from perfect. None of the variants of this model stands out. This confirms our expectations that education and political awareness are not the intervening variables that account for possible systematic measurement error in political stability. However, this does not confirm hypotheses H3 and H4. There can still be a systematic relation between stability and awareness, but this does not account for the largest part of measurement error in stability of political attitudes. Because there is no reason to expect that stability is systematically influenced from these results, the Achen model forms the best explanation for instability in political attitudes. The results in the previous paragraph confirm this expectation: the internal consistence of confidence is high for all levels of education and awareness and stability seems to decrease over time, which indicates that respondents are not influenced systematically. In other words, the instability is caused by respondents that have actually changed their attitude, and those who did not are probably influenced by random factors.

7 Conclusion and discussion

Instability in attitudes is considered to be a methodological problem in this research. Respondents are expected to keep the same attitudes and give the same answers to survey questions over time. Research in attitude stability has focused mainly on the reasons why respondents would respond differently to the same questions over time. However, scholars did not attend the methodological issue that is present in attitude instability. When we expect respondents to remain stable in their attitudes, we should be able to measure this stability in panel surveys. The problem is that respondents do not seem to be that stable as we might have expected in their political attitudes. There is always a certain amount of variability in measuring the correlations between variables over time. Consequently, it depends on the assumptions underlying the theories of stability how to interpret this variation. In this thesis, we have asked the question what is the source of this measurement error in measuring stability of political attitudes.

In order to shed a light on the concept of the attitude, we have turned to the early literature on the measurement of attitudes. Among the various explanations for this concept, we found consensus between a group of scholars concerning the evaluative and expressive meaning of the attitude and the difference between disposition and attitude. We chose to interpret attitudes as evaluative, expressive and based on disposition but not the same as the disposition.

More specifically, we focus on the stability of *political* attitudes, a concept that refers to the foundational theories of political behavioral research and institutional research with regard to its scientific relevance. This is reflected in the importance of “loyal” (stable) respondents: Respondents that actually change their political attitude give rise to the idea that politicians and political institutions might indeed have to cope with ‘wavering loyalties’ of respondents.

The problem of measurement of these attitudes is closely related to its conceptualization. In this research, the measurement of political attitudes is based on variables that consist from multiple items. Concerning the quality of the measurement of attitudes, we can discuss the validity, reliability and stability of attitudes. The focus is on the stability of these attitudes over time assuming that instability is not caused by a systematic error (a problem for validity), but caused by a non-systematic error. We formulated hypotheses in which we expect that the assumptions of the traditional model of Achen are true. From this starting point, we have formulated three theories that explain instability of attitudes.

The comparison of the theories of Achen, Zaller and Converse showed that Achen and Converse disagree fundamentally on the interpretation of instability of attitudes. According to Achen, instability is caused by random error due to vague survey questions because respondents have actual attitudes and these attitudes remain stable – except actual attitude

change. Converse questions the assumption of existing fixed attitudes and defines a large amount of the instability measured in surveys as 'noise'. This error has a systematic ground: the 'elite' is more stable in their attitudes than those who are less sophisticated. Zaller has formulated a more nuanced version of the theory of Converse: Responses to survey questions are not just noise, but stability has a systematic ground. Awareness is the variable: respondents that are more politically aware, will be more stable in their political attitudes.

In order to evaluate these theories, we measured the correlations between the same attitudes on three time points for three political attitudes. We saw that stability differs between political attitudes. Confidence in institutions is relatively stable, whereas internal and external efficacy show lower stability. In order to test the theory of Converse, we compared the stability for several levels of education. The analysis did not show a clear relation between stability and education. There were small differences between separate levels of education, but we did not find evidence for a systematic relation. In order to test the theory of Zaller, we looked at the stability coefficients for three levels of awareness. The results showed that the levels of awareness relate slightly different to stability. The evidence for this relation was stronger than for education and stability. In order to compare the explanative power of the three models, a second analysis was performed. By means of structural equation modeling, we compared the fit of the model of Achen and compared groups with different level of education and awareness. Because the stability over the two-year interval was lower than the stability over the one-year interval and the fact that the internal consistency of the constructs did only differ slightly between levels of education and awareness, we have reason to think that a considerable part of the respondents have actually changed their attitude. However, the part of instability that actually is caused by measurement error, is not likely to be influenced by education or awareness. The main research question, concerning the interpretation of the measurement error, is answered here according to our expectations. There is little reason to believe that measurement error in stability of attitudes is systematically influenced by education or awareness in this research. The Achen model, that assumes that measurement error is random, is the best explanation for instability.

Limitations and further research

There are some limitations to this conclusion. First of all, the conclusion that the model of Achen turns out to be the best out of three, does not mean that this specific model holds the best explanation for instability in political attitudes. These results indicate that the measurement error that represents instability cannot be explained away by the systematic influence of education or awareness. Although we cannot rule out the relation between education and instability, and more important; between awareness and instability, there is empirical evidence that random error, possibly caused by the survey, is a larger part of the instability than Converse and Zaller might expect. Concerning the measurement of political attitudes, reliability of measurement might be a bigger problem in stability than the validity

of measurement. In this context, scholars could also focus on the exact source of random error that causes stability in political attitudes instead of seeking for a systematic influence on stability.

An important issue here concerns the consequences for the interpretation of the concept of the attitude. Whereas Converse defines an attitude as a top of the head response, Achen thinks that the concept of a fixed attitude exists. It depends on which interpretation of this concept one takes whether the stability of attitudes is considered rule or exception. Since we did not find any compelling evidence that a systematic factor causes the instability in political attitudes, we must consider the suggestion of Achen that the concept of the fixed attitude is indeed a real possibility. For the conceptualization of the political attitude, it is very important to make this distinction. Further research concerning the source and background of attitudes can contribute to this discussion.

The traditional model without an intervening variable was considered to provide best explanation for instability. Nevertheless, there was still some empirical evidence for the assumption of Converse that education is related to stability. Respondents with only primary education were less stable in their political attitudes than other groups. For the other categories of education, the differences were small. This indicates that respondents with primary education might have other characteristics in common that influence stability. Considering the fact that random error might be an important factor in instability, further research could focus on the relation between level of education and sources that cause random error, for instance the formulation of survey questions. The same suggestion can be made for respondents who are less aware. The difference in stability between respondents who are not aware and those who are fairly or very aware was considerably larger than the differences for education. Respondents who are less aware, might be more sensitive to vague survey questions because they have less information and consequently, less formed opinions. A second concern about the Zaller model is the conceptualization and measurement of awareness. Awareness can be interpreted as political interest and political knowledge. Since this research was based on a web-questionnaire, including political knowledge in the questionnaire is problematic. In order to do a more profound analysis of the evaluation of the model of Zaller, another form of research in which political knowledge can be measured accurately is called for.

Another limitation to this conclusion that must be made concerns the scope of this research. Three political attitudes were measured in this research and generalizations about the stability of these attitudes must be made with caution. The stability coefficients for confidence in institutions were much higher than for external and internal efficacy. Moreover, the influence of both education and awareness on stability differed between confidence in institutions, internal efficacy and external efficacy. Research on the stability of

more political attitudes is called for in order to determine whether stability of other political attitudes has the same random error cause.

The last limitation that is discussed concerns the specification of the models in LISREL. By means of structural equation modeling we were able to specify relations between independents and dependents, but also among dependents and independents at the same time point. This a great advantage since we can more closely estimate the relations in the model. Moreover, the fit indices give us an idea of the total fit of the model, which makes it possible to compare several models. However, this method has some drawbacks. First of all, the models that are specified in LISREL are a simplified version of the theoretical models of Achen, Converse and Zaller, made in order to draw conclusion about the comparison of these models. For instance, in the model of Zaller is awareness the most important variable, but not the only variable that he discusses. A detailed analysis of all the exact workings of these separate models would involve specific evaluation of each model based on data collected for this purpose. This kind of analysis does not only lie outside the scope of this research, but is also strongly complicated because of the lack of data on a number of theoretical concepts mentioned in these models. However, this possibility of omitted variables bias does not give rise to any conjectures about the direction of the results. New variables can strengthen or weaken the relation between education or awareness and stability, but are not likely to change the direction of the relation. When new variables are included in the model and new relations are specified, the fit of the model might improve, but the amount of degrees of freedom increases and so the interpretation gets more complicated. In this research, the simplest model has the best fit and taking into account the large difference in fit indices, there is no reason to suspect that one of the other models will turn out much better in a more detailed analysis. However, further research that is able to simulate all the exact underpinnings of these models is called for in order to confirm this suspicion.

References

- Achen, C.H. (1975). Mass Political Attitudes and the Survey Response, *American Political Science Review* 69(4), pp. 1218-31
- Allport, F.H. (1924). *Social psychology*. Cambridge, Mass.: Houghton Mifflin.
- Ajzen, I. (1988). *Attitudes, Personality and Behavior*. Chicago, IL: The Dorsey Press
- Alwin, D.F., Krosnick, J.A. (1991). Aging, Cohorts, and the Stability of Sociopolitical Orientations over the Life Span, *American Journal of sociology* 97(1), pp. 169-195
- Bollen, K.A. and J.S. Long (eds.). 1992. Tests for Structural Equation Models. Special issue of *Sociological Methods & Research* (21), pp. 123-282
- Campbell, D.T. (1954). Operational delineation of “what is learned” via the transposition experiment, *Psychological Review* 61 pp. 167-174.
- Converse, P.E. (1964). The Nature of Belief Systems in Mass Publics. In D.E. Apter (Ed.), *Ideology and discontent* (pp. 206-261). London: Collier- Macmillan Limited
- Dalton, R.J. (2004). *Democratic Challenges, Democratic Choices: The Erosion of Political Support in Advanced Industrial Democracies*. Oxford: Oxford University Press.
- Denters, S.A.H., Geurts, P.A.T.M. (1983). Aspects of political alienation: An exploration of their differential origins and effects. *Acta Politica* 4
- Diamantopoulos, A., Sigauw, J. (2000). *Introducing LISREL*. London: SAGE Publications Ltd.
- Eagly, A.H., Chaiken, S. (1993). *The Psychology of Attitudes*, New York NY: Harcourt Brace Jovanovich College Producers
- Katz, D. (1960). The functional approach to the study of attitudes, *Public Opinion Quarterly* 24, pp.163-204.
- Kiesler, C.A., Collins B.E., Miller N. (1969). *Attitude change: A Critical Analysis of Theoretical Approaches*. New York, NY: John Wiley & Sons, Inc.

Knoef, M., Vos, K. de (2009). *Representativeness of online panels: how far can we reach?* www.lissdata.nl

Krech, D., Crutchfield R.S. (1948). *Theory and problems in social psychology*. New York, NY: McGraw-Hill.

Lane, R.E., Sears, D.O., (1964). *Public opinion*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Lane, R.E. (1959). *Political life. Why people get involved in politics*. Toronto: The Free Press

Niemi, R.G., Craig, S.C., Mattei, F. (1991). Measuring Internal Political Efficacy in the 1988 National Election Study, *American Political Science Review* 48(4) pp.1407-1413

Norris, P. (1999). Institutions and Political Support. In: Norris, P. (ed.). *Critical Citizens: Global Support for Democratic Governance*. Oxford: Oxford University Press.

Rosenberg, M.J., Hovland, C.I. (1960). Cognitive, affective, and behavioral components of attitudes. In C.I. Hovland and M.J. Rosenberg (Eds.), *Attitude organization and change: An analysis of consistency among attitude components*. New Haven, CT: Yale University Press.

Smith, M.B., Bruner, J.S., White, R.W. (1956). *Opinions and personality*. New York, NY: John Wiley and Sons.

Thomassen, J.J.A. (2007). Democratic Values. In: Dalton, R.J. & Klingemann, H.D. (Ed.). *The Oxford Handbook of Political Science*. Oxford: Oxford University Press.

Van der Laan, J., (2009). *Representativity of the LISS panel*. Statistics Netherlands, Discussion paper 09041

Visser, M. (1998). *Five theories of voting action: Strategy and structure of psychological explanation*. Enschede: Twente University Press

Zaller, J.R. (1992). *The Nature and Origins of Mass Opinion*. Cambridge: University Press.

