Resistance is futile?

The contribution of political knowledge, political beliefs and message intensity on changes in public opinion

Master thesis
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Everyone, you will find, is an expert
on public opinion; after all he is a member
of the public and he knows how he feels
and what he thinks on an issue. Or does he?

(Lane and Sears, 1964: preface)

1 Introduction

In the first edition of the scientific journal *Public Opinion Quarterly*, Floyd Allport (1937) argued to his readers that the concept of public opinion had fell victim to the "vivid imagery" (Allport, 1937:7) of writers. According to Allport, this vivid imagery of writers often led to the portrayal of both the public as well as public opinion as a single entity that displayed personal traits. These traits included the public as having a consciousness and a voice. Allport distanced himself from such a personalized notion of both public opinion as well as the public (Allport, 1937:8-9). According to Allport, the fiction that public opinion is some sort of being or "daemon" that shows different expressions over time, limits the ability of scholars to properly research changes in public opinion. Instead of looking at public opinion as a single collective entity, public opinion rather is the product of a wide array of different individual opinions. The observation that public opinion is an aggregate of different individual opinions also means that the term "public" cannot be a universal term. One cannot identify "the public" simply because such a terminology is too inclusive and prohibits scholars to make meaningful distinctions between different groups and individuals (Allport, 1937:9). Instead, Allport provided a definition of public opinion is a "multi-individual situation in which individuals express themselves […] as favoring or supporting some definite condition, person, or proposal of widespread importance" (Allport, 1937:23).

By defining public opinion as an aggregate construct, based on a multitude of different individual opinions, the definition has implications on how to research this concept. The most important implication of this definition is that changes in public opinion originate at the individual level. It is not until a significant number of individuals each change their opinion

on a certain subject that there can be a change in public opinion. Research on public opinion then becomes preoccupied with questions on how individuals change their opinion on a wide range of issues. What are the influences, both internal as well as external to the individual, that moderate a change in opinion?

One of the most influential theories on changes in public opinion comes from John Zaller. In his book *The Nature and Origins of Mass Opinion*, Zaller (1992) presents a model in which individual political knowledge (Zaller uses the term *political awareness* as an analogue to political knowledge) is operationalized to predict the likelihood that an individual will receive an additional piece of information and eventually accept his or her opinion on a certain subject. In general, this model describes a three step process in which the reception, acceptance and sampling of different messages influences the probability that an individual will change his or her opinion. Because of these three steps, the model is abbreviated as "RAS".

At the turn of the previous decade, voters in the Netherlands expressed a change in public opinion concerning the issue of integration of non-western immigrants. Based on the 1998 Dutch Parliamentary Election Study (DPES), 34% of the population answered that non-western immigrants should (almost) completely adjust to Dutch culture. In 2002, this number had risen to 48.7% (Todosijevic et al., 2010).

1.1 Research questions

The intent of this thesis is to apply the RAS model to the above described change in public opinion in the Netherlands. By taking observed change in public opinion on the subject of immigration and integration of non-western immigrants, the aim of this research is to see whether messages coming through the media did indeed influence changes in opinion depending on the level of political knowledge an individual has.

The notion that political awareness influences the likelihood of an individual to receive and subsequently accept a mediated message has been described by some as the main contribution of the RAS model (Dobrzynska and Blais, 2008:260). The claim made by Zaller is that individuals who possess higher levels of political awareness are first of all more likely to receive a message, while at the same time those same individuals are more able to connect their general values alongside with the messages they encounter. Because of this mechanism, Zaller asserts that individuals who are more politically aware are better able to reject, or to resist, new information. Zaller formulates the ability of individuals to resist messages as "information concerning the relationship between arguments and predispositions, where the requisite information is carried in cueing messages*"* (Zaller, 1992:44). Those individuals that can be regarded as politically aware are better able to argue against new information that is coming to them from the media and are thus less likely to exhibit a change in opinion. The first research question takes this relationship between political awareness and changes in public opinion as its starting point and is thus formulated as follows:

> *RQ1: Can an observed change in public opinion on the subject of non-western immigrants be accounted to differences in political awareness according to the RAS model?*

In the same manner that not every individual is as knowledgeable on political issues, the same can be said on the susceptibility of an individual to eventually change his or her opinion based on information that is received through the media. A second question that is raised by the RAS model is concerned with how varying levels of political beliefs influence the likelihood that a certain type of voter will change his or her opinion.

In the RAS model these political beliefs, Zaller uses the term *political predispositions,* are seen as internal individual-level traits "that regulate the acceptance or non-acceptance of the political communication the person receives" (Zaller, 1992:22). These predispositions, which

are more available to the politically aware (Zaller, 1992:44), tend to be a resistance factor for an individual to change his or her opinion. According to the RAS model, these different individual predispositions should lead to different levels of resistance towards a dominant message that is being transmitted up through the media. Based on these different political predispositions and the RAS model, it can therefore be expected that changes in opinion at the individual level occurs at a different pace dependent on these predispositions. The second research question can then be formulated as follows:

> *RQ2: Do different levels of political predispositions moderate resistance and acceptance of a dominant media message, and thereby a change in opinion, according to the RAS model?*

1.2 Relevance

There has been much research performed on the field of public opinion. Within this vast body of research, the RAS model has been one of the most influential theories on changes in public opinion (Dobrzynska and Blais, 2008:259).

Although there is quite a substantial body of research that seems to confirm the assumptions on which the theoretical model of the RAS model has been build, tests of the RAS model instead reveal very mixed results. Furthermore, the tests that are available provide the field of public opinion research a situation in which sometimes only parts of the model are utilized. This means that the RAS model sometimes is employed as an assumption to further test different hypotheses. In these situations, the RAS model provides an explanation for a certain effect while the model itself is only referred to "en passant" (Dobrzynska and Blais, 2008:261). However, these studies do not provide a direct test of the RAS model (Bartels, 1993; Clarke et al., 1999; Hansen 1998; Nelson et al., 1997).

Other research does actually test the RAS model, but only uses parts of it. For example, there are various studies that only utilize the acceptance axiom, without taking the probability of reception into account (Gilens, 2001; Beck et. al, 2002; Shah et al. 2002). As

was previously noted, the biggest contribution of the RAS model is providing an insight into the relationship between political awareness upon a change in opinion in the stages of reception and acceptance of a media message.

Another example of tests of the RAS model shows the usage of measurements for political awareness that can be seen as doubtful. In this study by Huber and Arceneaux (2007) into the effects of education and interest on the effectiveness of campaign advertising, instead of measuring political awareness as correct answers to factual political questions, the number of years of education an individual received is used as a measurement of political awareness. Zaller notes that his usage of political awareness is generally less effective in comparison to factual questions on the specific issue, so called domain-specific questions. However, such questions are rarely asked in surveys. As such, political awareness is a measurement pertaining to the general interest and attentiveness towards politics (Zaller, 1992:43). Years of education in this respect is harder to see as an indicator for such attentiveness since it is likely that there are many individuals who are highly educated but do not have much political knowledge as well as vice versa.

The (partial) tests that have been conducted to test the model show mixed results. Some found a confirmation on the RAS model (for example: Kriesi, 2002). Others research reaches the conclusion that the relationship between acceptance and political awareness is less dominant and that people base their opinions on prior beliefs (Goren, 2004), while Krosnick and Brannon (2003) find results that not political awareness but attention to political news influences changes in mass opinion. Even Zaller demonstrated that in the case of the Presidential approval ratings of former President Clinton during the Monica Lewinsky scandal, changes in public opinion not always follow along the lines of mediated elite cues (1998).

The results that are available are “ambiguous” (Dobrzynska and Blais, 2008:261) to say the least. Furthermore, the model has not yet been tested with varying political predispositions. For example, in their test of the RAS model in the 1988 Canada parliamentary elections Dobrzynska and Blais utilize predispositions as a dichotomous variable (Dobrzynska and Blais, 2008:260), and even Zaller most of the time uses a dichotomous variable for political predispositions, most times only denoting Democrats and Republicans (Zaller, 1992; Zaller, 1994; Zaller 1996). Being able to identify more detailed political predispositions and applying them into the RAS model could thus enhance the general understanding of the model. The previously mentioned mixed results that have been reported on the RAS model in the past raise questions concerning the conditions under which the model can predict changes in public opinion and under which conditions it cannot.

1.3 Case Selection

Based on the RAS model, changes in public opinion are dependent on a measurement of an individuals’ degree of political knowledge, the measurement of an individuals’ political predispositions towards a subject and the existence of gaps in the transmission of opposing viewpoints on a subject coming from the media. How these three elements are related to each other and how they function in the RAS model will be covered more extensively in the next chapter. At this moment the elements are presented to explain what the necessary information is, in order to test the RAS model, and how they can be found in the case of change in opinion towards allowing non-western immigrants to preserve their own cultural customs.

As far as the case of integration of non-western immigrants goes, it showed a, albeit small, spike in mass opinion change in 2002 (Van Holsteyn and Den Ridder, 2005:118). Since 1994, the DPES included questions on the subject of integration of non-western immigrants and the amount of asylum seekers that should be allowed into the country (Todosijevic et al., 2010: pp. 144-157). As was noted before, in 2002 respondents showed an

increase towards less self-preservation of non-western immigrants and a harder line towards asylum seekers. In the short period between the elections of 2002 and 2003, this change was reversed. The subject of immigration thus presents itself as a suitable case to test the RAS model with the possibility of two changes in opinion on one subject.

Furthermore, the DPES includes questions that have been asked to respondents which can be regarded as political predispositions on the above described issue. These questions include self-placement of respondents on a left-right scale. Further justification of the usage of this variable for political predispositions can be found in the section on operationalization.

A final requirement to test the RAS model is a clear increase and divergence in mass media coverage on the issue of immigration and integration from that period. Zaller labels such differences in attention of the media towards a subject as *reception gaps* (Zaller, 1996:22.) Although coverage of any subject varies over time, a 2007 study on the relationship between media and parliamentary coverage on immigration and integration shows a quite stable line on the subject starting in 1995, when measurement started, until July 2001. After that time period the amount of mass media coverage on the subject increased, while at the same time the tone of the message changed. The tone of the message changed in such a way that the debate on non-western immigrants became more focused on adapting Western European values and less on the right of cultural self-preservation (Vliegenthart and Roggeband, 2007). Vliegenthart and Roggeband support this conclusion by providing a count of pro- and anti-Islamic frames between 1995 and 2004.

Testing which influences affect a change in public opinion can in general best be done by the usage of panel data. Such a research setup would allow researchers to study a fixed sample and determine the influence of individual factors such as political awareness and political predispositions. Unfortunately, the four sources of information, a change in opinion, individual level political awareness and political predispositions as well as data that shows

the existence of reception gaps that are needed to test the RAS model are not always as readily available as one would hope for. This problem gets even bigger when such data is needed at multiple points in time for the same respondents. As such, the RAS model is also an attempt to overcome the unavailability of such data. Fortunately, panel data for the change in public opinion on this issue is available. The 2003 Parliamentary elections were held 8 months after the 2002 Parliamentary elections. Due to the short period of time between these two elections, a complete DPES covering a pre- and a post-wave over a sample representative of the electorate was unfeasible due to constraints on resources. The resulting election study that was held under respondents who participated in the 2002 DPES post-wave provides panel data on the change in public opinion from the 2002 DPES towards the 2003 DPES. The availability of this panel allows for an almost unique possibility to test the RAS model on panel data.

1.4 Structure

The structure of the thesis is as follows. First, the thesis starts with a review of the RAS model and its assumptions. After reporting on these assumptions, the general statistical model that is used by the Zaller to explain changes in public opinion is presented. Based on the presentation of the general statistical model a literature overview is presented in which the assumptions that the RAS model makes will be reviewed and be put into historical perspective. After presenting the RAS model and the literature review, the hypotheses that will be tested in combination with an account of the selected case are presented. After providing an account of the variables and statistical procedures that will be, the actual results will be presented and discussed.

The main question of this thesis revolves around the question if an individual is able to resist a dominant media message? And if an individual is able to resist it, can resistance be

identified based on certain political predispositions and political awareness? The framework provided by the RAS model allows us to research these questions.

2 The RAS model

As was mentioned in the introduction, one of the most important and influential contributions in the last two decades on the question of changes in public opinion has come from John Zaller (1992). In his book, *"The Nature and Origins of Mass Opinion"*, Zaller builds a theoretical model that tries to shed light on the ongoing question how public opinion changes. The RAS model presented by Zaller is a theory that is based on four different axioms. When these axioms are put together, they combine into a piped model of opinion change. The model then becomes a tool to determine the likelihood that an individual will change his or her opinion based on political awareness, political predispositions and media content.

2.1 Axioms of the RAS model

In his own words, Zaller states that all theories, including his, "tend leak from the joints" (Zaller, 1992:2). This simple observation is based on the fact that every theory is in essence an abstraction of the reality it tries to describe. The RAS model in that respect is no different from any other scientific theory one may encounter. Zaller acknowledges this fact even further by stating that none of the individual axioms constitute a perfect representation of reality. It is when the axioms are put together, that the full strength of the model becomes visible (Zaller, 1992:41). First, these axioms will be described. Afterwards theoretical support will be given for each of the processes involved in the RAS model.

Based on the RAS model, receiving and accepting a message is a necessary condition for an individual to undergo a change in opinion. The first two axioms of the RAS model are concerned with these two stages of reception and acceptance of messages. Zaller treats these two stages as separate because he claims there is insufficient evidence that supports the theory of selective exposure. "[…] exposure to one side of an argument is uncorrelated with

exposure to the other side in other words, that selective exposure does not occur" (Zaller, 1991:1217). Reception, by which Zaller means that an individual comprehends a message, and acceptance do not depend on the predispositions of an individual.

The first axiom states that the more an individual is cognitively engaged with a political issue, the more likely that individual is to be exposed and comprehend a message on that political issue (Zaller, 1992:42).

The second axiom covers the level of resistance to a political message. It denotes that individuals that can be regarded as politically aware are more able to resist arguments that are inconsistent with their political predispositions in comparison to individuals that can be seen as less politically aware. Politically aware individual are able to perceive a relationship between the message and their predispositions (Zaller, 1992:44).

The third axiom states that the more recent a consideration has been called to mind, the less time it takes to bring that consideration to use (Zaller, 1992:48).

The fourth axiom touches the issue of response instability and states that when individuals answer survey questions, they average "across the considerations that are immediately salient or accessible to them" (Zaller, 1992:49).

Based on the first two axioms, one is able to see the role of political knowledge as an independent variable to determine the probability of receiving and accepting a message. Zaller refers however to political knowledge in general as political awareness, although they describe the same concept (see Zaller, 1992:6-39 for more information). Zaller goes on to argue that political awareness is the best explanatory variable in comparison to for example interest in politics (Zaller, 1992:43), or self-reported media consumption (Price and Zaller, 1993; Zaller, 1996).

The first two axioms also prescribe the actual change in attitude based upon the likelihood of receiving and accepting a message (Zaller, 1992:118-124). The third and fourth axiom both

show that the intensity and strength of a message influences the likelihood of receiving, accepting and recalling that message. Based on these four axioms, the probability of a change in attitude thus has a general form of:

$$P_{(change)} = P_{(receive)} * P_{(accept|receive)} \quad \text{(eq. 1)}$$

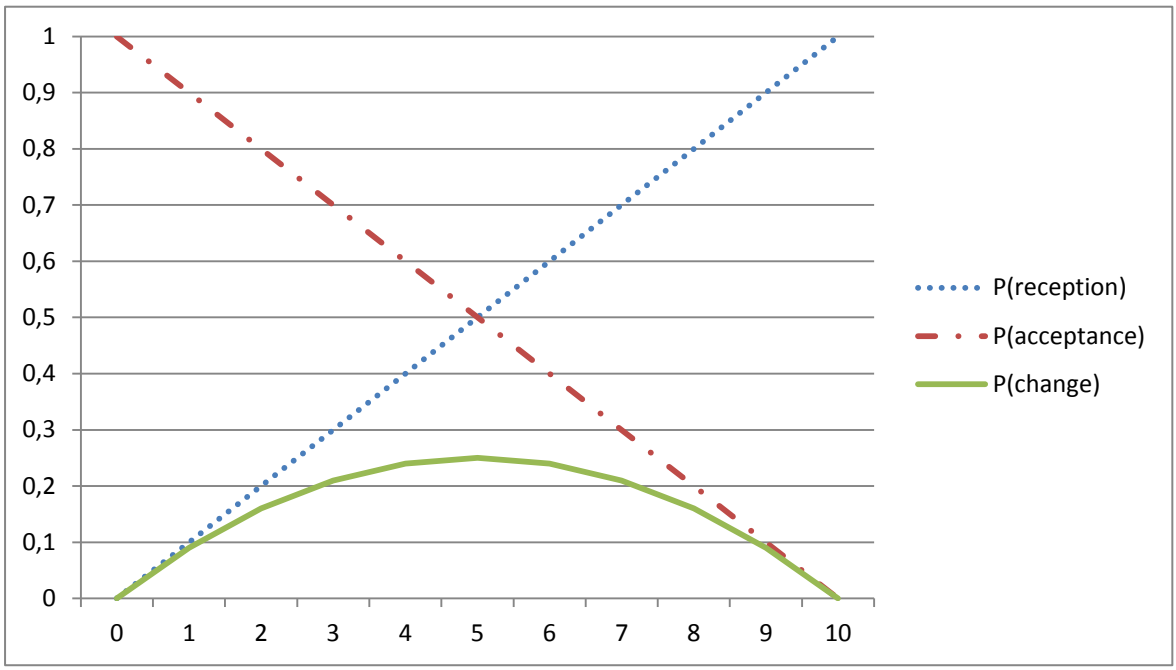

Figure 1: Reception and Acceptance curves

Derived from eq. 1, the separate processes that determine the likelihood of receiving and accepting a single message are shown in figure 1. The solid line describes the likelihood that an individual will change his or her attitudes towards a subject. From this figure it becomes clear that the actual process of change in opinion follows, at least according to the RAS model, a non-linear pattern.

It is important to denote that this is a base model, and that it applies to a single sided message only. This means that this graph is the general representation of likelihood that individuals will change their opinion upon receiving one type of message only. However, it does show the relationship between political awareness and the likelihood of reception and

acceptance. Zaller acknowledges the fact that this probability model of attitudinal change has been thought of by McGuire (1969), but goes on to advance these probabilities in two areas. First of all, Zaller provides a model by actually defining functions that prescribe the probability of receiving and accepting a message. Second of all, Zaller advances this model by incorporating two-sided messages (Zaller, 1992:124-126).

In 1996, Zaller published a revision of his model in which he refined the mathematical form of his model. Although "the new forms are similar to those of older ones, the new models are more realistic, powerful, and simple" (Zaller, 1996:21), the main argument that comes from this revision is the fact that not elite communication, but mass communication lies at the heart of changes in public opinion.

Zaller introduces the concept "reception gaps" (Zaller, 1996:23). A gap in reception occurs when the likelihood exists that someone will receive one side of a message over the other. The bigger the gap in reception between opposing messages, the more likely it is that an individual will change his position and adopt a new opinion in the direction of the dominant message (Zaller, 1996:23). The probability of individual opinion change then becomes a combination of political awareness, strength and intensity of the competing messages and an individual's predispositions towards the messages. In his revision, Zaller describes that the probability that an individual will change his opinion, from his or her previous opinion towards the new dominant message that comes through the media, is based on the probability that an individual will be influenced by this dominant message *and* not be influenced by the previous message (Zaller, 1996:33-35).

If we apply this logic to the Dutch case of immigration and consider the message that non-western immigrants should adjust to Dutch culture (monocultural) as the new dominant message, the general form of this revised RAS model then takes the shape of:

$$P(change) = P(receive + accept\ monocultural\ communication) * (1 - P(receive + accept\ multicultural\ communication))$$

(eq. 2)

2.2 RAS Model in practice

Because of the instable attitudes individuals tend to show on survey responses (Zaller, 1992), the RAS model has been described by some as the "really downbeat version" (Kuklinsky and Peyton, 2007) on public opinion. Although these authors are both highly regarded scholars, there is some merit to be found to argue the opposite. At first sight, it seems obvious that the RAS model, and especially the third and fourth axiom, leads to a downbeat versions of research on public opinion. After all, the model proposes that the attitudes that individuals express may vary over time, predominantly due to political considerations that comes from "the top of the head" (Kuklinsky and Peyton, 2007:51; Zaller, 1992:76-96).

Unfortunately, this description of the RAS model only takes into account the assumption of accepting a message. However, the RAS model is not only a description of accepting messages that get communicated the loudest. And as was mentioned earlier in the case of the Lewinsky scandal, not all instances of change in public opinion can be seem from a viewpoint that the changes are in line with the content of messages that are transmitted. Instead, the RAS model is an attempt to show how political awareness and political predispositions influence not only the likelihood of accepting a message, but also the likelihood of an individual receiving a message. Judging the RAS model as a model of change in public opinion in which the message that gets communicated the most vigorously will correspond with a change in public opinion is only a part of the theory. Instead, the model shows that citizens are able to receive information from multiple sources and are guided by previous knowledge and predispositions before any message is eventually accepted and possibly sampled.

The negative side to this observation is that, as was noted in the introduction, it is based on the notion that it is unrealistic to assume a fully knowledgeable public. Not every individual has the same amount of prior knowledge to process new information (Zaller, 1992:7). Furthermore, it is well acknowledged that individuals use different types of heuristics to receive and accept political information. These heuristics include political parties and other institutions (Sniderman and Bullock, 2004). These difference between individuals create a challenge to create a general model of changes in public opinion.

By reviewing the model as the separate components of reception, acceptance and sampling, it becomes easier see the merits of the theory. The first component is that of reception. As mentioned previously, Zaller does not adhere to the concepts of selective exposure and sees reception of messages by individuals in the view of their relative strength and the levels of political awareness. The assumption that reception of messages is not based on selection but on political awareness, can be linked to other research covering the reception of political news. From the side of professional politics, politicians and their political operatives carry the strong conviction that what media say about them will affect them on election day (Bartels, 1993:267). This conviction is not without grounds, as Brians and Wattenberg (1996) show. According to their research, political news can be received and processed through the media, albeit that commercials tend have the biggest effect in comparison to TV news and newspapers (Brians and Wattenberg, 1996:185). And although watching the news is different from actually receiving the news (Sears and Kosterman, 1994:8), Price and Zaller (1993) show that, depending on the level of issue salience and the level of political knowledge, respondents do are able to receive information through news media. The idea that reception of political news is dependent on one's interest and prior knowledge of both politics in general and on the subject, thus seems highly plausible.

Based on the RAS model, acceptance of a message is contingent on receiving the message. But who is persuaded by a message? It is generally agreed that individuals use relations with prior knowledge on issues upon encountering new information (Lang, 2000:47). During the processing of new information, individuals store a message in reference to other information in that, according to the processor, fits together. These associative networks have been, among others, helpful in identifying how individuals process and retrieve bits of information (Lodge and Hamill, 1986:506). Because of the associative nature of these networks, they have become known as schemas. Associations between different subjects grow stronger as individuals become more frequently exposed to new information in reference to prior knowledge. This provides theoretical explanation for the second axiom.

Although there is general agreement on the concept that individuals are far from perfect processors of information, there are different theories on how people incorporate new information. Two of the most notable being the on-line model on the one hand (Lodge et al., 1986; Lodge et al. 1995) and the RAS model on the other hand. The on-line model of information processing is a model that describes the change in attitudes as an accumulation of new information. Instead of saving the information as a whole, the information is processed and evaluated before it is purged. Only the evaluation towards the subject remains.

Although the concept of Bayesian updating is admitted to have its merits, different scholar show the effect of new information depends highly on previous information (Bartels, 1993:275); How the new information is framed (Gamson and Modigliani, 1989:35-36) and the salience of an individual towards the subject (Sears and Kosterman, 1994:12). Some go even further, stating that people who score high on political sophistication have better schemas to process the information and place it into context (Rhee and Capella, 1997: 229).

These studies all share the general idea of Zaller, that political awareness increases once ability to process new information and place it in an existing framework of prior

knowledge, instead of an on-line tally on which people add and subtract new bits of summarized information (Zaller, 1992: 42-51).

As far as sampling goes, it is fair to say that most individuals do not give stable responses on survey questions. Based on the discussion around the conclusions made by Converse (1964) only a small portion of the population is able to provide constant and stable answers to political questions. As Zaller points out, this observation is an argument against the on-line model (Zaller, 1992:50). These discrepancies have been accounted to measurement error, but is has never been explained why these errors would occur. (see Kinder and Sears, 1985).

As far as sampling goes, other research has shown that the amount of total information that is available to an individual, is of influence on the probability that people actually have a response (Basinger and Lavine, 2005; McGraw et al. 2003; Meffert et al. 2004; Price and Zaller, 1993). These studies are in line with the third and fourth axiom.

2.3 Public opinion research

Obviously, the presentation of the RAS model has to be seen as an evolution in the field of scientific research. In the formulation of the RAS model, Zaller frequently refers to American scholar Walter Lippmann. In his book *Public Opinion*, Lippmann (1922) distances himself from the general notion that all citizens adhere to the image of a "homo politicus". Instead Lippmann argues that citizens are far from ideal citizens who are highly engaged in politics and fully informed before they cast their vote (Lippmann, 1925). Lippmann argues that in order to form an opinion on a wide variety of subjects, citizens are dependent on their environment for the information they obtain. These environments are called "pseudo-environments" and are, according to Lippmann, based on a subjective interpretation of information that is presented to him instead of "direct and certain knowledge" (Lippmann, 1922:16). Lippmann supports his claim by the simple but logical consistent observation that

people have different and competing ideas on a wide variety of subjects. Because of the existence of differences in opinions, it is likely that these differences in opinion are based on the limited and subjective availability of information to an individual in the pseudo-environments.

The argument made by Lippmann has to be seen in the view of a period in time in which the political information that eventually did reach an individual, was most likely to be presented in the form of newspapers. However, the notion individuals are influenced in their formation of opinions by the media is likely to even have a bigger impact in today's media landscape.

The observation that political information is proliferated predominantly through the media gives, according to Lippmann, rise to a structural paradox: That of the spread of free information in contrast to the commercial paradigm that is involved in the free market (Lippmann, 1922:202). Lippmann was one of the first to see the problematic relationship between the normative as well as the commercial role newspapers play in society, i.e. providing individuals and groups with information on the one side while at the same time competing with other news outlets on the other side. This means that a society treats newspapers in a schizophrenic fashion because it applies two different standards on the way they function. In the words of Lippmann: "One ethical measure to the press and another to trade or manufacture" (Lippmann, 1922:204). These two spheres in which the media functions has most striking been described by the Hutchins Commission, in their report on a free and both a responsible press: "The press […] is caught between its desire to please and extend its audience and its desire to give a picture of events and people as they really are" (Hutchins et al., 1947:57). And the situation is not exclusive to the American case, as has been thoroughly described by Hallin and Mancini (2004) in their conceptualization of

different media systems in Western and Southern Europe as well as the Anglo-American countries.

One of the best examples of this paradox can probably be found in the process of media commercialization. In the process of media commercialization, there is an increase in the amount of actors that provide news and information, both political and non-political. These actors are not paid for by means of government spending and instead have to rely on commercials means to create revenues (Aalberg et al., 2010). This process, in which media-outlets have to survive, choices on what news to broadcast can get lead by economic incentives (Holtz-Bacha, 2004). As a result, the format in which the news gets presented can be structured in such a way so that it attracts an increased audience. Examples of such processes are the usage of presenting political news in a conflict driven horse-race environment as well as the combination of hard political news and entertainment (Brants, 1998). Research in the field of agenda setting (McCombs and Shaw, 1975; McCombs and Shaw, 1993) and framing (Entman, 1993; Chong and Druckman, 2007) has showed that the media is of influence on what the public thinks about and how to think about it. As such, the media is able to influence public opinion.

Another seminal contribution to the field of public opinion has come from V.O. Key. In his contribution on public opinion, democracy and the United States, Key (1961) described the role of political elites in shaping and altering public opinion, leading eventually up to political action. According to Key the notion of a public opinion can only exist insofar that there exists the likelihood that public opinion can be converted into public policy (Key, 1961:538). Interactions between political elites, or those who are politically attentive, and the mass, or those who are politically inattentive, lead to changes in public opinion. But, as Key states, "mass opinion is not self-generating; in the main, it is a response to the cues, the proposals, and the visions propagated by the political activists" (Key, 1961:557).

In contrast to the conclusions made by Key, scholars from the University of Michigan concluded that the short-term changes voters expressed in their opinion were not due to interactions between political elites and the mass, but instead based on short-term changes in attitudes towards the object of politics (Campbell et al.1960:65). These changes in attitudes did not originate at the level of political elites, as Key argued, but rather come from incoherent patterns of believe (Campbell et al. 1960:543).

As a member of the University of Michigan team, Converse (1964) displayed that most Americans do not have coherent belief systems. In his seminal article on mass belief systems, Converse examined open-ended questionnaires as well as survey responses given by respondents in different American National Election Studies (ANES) in the 1950's. Puzzled by the question if there would be a difference in beliefs systems between political elites on the one hand and mass publics on the other hand, Converse set out to identify these differences in belief system. A belief system was defined as being a "configuration of ideas and attitudes in which elements are bound together by some form of constraint or functional interdependence" (Converse, 1964:3). The results were however surprising. Converse concluded that only the top 10% of Americans held stable and coherent attitudes, and as such can be placed within a belief system. Because most respondents did not display a high level of coherence in the answers they gave, from which Converse concluded that these respondents did not hold true beliefs, as Converse was unable to map the mass public into a belief system (Converse, 1964:66). Besides ideological variance, these respondents would also display variance in their answers over time. This over time instability displayed by most respondents led to the conclusion that most of the mass public was unable to have true attitudes. Based on this observation, Converse introduced the concept of nonattitudes. Respondents who could be labeled as having nonattitudes made up almost 90% of the complete population. They would respond to questions in such an inconsistent way that they

could not be considered ideologues (Converse, 1964:15). The biggest variable that predicted the likelihood of a respondent being an ideologue was the years of education. Years of education correlated highly with the amount of political knowledge individuals had (Converse, 1964:41). The idea of nonattitudes "triggered a landslide of research" (Saris and Sniderman, 2004:3). One of the biggest reactions to this conclusion came from scholars who attributed the lack of consistent attitudes in survey responses to methodological issues (Aachen, 1975; See Bartels, 2010 for an overview). According to subsequent research, measurement errors could account for most of the nonattitudes, and most respondents did answer in a coherent way.

The RAS model has to be seen in view of the conclusions made by Converse and the subsequent critique towards those conclusions. Zaller not only dismisses the idea of measurement error, stating that it is unlikely that measurement errors could explain roughly 30% of the variation and attitude instability displayed by respondents. Instead of nonattitudes or measurement error, Zaller expands on the observations made by Converse claiming that the phenomenon of attitude instability is not due to a lack in true attitudes. Instead, attitude instability is caused by abundances of information, or opposing considerations, from which individuals sample relevant portions (Zaller, 1992:34-39). Zaller furthermore acknowledges his intellectual debt to McGuire (1969) on the idea that changes in attitudes are not only based on acceptance of those message, but are also contingent on the likelihood of receiving that message.

According to Zaller, the RAS model is a long needed attempt in the field of public opinion research to integrate different domain-specific theories on changes in opinion, preferences and attitudes. The argument to integrate these different field of public opinion research lies in the fact that, according to Zaller, each domain can be treated "as simply

another context in which citizens formulate responses on the basis of the ides that have reached then and been found acceptable" (Zaller, 1992:2).

2.4 Hypotheses

The RAS model itself denotes a dynamic process at the individual level. Derived from the above mentioned review of the RAS model, it can be expected that an individuals' political awareness influences the likelihood that he or she will receive and afterwards accept and sample a new opinion.

Based on axioms one and two, the RAS model prescribes that political awareness influences the likelihood of receiving a message in a positive way while at the same time it decreases the likelihood of accepting a dissonant message. In essence, these two axioms denote a proportional and a inversely proportional probability for respectively reception and acceptance of a message as was showed previously. When these two probabilities are combined, they produce a nonlinear pattern that indicates the probability that an individual will change his or her opinion, based on political awareness. This leads to the formulation of the first hypothesis:

H1: Political awareness influences the probability that an individual will change his or her opinion according to a nonlinear pattern.

The second research question in this research proposal is concerned with identifying multiple political predispositions and test how they affect the probability of opinion change. In order to test the RAS model for multiple political predispositions, it is necessary to define a measurement that allows us to distinguish between different predispositions. The issue of integration can be seen from a cultural "left-right" point of view. Although the concept of "left-right" is fluid, and can be defined along multiple dimensions (Fuchs and Klingemann, 1989:206) it does offer a way to apply a simplification and a comparison to "multi-layered realities" (Mair, 2007:220). The 2002 elections showed a relationship between left-right

placement of individuals and their stance towards a multicultural or monocultural society. Individuals who are adhere more to the left, are more often associated with a positive view towards a multicultural society, while those individuals who adhere more to the right are more often associated with a monocultural society (Pellikaan et al., 2007:296). As such, it is plausible to expect that individuals who are more right-wing oriented tend to be more conservative and therefor more in favor of the position that non-western immigrants should be adjusting to Dutch culture. It can thus be expected that the more an individual identifies with the political right, the more likely he/she is to adopt a new opinion based on the dominant message of adjusting to Dutch culture. Because of the expected variance in message resistance, we would expect to identify different probabilities of changes in opinion depending on the political predispositions of such an individual:

> *H2: The more individuals identify with the right, the more likely it is that individuals express a change opinion towards a more extreme position favoring nonwestern immigrants to adjust to Dutch culture.*

3 Operationalization and Methods

3.1 Operationalization

The main independent variable at the individual level is political awareness. This variable denotes the extent to which an individual "pays attention to politics *and* understands what he or she has encountered" (Zaller, 1992:21). This variable is, according to Zaller, best measured by test of political facts and can be seen as a unidimensional variable (Zaller, 1986), although there are scholars who disagree on that issue (see Delli Carpini and Keeter, 1993 for an overview of this discussion)[1]. Knowledge on these political facts can be seen as a measurement for "intellectual engagement" (Zaller, 1992:21). In order to provide as much variance as possible on this variable, every question that can be seen as an indicator of factual

[1] The conclusion of Delli Carpini and Keeter however, is that political knowledge is a "relatively unidimensional concept" (Delli Carpini and Keeter, 1993:1203).

knowledge is utilized in such a manner that it provides an additive scale of political knowledge ranging from 0, meaning that an individual lacks any political knowledge, towards a maximum, which would describe respondents that can be regarded as fully politically aware.

Since its beginning in 1971, the DPES includes photo recognition questions of various politicians. Per politician, respondents were asked to name the politician, identify the party to which the politician belongs and the function he or she has. A total of four politicians are shown during the interview. The responses to these questions are then aggregated, awarding 1 for a correct answer and 0 for an incorrect answer. The result is a 13-point scale ranging from low towards high in political awareness.

It is however important to denote that this scale of political awareness only utilizes one type of question: Photo recognition of politicians. It would be better to incorporate a wider range of question not only covering photo recognition but also include factual questions on the role of government and parliament (Zaller, 1996:60-62). Unfortunately, the DPES does not provide other question on factual knowledge that are asked during recurring election studies. Besides the element of photo recognition, different versions of the DPES contain varying questions that measure other forms of factual political knowledge. For example, the 1998 DPES includes questions that asks respondents on several occasions which party at that moment has more seats in comparison to other parties (DPES 1998), while such a question is missing in the 2002 DPES. Instead, the 2002 DPES asked respondents to correctly determine the number of seats each of the six parties that were prospected to become largest in the next election. Although both types of questions are indeed measurements of factual knowledge, utilizing them into a scale of factual knowledge presents a problem. First, the two measurements of factual knowledge are not comparable simply because of the fact that both type of questions do not appear in both studies. This results in an

inconsistent measurement of political awareness that could lead to a skewed distribution of political awareness over time. Second, the 1998 question obviously offers a lot more bandwidth for respondents to give a correct answer in comparison to the 2002 questions, simply because of the fact that much less information has to be correctly recalled when comparing two parties in size as opposed to correctly assessing the amount of representatives each party has in parliament. Again, the lack of comparability of these questions prevents the proper utilization of these questions in the creation of a scale that measures political awareness.

Unfortunately, the 2003 DPES does not include such a measurement. Because of the fact that the elections of 2003 were held only 7 months after the elections in 2002, there was a lack of resources, both in time as well as financial, to conduct a full election study. Instead, participants of the 2002 post-election wave were invited to participate in a 2003 post-election wave. A total of 1287 respondents participated, and an extra 1271 participants were newly added to the 2003 sample (Irwin et al., 2005:8). The main focus of the DPES of 2003 was on collecting panel data. This means that for the 1271 newly added respondents questions on political knowledge are not available. Furthermore, most demographic data such as (years of) education is missing. Because of the absence of this data, it is seemingly impossible to construct another scale that allows for a measurement of political awareness.

However, to turn a negative aspect into a positive one, this does allow a panel test on the theory of Zaller. If only the 1287 participants of both waves are being taken into account, 48.7% of the respondents initially favored adjustment to Dutch culture, whereas in 2003 39.2% of the same respondents held this opinion. The mean of the responses of the respondents who participated in 2002 and in 2003 differed from each other at a significant level (paired t-test, $t(1273) = 5.306$, $p < 0.001$). Because the significant change in public opinion happened over a period of only eight months and the mere fact that the opinion of

these respondents became less conservative in comparison to the change in opinion between 1998 and 2002 makes it even more relevant to look into the panel data.

Political predispositions are, as previously described, operationalized as self-placement on a left to right scale. Respondents are asked to determine to which extend their opinions can be considered left or right. This measurement of left right does not confine itself to a specific dimension of a left-right distribution (i.e. economic or cultural). This rating is measured by the question in the DPES that asked respondents to place themselves on a scale from left to right.

Media coverage is operationalized as the amount of media coverage starting from six months prior to each election. The previously mentioned pro-Islam and anti-Islam frames are the sum of the five different frames that were identified by Vliegenthart (Vliegenthart and Roggeband, 2007). The frames that made up to sum the pro-Islam frame are the multicultural frame and the emancipation frame. The first frames emphasizes the importance of cultural diversity, whereas the second frame recognizes the importance of different cultural groups to be emancipated from the state and participate in society in their own cultural setting. The anti-Islam frame is constructed out of an Islam-as-a-threat frame, a restriction frame and a victimization frame. The first frame identifies the Islam as a threat to Dutch and Western culture and demands Islamic immigrants to adjust. The restriction frame identifies problems with the immigration of non-western "newcomers", both from a viewpoint of economic dependence as well as the fact that these immigrants are perceived as having a "traditional non-emancipated orientation" (Vliegenthart and Roggeband, 2007:301). The victimization frame sees mainly women as oppressed actors in the Islamic community. These women should be liberated through emancipation and freed from oppressive symbols such as a headscarf. (see Vliegenthart and Roggeband, 2007:300-302 for a complete description of all frames).

The period of six months is chosen on the fact that this period provides the tests with an even distribution of time periods prior to each elections. This could also be accomplished by choosing a shorter period, but the period of six months increases the likelihood that all relevant messages are taken into account.

The dependent variable of opinion change is operationalized by recoding the DPES question that asked respondents if non-western immigrants should adjust to Dutch Culture. Answer were given on a 7 point scale ranging from "preserve cultural customs", corresponding with a value of 1 to "completely adjust to Dutch culture" with a value of 7. This variable is recoded into a trichotomous variable in which the values 5, 6 and 7 are recoded as respondents who are conservative, i.e. in favor of non-western immigrants to completely adjust to Dutch culture. Respondents who gave a value of 1,2 and 3 are recoded as progressive respondents, i.e. in favor of non-western immigrants to preserve their own cultural values. Respondents who responded with the center position, i.e. 4, are recoded into the center positions. In the utilization of the dependent variable in the panel comparison between 2002 and 2003, the original opinion values will be used.

3.2 Methods

Based on the operationalization, the full statistical model with all variables will be reviewed. As was stated before, in his 1996 revision of the RAS model, Zaller simplified the mathematical form of the model. Incorporating a monocultural and a multicultural message, the next equation describes the probability that a certain type of voter will have changed to an opinion in line with messages adhering to a monocultural society. This equation has the same general form as equation 2.

$$P(change) = \frac{1}{1 - e^{-b_0 - b_1 * awareness * - b_2 * predispositions * - b_3 mono}}$$

$$* \left(1 - \left(\frac{1}{1 - e^{-b_{00} - b_{11} * awareness * - b_{22} * predispositions * b_{33} multi}}\right)\right)$$

(Eq. 3)

In this equation, the different variables and their parameters are shown. The equation in equation 3 describes the likelihood of a change in opinion towards favoring non-western immigrants to adjust to Dutch culture. This is done by calculating the likelihood that an individual would have such a monocultural opinion. This is multiplied by 1 minus the likelihood that such an individual would have a multicultural opinion. In order to determine the likelihood that an individual would have an opinion in favor of non-western immigrants to preserve their own cultural customs, the reverse process is employed. This means that first the likelihood that an individual would have such a multicultural opinion is calculated. This result is multiplied by 1 minus the likelihood that such an individual would have a monocultural opinion. The parameters in the model are as following: Parameter b_0 indicates an intercept parameter, b_1 the effect of awareness on accepting a monocultural message, b_2 the effect of predispositions to persuasion to the monocultural message, and b_3 the effect of media usage on the loudness of a monocultural message. The parameters in double digits represent the effect of the same variables for the reverse situation, i.e. a multicultural message and corresponding opinion.

In his application of the actual model, Zaller derives the different parameters by applying a maximum likelihood regression in which political awareness and party attachment are utilized as explanatory variables. This proposal intends to utilize political awareness, left-right self-placement and the number of media frames as independent variables in a maximum likelihood regression to obtain parameters b_0, b_{00}, b_1, b_{11}, b_2, b_{22}, b_3 and b_{33}.

The model also takes previous opinions into account. Obviously, in order to assess the probability that a certain type of voter will have a certain opinion a time T_1, the likelihood that a certain type of individual would have already had that previous opinion should be taken into account as well. The probability that a certain type of voter individual will hold opinion *i*

at time (T_2) then becomes a combination of two probabilities of opinion change functions, both at time (T_1) and time (T_2) (Zaller, 1992:134-140; Zaller, 1996:70-72). Or as to quote Zaller:

"The probability of holding a particular opinion at time t + 1 is the probability of holding it at the baseline period, plus the probability of converting to the opinion if not already holding it at time t" (Zaller, 1992:141).

This means that the likelihood of change towards another opinion is the likelihood of change towards that opinion at T_2, subtracting the likelihood that that type of individual already would have held that opinion at T_1. The likelihood that a type individual would have a certain opinion at time T_1 is the baseline.

This baseline is determined as the outcome of the function described in eq. 3 at time T_1 (Zaller, 1992:140). It is fair to say that this approach ideally suggests the use of panel data. Unfortunately, such data is not available most of the time. One of the main contributions of this lack of available data is that the RAS model is an attempt to described changes in public opinion without the availability of such panel data. Because of this, the RAS model uses separate waves of respondents.

Based on this assumption, the likelihood that a type of voter will have a certain opinion at time (t+1) is described as:

$$P(opinion)_{t+1} = P(baseline)_t * P(change) * (1 - P(baseline)_t)$$

(eq. 4)

To test the first hypothesis, the method as prescribed by equation 4 is employed. This method is most similar to the method Zaller used in 1996 (see Zaller, 1996:69-73 for a full explanation). This method involved the creation of baseline functions, based on equation 3,

for both the progressive and conservative positions on integration of non-western immigrants in every DPES. This means that six baseline functions will be created (both monocultural and multicultural for 1998, 2002 and 2003). These baseline functions are then combined into four functions that describe the probability of opinion change for each of the two positions. These four functions describe the likelihood of monocultural 1998 to 2002 and from 2002 to 2003 as well as the likelihood of individuals changing their opinions to a multicultural position for the same two time periods. These functions are a combination of the baseline function described with equation 3 and the likelihood of changes in opinion based on equation 4. An example, in which the likelihood of change towards the opinion that non-western immigrants should adjust to Dutch culture is presented below in equation 5. In this example the likelihood of a monocultural position in 1998 as well as the likelihood of change towards that positions in 2002 is calculated by the usage of equation 3. These calculations are then combined to provide a likelihood that an individual changed towards a conservative opinion in 2002.

$$P(mono)_{2002} = P(mono)_{1998} * P(change)_{2002} * (1 - P(mono)_{1998})$$

(eq. 5)

The results of these functions will be tested by the maximum likelihood non-linear regression to assess the ability of the model to predict opinion change for certain types of voters depending on political awareness. In order to test the second hypothesis same process will be repeated with the introduction of a new variable: Political predispositions.

As noted in the case selection, the 2002 and 2003 DPES allows for a panel study. This allows for an examination of the variables that make up the RAS model and see how they perform in predicting changes in opinion for unique individuals over time. The dependent variable will be the opinion respondents expressed in the 2003 DPES on the question to what

extent non-western immigrants should adjust to Dutch culture. The response to this question given by the respondents in the 2002 DPES will be included as an independent variable. This means that the dependent variable will be lagged. The argument to incorporate the responses of the 2002 DPES is analogue to the argument, described above, by Zaller. The likelihood of having a certain opinion on time t+1 also dependent on respondents having such opinions on time t. Because of the distribution of the dependent variable, linear regression will be used to determine the influence of political awareness and political predispositions on the change in opinion.

4 Results

A requirement in the RAS model is to determine whether or not there is an observable change in the both the saliency of an issue in the media and the way in which the subject is communicated. As can be seen in figure two, this is the case.

Until September 2001, the amount of reporting on the issue of Islam is quite stable. Both the pro- and anti-Islam frames receive an equal amount of attention in the media and the total amount of attention almost never rises above the level of 100 counts per month. Data is available starting in 1995, but the pattern between 1995 and 1998 is generally the same. The sudden rise in media attention in September 2001 to the anti-Islam frame is most likely due to the terrorist attack of September 11th. According to Vliegenthart, such an increase is to be expected, since the events of September 11th lead to a shift in paradigm resulting in the abandonment of old frames and the introduction of frames that were previously almost unused (Vliegenthart and Roggeband, 2007:299).

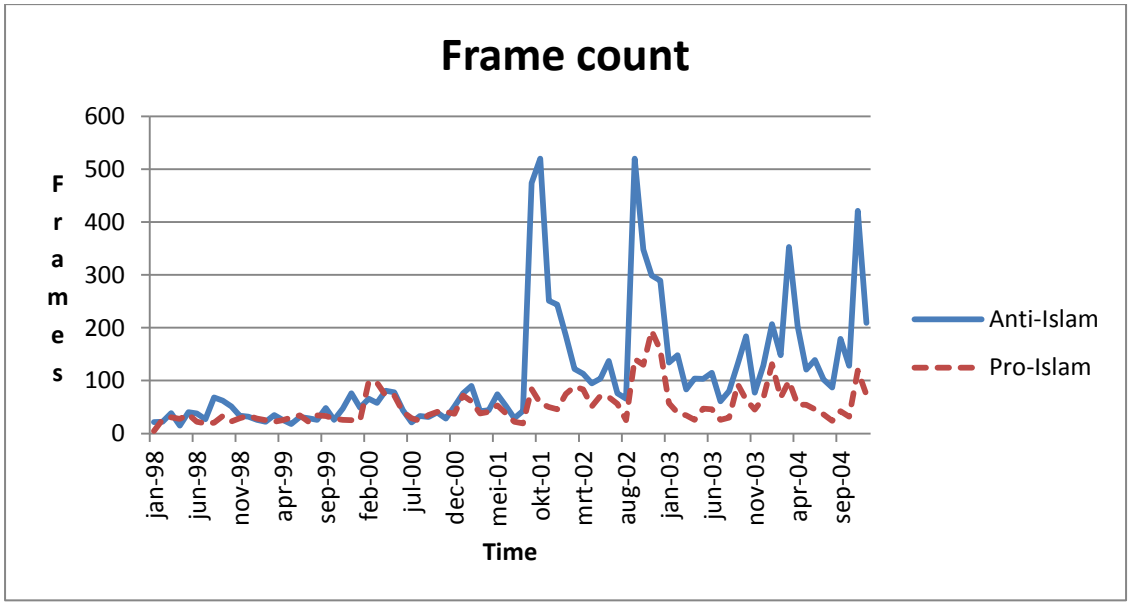

Figure 2: Frame count

This is exactly what happened with the Islam-as-a-threat frame. In the months after the events that occurred on September 11th, the Islam-as-a-threat frame became highly dominant. In

January of 2002, that attention started to fade. It however showed a fierce revival in September of 2002. The important difference is that the content of the Islam-as-a-threat frame as was communicated in 2001 differs from that in 2002. Obviously, the frames in 2001 were predominantly concerned with the attacks of September 11th. In 2002 however, the issues that have been reported in the newspapers hit much more close to home. Former Somalia refugee and member of the Dutch socialist party, Ms. Ayaan Hirsi Ali expressed a very critical opinion on the Islam during the 10th and 11th of September of 2002 (Hippe et al., 2004:143), for which she was threatened. The events surrounding the opinion expressed by Ms. Hirshi Ali received a significant amount of media attention.

For as far the first significant increase in the usage of anti-Islamic frames goes, one could argue that since the events of September 11th 2001 are not related to a tangible domestic problem within the Netherlands, since the threat did not manifest itself in the Netherlands. This could mean that the effects of those communications could be regarded as negligible and because of such a possibility could be excluded. However, based on the events of September 11th and the amount of news related to those events, it is only fair to include those frames, since the events of September 11th clearly resulted in a change in the dominant media message (Vliegenthart and Roggeband, 2007:299). Furthermore, the RAS model hypothesizes that the continued usage of a frame increases the likelihood of a change in public opinion further. This argues in favor of including the frame. For the sake of providing full information: If we exclude these events, the first two substantial increases in anti-Islam communication can be reduced to roughly the same amount of pro-Islam communication at that time. However, the frames did make it into the newspapers at that moment and as such contributed to the amount of information individuals were likely to receive on these messages.

4.1 Change in public opinion

Figure 3 shows the graph with the percentages of respondents in the DPES samples of 1998, 2002 and 2003 who answered in favor of non-western immigrants to adjust to Dutch culture distributed along their levels of political awareness.

The first observation to be made is that there seems to be a negative linear pattern between the level of political awareness that is displayed and the percentage of respondents who answered to be in favor of non-western immigrants adjust to Dutch culture. This observation is confirmed by a simple bivariate test for correlation. In 1998 and 2003, the correlation between political awareness and the respondents favoring non-western immigrants to adjust to Dutch culture was significant at the 0.01 level, but the relationship was weak at most, 1998: $r(2101) = -0.132$, $p < 0.01$; 2003: $r(1285) = -0.175$, $p < 0.01$. The two variables correlated even less in 2002, and displayed a lower level of significance, $r(1895) = -0.049$, $p < 0.05$.

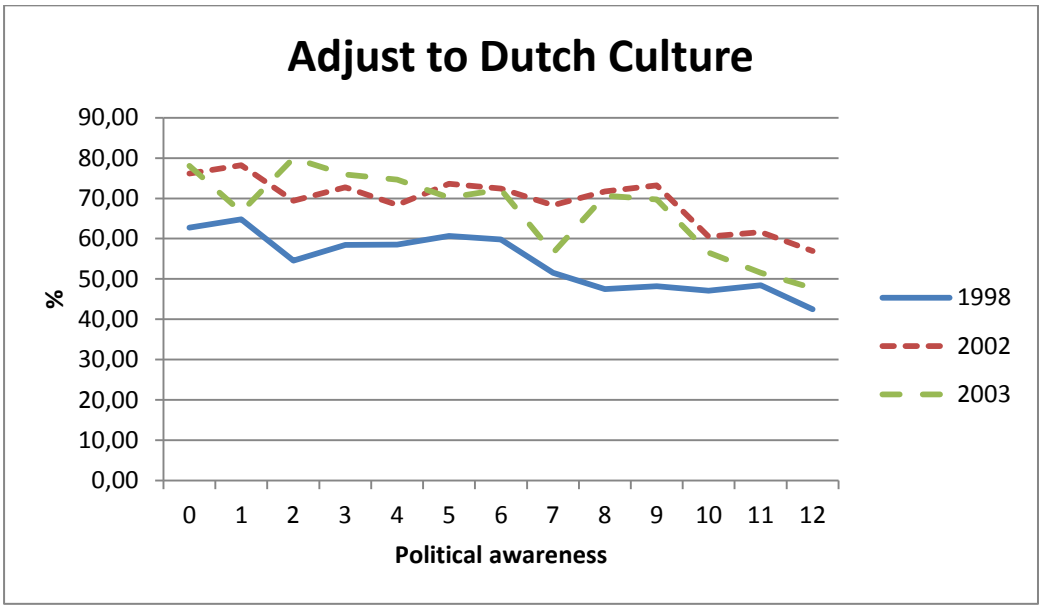

Figure 3: Percentage adjust to Dutch culture

Looking at figure 4, there seems to be a positive linear relationship between the percentage of individuals who responded that non-western immigrants should be allowed to preserve their own customs. The correlation was significant in all three elections, however, the correlation again was weak at most. 1998 reported a correlation of 0.100, $r(2101) = 0.100$, $p < 0.01$. The data of the 2002 DPES displayed an even weaker correlation, $r(1895) = 0.080$, $p < 0.01$. The 2003 DPES data provided the largest correlation, albeit very weak: $r(1285) = 0.133$, $p < 0.01$.

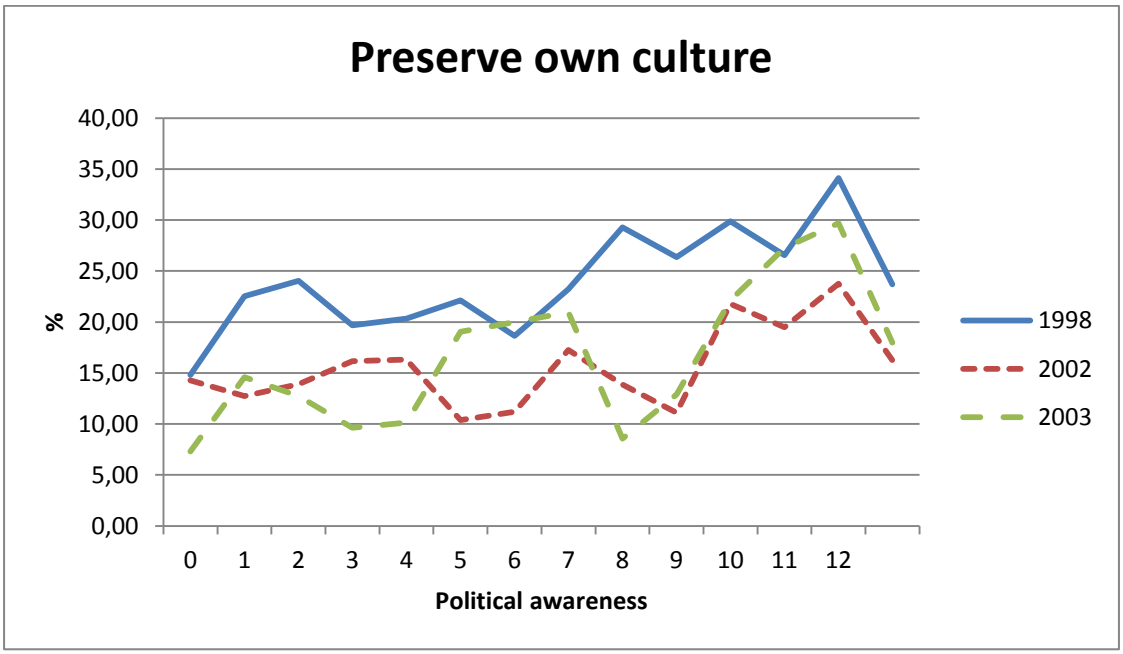

Figure 4: Percentage preserve own culture

Looking at figures 3 and 4, it shows that the change in opinion from 1998 to 2002 is by far the biggest. However, the correlation between political awareness and the opinion held by respondents is very weak. This is an indication that political awareness is unlikely to explain the observed change in public opinion in the DPES samples.

4.2 Hypothesis 1: Political awareness

According to the RAS model, the expected change in opinion should follow a nonlinear pattern. Figure 5 shows the change in opinion from 1998 to 2002. The change rate are calculated by making use of a standard change function of the form (T2 – T1) / (100% - T1).

In this calculation, the percentage of respondents who scored a certain level of political awareness and were in favor of one of three possible positions in 1998 are regarded as T1, while respondents in 2002 with the same level of political awareness who were in favor of the same position are regarded as T2. This calculation provides a relative changes in opinion based on political awareness for a certain position from 1998 to 2002.

The solid line describes the percentage of respondents that changed from an opinion in which they favored preserving own cultural customs, or had a center opinion, towards an opinion opposing that cultural diversity. The narrow dotted line shows the opposite movement. Finally, the wide dotted line shows the proportion of change in the center group, people who felt evenly strong on both opinions.

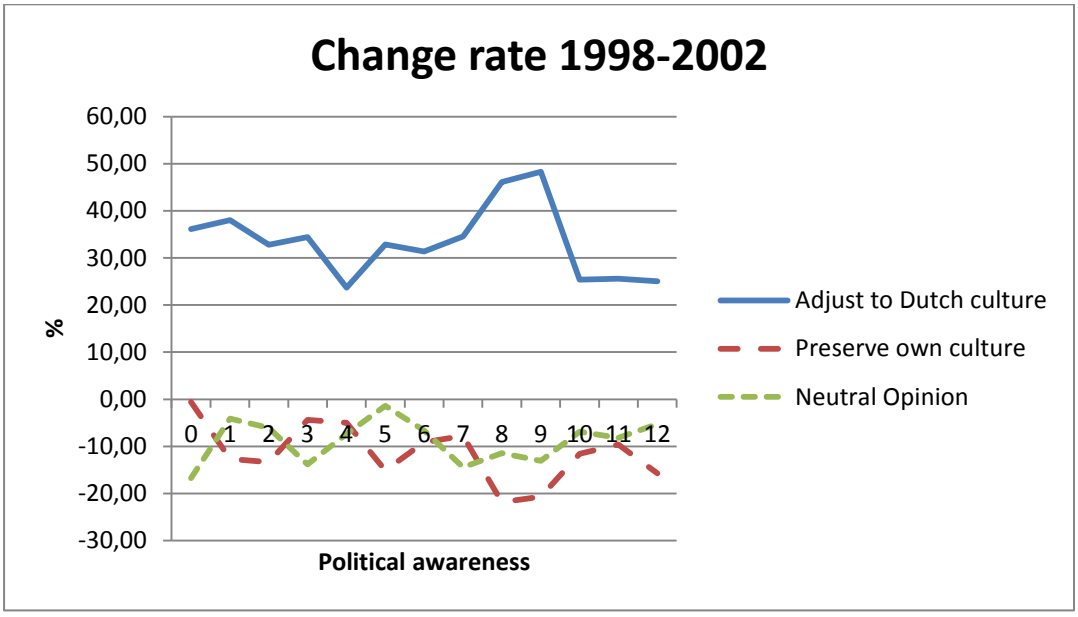

Figure 5: Opinion change 1998 to 2002

Figure 5 makes it clearly visible that there is a very substantial increase in the number of respondents that favored an opinion in which non-western immigrants had to adjust to Dutch culture. Although the change in the proportion of respondents that favored the preservation of an own culture is not as large as its opposite counterpart, the change itself is highly significant. In the period from 1998 to 2002, the mean change rate of respondents who favored non-western immigrants to preserve their own customs was -11,8%, which was

significant t(25) = -6.595, p < 0.001. The change in the proportion of people who expressed a neutral opinion is highly significant as well, with a change rate of -8,9%, t(25) = -6.981, p < 0.001.

Figure 3 up to and including figure 5 present a partial answer to the first hypothesis. At a first glance, the changes in opinion do not occur according to a clear non-linear pattern based on political awareness. Instead, the change in opinion seems to follow a linear pattern. Furthermore, the slope of the linear pattern does not seem to be that steep, which would mean that political knowledge does not moderate a change in opinion.

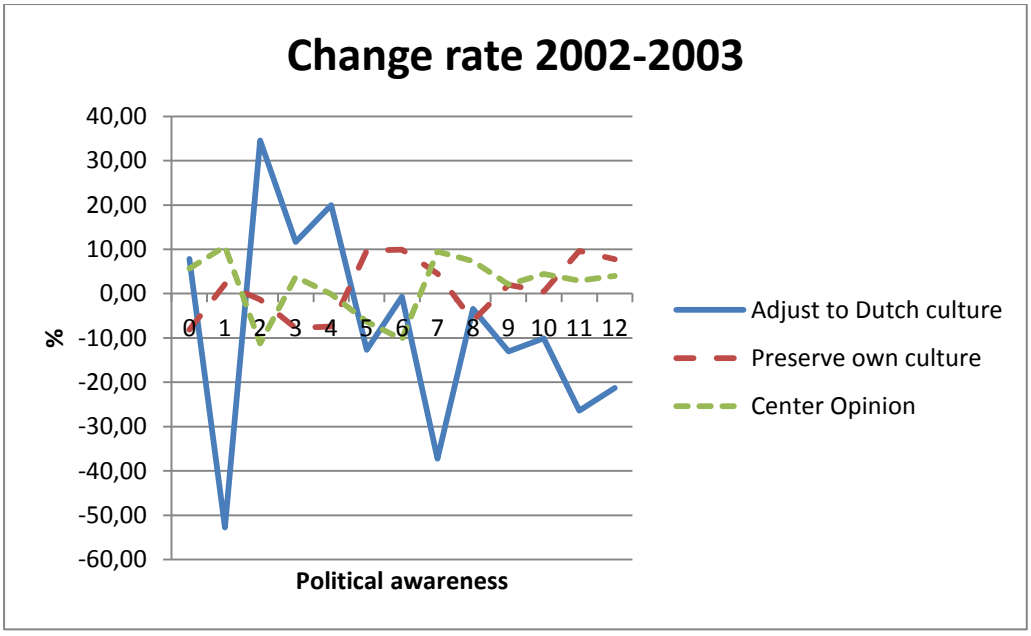

Figure 6: Opinion change 2002 to 2003

Figure 6, in which we see the proportion of change in public opinion in the period between the elections in 2002 until the elections in 2003, also seems to lack a non-linear pattern based on political awareness. This means that figure 6 provides similar results in comparison to figure 5. The only hint of a possible non-linear pattern is provided by the curve that describes the proportion of respondents whose opinion changed towards a position favoring the adjustment to Dutch culture. However, the sample of respondents that scored 2 on the scale

describing political awareness expressed a 50% negative change rate in the opinion favoring adjustment to Dutch culture. Does this group of respondents represent an outlier? The amount of respondents in the sample is roughly evenly distributed along the spectrum of political awareness, with the number of respondents with a score of 2 on political knowledge making up around 6% of the sample. This means that the respondents who scored 2 on the scale of political awareness are at least not over- or underrepresented at first sight. Furthermore, looking at the number of frames that have been transmitted, it shows that the anti-Islamic frame at the time of the 2003 elections could still be seen as the dominant media frame. Although the graphs in figure 2 show that there was an increase in the amount of pro-Islamic frames that have been transmitted prior to the 2003 elections, the RAS model prescribes that only those who are highly attentive to political news, meaning those respondents who generally score high on a scale that captures political awareness, should have picked this increase in the countervailing media message up. This outlier as such seems to be not in line with the RAS model.

The others lines in figure 6 show the same general pattern as those in figures 4 and 5. As far as there is a relationship between political awareness and the changes in public opinion, the relationship is foremost one that can at best be described by a linear pattern. Second, insofar that one is able to see a pattern between political awareness and a change in opinion, the relationship between these two variables is most of all generally very weak.

Although the forecast for a fit of the model does not look that good, in order to actually test hypothesis H1 it is necessary to estimate the model. The model that has been estimated is the first model that can be found in the appendix.

The model starts off with the calculation of the baseline for the years 1998, 2002 and 2003 on the respondents who favored or opposed non-western immigrants to preserve their own customs. The calculations that are performed to obtain the baselines are based on the

first half of equation 3. This means for example that in order to obtain the baseline probability of opinions in favor of non-western immigrants in 1998, the model parameters b_0 until b_2 are used to determine the influence of political awareness and the amount of media content in support of preserving non-western cultural values, as explained in the methods section. The process is repeated to obtain the 1998 baseline probability that respondents had the opinion that non-western immigrants should adjust to Dutch culture.

To test the first hypothesis, the model was run without a variable to distinguish on political predispositions. In order to assess correct values for the parameters that are to be assessed by the model, it is necessary to obtain values for these parameters that "make sense". Zaller argues that the process of obtaining plausible parameters is an estimation technique that is quite difficult (Zaller, 1992:150). For researchers not as experienced with such a procedure, Zaller suggests to usage of spreadsheets in order to obtain meaningful parameters. This was done by placing all the relevant data for one year in one spreadsheet. This resulted in a spreadsheet with a column for political awareness, a column that held the dummy variable for respondents who favored non-western immigrants to preserve their own customs, and a column containing the dummy variable for respondents who favored non-western immigrants adjust to Dutch culture. Furthermore, two columns containing the count of pro- and anti-Islamic frames, were added.

By using the first half of equation 3, the baseline functions were layered over a curve that represented the actual proportion of respondents corresponding with either one of the recoded opinions. For each of the two baseline functions, the parameters for the model were changed so that the resulting baseline curve would approximate the actual proportion of respondents favoring either one of the two positions. Starting with values provided by Zaller (1992:150), this method of estimation eventually led to the parameters that can be found in the first column of table 1.

The single digit parameters are the parameters that are used in the model to assess the fit of the model on determining the likelihood that, based on political awareness, an individual would change his opinion so that he would adhere to the position of non-western immigrants needing to adept to Dutch culture. The parameters with a double-digit suffix are related to the opposite process. The a_0 and a_1 (and of course the a_{00} and a_{11}) are the parameters concerned with describing the baseline opinion, prior to the 1998 elections. These parameters affect the same variables as parameters b_0 and b_1. However, these parameters are used to determine the initial levels of support for either opinions, i.e. the baselines.

Table 1: Model parameters			
Preserve own culture			
Intercept (a_0)	1	5.6	5.5
Awareness (a_1)	2	0.4	0.4
Intercept (b_0)	0.8	3.1	0
Awareness (b_1)	-5	-0.75	-0.75
Preserve media (b_2)	0	0	0
Adjust to Dutch culture			
Intercept (a_{00})	-1	2.1	2.1
Awareness (a_{11})	-2	-0.42	-0.42
Intercept (b_{00})	-0.8	1	-0.8
Awareness (b_{11})	5	1	5
Adjust media (b_{22})	0	0	0
Residual sum of squares (R^2)	-2074	-1039	-35

Parameter b_0 is the intercept parameter of every sub function. Parameters b_1 and b_2 describe the influence of political awareness on the one hand and the amount of media frames on the other hand.

The parameter values that are provided in the second and third column of table 1 show the result of multiple iterations in which the model was estimated based on the parameters that have been obtained according to the method described above. The obtained residual sum of squares (R^2) is the residual of the model in comparison to a horizontal line that equals 0^2.

As could be expected from the raw data, it was unlikely that this estimation would provide us with estimates to support H1. After estimating the model multiple times, the

[2] The horizontal line in the model is the variable in the appendix described by var0.

results showed that the model was unable to provide an explanation for the probabilities of changes in public opinion dependent on political awareness. This can be best seen in the summed R^2 value. The results show this value to be negative. This can be explained as the model being less able to predict the probabilities of change in opinion in comparison to the straight line that has been defined by var0. Due to the iterative nature of non-linear regression, different parameter values were provided by the program as the model was estimated. Attempts of obtaining such values as a result of subsequent iterations can be seen in column two and three of table 1. Altering the parameters in subsequent iterations improves the fit of the model in reference to the straight line. However, the model seems never to be able to explain changes in public opinion better than that straight line. Based on these results we can only conclude that there is no support for H1 in this case.

4.3 Hypothesis 2: Political predispositions

Although political awareness is a crucial component of the RAS model, political predispositions are also necessary in order to test the full model. Incorporating political predispositions allows for an enhancement of the model according to the theory. The theory describes that respondents who are predisposed against a new dominant media message are less likely to change their opinion in comparison to those types of individuals who based on their political predispositions are likely to adhere to such a message.

In order to test the influence of political predispositions, the question on the DPES in which respondents were asked to place themselves on a scale from left to right was recoded so that it represented three categories: left, center and right. The decision to utilize this division was based on the number of respondents within each category. If the scale that was used in the DPES studies would have been adopted, it would have resulted in a situation in which multiple categories would include no respondents. Using a left-center-right distribution provided around 10 respondents per category.

Based on the breakdown on political predispositions, left to right self-placement and the opinion respondents provided, there are more figures like the graphs in figure 7 available. However, these graphs all display similar results as described in the previous paragraph , i.e. linear patterns of changes in public opinion based on political awareness. Based on this determination, these graphs are not presented because they do not provide any new insight.

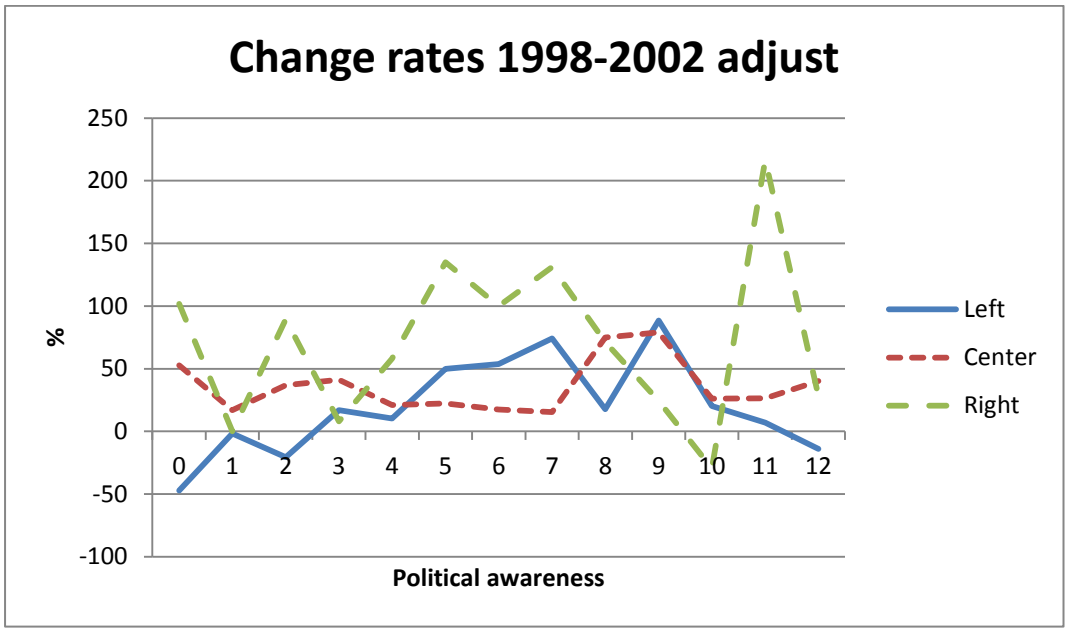

Figure 7: Change rate based on political predispositions

The lines in figure 7 show the change rates for the respondents change rates towards the opinion that non-western immigrants should adjust to Dutch culture. The lines are group by the division in political predispositions.

The rates of changes in the period from 1998 to 2002 was selected to be presented in this chapter based on two reasons. First of all, the change in opinion was larger in the period from 1998 to 2002 then it was for the period between 2002 and 2003. Second of all, the graph in figure 7 for respondents who placed themselves on the left shows a slightly non-linear pattern, with a clear drop in change rate on the low and high end of the political awareness spectrum and a peak within the respondents who scored moderately on the political

awareness scale. This visual inspection of the data thus provides some possibility that the RAS model is able to explain the change in public opinion between 1998 and 2002.

At first sight, the curve for respondents who identify with the left seems to follow an inverse quadratic pattern, and such an non-linear relationship between political awareness and changes in public opinion are in line with the RAS model. The biggest change towards the opinion that non-western immigrants should adjust to Dutch culture in the period from 1998 to 2002 is found among those types of individuals who displayed to have average levels of political awareness.

At the same time, it is unlikely that this pattern fits the RAS model. Based on the change rates, those types of individuals who consider them to be ideologically left and score low on political awareness show a decline in the likelihood of changing to the opinion of adjusting to Dutch Culture. This observation seems to be in contradiction with the RAS model. The high numbers of media frames, especially those that can be seen as anti-Islamic are likely to be so intense that it is likely that these messages would have reached even those types of voters who can be labeled politically unaware. Upon receiving such messages, the RAS model describes that it is likely that these types of voters would have changed their opinion accordingly. This would mean that these types of voters should have displayed a change towards the opinion that non-western immigrants should adjust to Dutch culture. Based on this assessment of the visual data, it seems unlikely that H2 can be confirmed.

In order to estimate the model, the variable containing political predispositions was added to the model. Adding political predisposition obviously results in the addition of two parameters in the model, each describing the effect of political predispositions. One parameter explaining the effect of political predispositions on changes in opinion in favor of non-western immigrants preserving their own customs and one opposing that opinion. These are the parameters described in table 2 as b_3 and b_{33}.

Results for the non-linear regression are displayed in table two. As was the case with estimating the model without political predispositions, the model was unable to perform better explain the change in opinion in comparison to the horizontal line. This again can be concluded based on the negative residual sum of squares. It should however be mentioned that the obtained negative residual was much lower in comparison to the residuals obtained in the test that only used political awareness. This means that the model including political predispositions is better able to explain the changes in opinion in comparison to the model that did not include political predispositions. However, even with the addition of political predisposition, the model was unsuccessful in providing a better explanation of the change in public opinion based on political awareness and political predispositions when compared to a horizontal line. Based on these observations it is justified to conclude that there is no support for H2 in this case.

Table 2: Model parameters			
Preserve own culture			
Intercept (a_0)	10	6.5	5.6
Awareness (a_1)	0.4	0.4	0.4
Intercept (b_0)	3	3	3.1
Awareness (b_1)	-1	-0.75	-0.75
Preserve media (b_2)	0	0	0
Predispositions (b_3)	-0.1	-0.1	-0.1
Adjust to Dutch culture			
Intercept (a_{00})	2.1	2.1	2.1
Awareness (a_{11})	-0.42	-0.42	-0.42
Intercept (b_{00})	0.5	0.5	0.5
Awareness (b_{11})	1	1	1
Adjust media (b_{22})	0	0	0
Predispositions (b_{33})	0.1	0.1	0.1
Residual sum of squares (R^2)	-61	-11.95	-0.94

4.4 Alternative test: panel data

Although in this case the RAS model seems to be unable to explain any of the changes in opinion, the fact remains that there were significant changes in opinion expressed between the participants of the different elections studies. Due to the short time, and limits on resources, between the 2002 and 2003 Dutch parliamentary elections, the 2003 DPES is a

continuation of the DPES held in 2002. The availability of panel data allows to see if any of the variables that were asked to respondents were of influence on changes in opinion. Based on panel data, an alternative test is to try to identify to what extend political awareness and political predispositions were of influence on the change in opinion previously described. Keep in mind that the opinion expressed by respondents who participated in both the 2002 and 2003 DPES significantly changed towards a more progressive opinion in 2003, whereas opinions became more conservative from 1998 and 2002.

As was previously mentioned in the methods section, the dependent variable for this test is the opinion expressed towards the question if non-western immigrants should adjust to Dutch culture or be allowed to preserve their own customs. The scale of the variable ranges from 1 to 7, with one being the position that non-western immigrants should be completely allowed to preserve their own customs and consequently 7 meaning that respondents felt that non-western immigrants should completely adjust to Dutch culture. The actual question that is used as a dependent variable is the question on this subject that has been asked in the 2003 DPES. This choice of variable leads provides the used analysis technique to determine the contribution of political predispositions and political awareness on the change in public opinion. Because the dependent variable is a scale ranging from 1 to 7, linear regression will be employed.

The same question that was previously asked in the 2002 DPES is used as an independent variable in order to create a lagged dependent variable. This allows to see the contribution of previously held opinions on the subject in comparison to the opinions that the respondents expressed in 2003. The RAS model also takes the influence of previously held opinions on an issue into account. Adding the opinions expressed by the respondents in the 2002 DPES then becomes a logical step. Public opinion in 2002 is operationalized in the same way as public opinion on the issue in 2003.

The variable on political predispositions was in the application of the RAS model recoded as a trichotomous variable due to practical reasons. Because this linear regression analysis does not require a breakdown based on political awareness and political predispositions, the variable was not altered before it was entered into the regression.

The influence of media messages is a somewhat more problematic. Because the number of media messages is not an individual level variable, incorporating the total number of media frames would provide no variance and as such would be unable to contribute as a possible explanatory variable. Instead of a count of media frames, a measurement of habitual news consumption is added to the variable. This is variable is an additive scale that consists out of questions on how many national newspapers respondents read and how often they watch news on television. For every newspaper a respondents reports to read, a value of 1 is awarded. Questions on the consumption of news on television range on a four point scale from almost never to daily. Respondents reporting to watch the news on television on a daily basis were given a value of 1. Respondents reporting to watch the news 3 to 4 times a week were given a value of 2/3. Respondents reporting to watch the news 1 to 2 times a week were given a value of 1/3 and respondents reporting to almost never watch the news on television were given a value of 0. All scores were added up to create the scale of habitual news consumption.

A final variable that is added as an independent variable is party adherence. This is based on the observation that the extent to which an individual displays adherence to political party is a shown to be of strong influence on the opinion a voter has (Ray, 2003:993), but at the same time is a quite stable variable over time (Johnston, 2006:347-348). For all of the nine biggest parties[3], a dummy variable is utilized and then added to the regression.

[3] These parties are PvdA, CDA, VVD, D66, GroenLinks, SGP, Christen Unie, LPF and SP.

Respondents were able to adhere to multiple parties in their responses. As such adherence is not the same as actual voting preference.

Table 3: Change in opinion on 2003 DPES			
	B	SE B	β
Constant	2.162**	0.369	
2002 Opinion	0.448**	0.024	0.471
Political awareness	-0.045**	0.010	-0.103
Political predispositions	0.120**	0.020	0.164
Habitual news consumption	0.118*	0.051	0.053
No party Adherence	-0.057	0.166	-0.019
PvdA Adherence	-0.034	0.168	-0.007
CDA Adherence	0.139	0.165	0.030
VVD Adherence	-0.005	0.181	-0.001
D66 Adherence	-0.330	0.229	-0.037
GroenLinks Adherence	-0.368*	0.186	-0.053
SGP Adherence	0.109	0.391	0.007
Christen Unie Adherence	0.076	0.239	0.009
LPF Adherence	0.409	0.247	0.044
SP Adherence	-0.102	0.267	-0.010
Adjusted R^2 = 0.392, N = 1213, *p < 0.05, ** p < 0.01			

The results of the linear regression can be found in table 3. As could be expected, the independent variable that contains the opinion respondents had in 2002 is a strong significant predictor on the opinion held by respondents in 2003.

Political awareness is also a highly significant predictor, albeit that the contribution of the variable is only very modest. Political predispositions shows to be a significant predictor of the change in opinion as well. Furthermore, the contribution of political predispositions on the changes in public opinion in 2003 are positively associated with respondents who identify themselves with the right. In that same line of reasoning, adhering to political party GroenLinks is a significant negative predictor for an opinion in favor of non-western immigrants to completely adjust to Dutch culture. This results however should not come as a

surprise. On a scale from 0 to 9, with 0 representing the left and 9 representing the right, the left-right placement for GroenLinks by respondents of the 2002 DPES had a mean value of 3.31 (SD=1.46). In the opinion of respondents GroenLinks is regarded as a party on the political left. All other parties provided no significant contribution in predicting a change in public opinion in this case.

The variable habitual news usage also showed to be a significant positive predictor in change in public opinion in this case. The more respondents read newspapers and looked at televised news, the more likely they are to have an opinion that non-western immigrants should adjust to Dutch culture. Since the total amount of anti-Islamic frames still was larger than the total amount of pro-Islamic frames, this observation provides some support for the idea that the rise in the absolute number of anti-Islamic frames in the media was of influence on the change in opinion in this case.

Overall, the model has an R^2 value of 0.396 meaning that these independent variables are able to account for almost 40% of the variance in the opinion towards the question if non-western immigrants should adhere to Dutch culture or be allowed to preserve their own customs.

5 Conclusion and discussion

Based on the results that were obtained by testing the two formulated hypotheses there is only one conclusion that can be drawn: The RAS model showed to be unable to provide any explanation for the expressed change in public opinion in this case.

Most striking in this case seems to be the observation that the changes do not follow a non-linear pattern, but are most notably linear. The availability of panel data in this case provided a unique opportunity to determine the contribution of political awareness and political predispositions on the expressed change in public opinion. The panel data allowed to test if any of the variables based on the RAS model, provide any explanatory power. In the subsequent linear regression performed on this panel data, the contribution of political awareness and political predispositions have shown to both be highly significant predictors of the opinion respondents expressed during the 2003 DPES. However, political awareness showed to provide only a limited prediction in this case.

There are however some possibilities that could have played a factor in the inability of the model to accurately predict the observed change in public opinion. First of all, it could have to do with an inaccurate measurement of political awareness. As was previously mentioned, the different election studies only utilize photo recognition questions as a consistent measurement of factual knowledge about politician. There are no other factual questions available, for example on the constitutional role of the cabinet, parliament, and the head of state. Adding such questions on future parliamentary election studies could very well provide more variance on variables that can be labeled as political knowledge or political awareness. Furthermore, it could very well be the case that the measurements that are used in the DPES to create a scale for political knowledge were unable to distinguish between those who can be regarded political sophisticates and those who cannot be granted such a label. Based on the photo recognition questions that have been used, the same problem could have

existed as it did in the 1980's (Irwin et al., 2005). Almost every respondent was able to correctly answer the photo recognition questions due to the fact that only party leaders were used. Something similar could be happening with the photo recognition questions at this moment. In 2002, for every politician that was presented to respondents, every politician yielded a correct percentage of answers of around 85% of the respondents. Furthermore, in the 2002 DPES, there were 216 respondents who scored the maximum score on political knowledge, while only 60 respondents obtained the lowest possible score. Based on the usage of the measurement of political knowledge to represent political awareness, the largest portion of the population seems to be highly knowledgeable based on these numbers. The addition of other questions, probing for other bits of factual information such as "which parties make up the current coalition" or "who is the chairman of the Second Chamber" and "is the Queen a member of the government" could increase the variance on the scale of political knowledge.

Another possibility could lie in the way the frames have been counted. The Islamic frames might have been of negligible influence on the change in opinion towards non-western immigrants. A final observation could be that the time period between the 1998 and 2002 elections was too big to capture the influence of media frames on a change in public opinion. One downside of the usage of these frames was that the data used in this method provided little variance on the issue between the different time periods. In order to better determine the effect of media frames, more variance on this variable should be achieved, This can be accomplished by using more points in time in which public opinion is measured on a certain issue.

The usage of left right self-placement as political predispositions seemed to perform quite good as a predictor to change in opinion in this case, as well as previously held opinions were. These two observations are in line with the general assumptions of the RAS model, that

predispositions and previously held opinions influence the likelihood that a respondent will change his opinion on a certain case. However, as was noted before, the RAS model itself was unable to provide an explanation for the observed change in opinion in this case. The same can be said on the number of anti-Islamic frames in the media. The scale that was created to provide a value for the habitual news reception of respondents showed to be a positive significant predictor for a change in opinion towards the position that non-western immigrants should adjust to Dutch culture. In combination with the observation that the number of anti-Islamic frames that were transmitted in newspapers were larger than the amount of pro-Islamic frames, the significant contribution of habitual news usage could be regarded as a clue that the changes in opinion expressed by respondents in this case correlates with the number of frames expressed on the issue. However, it could very well be that the direction of causality is the other way around, i.e. that the media reports on public opinion instead of public opinion being influenced by the media.

Is resistance then futile? Looking at the RAS model, the results that have been obtained in this case suggest that an answer to this question ambiguous. According to the RAS model those respondents that can be seen as politically aware should have been able to resist the message. However, even these types of individuals expressed the same change in public opinion. The strength of the message, represented by the total number of frames, political awareness and political predispositions were in this case, according to the RAS model, unable to provide an explanation for the observed change in opinion. Based on the observation that that changes in opinion, seen as dependent on political awareness, followed a linear pattern that shows little variation, one can say that the observed change in opinion affects the complete population with even strength. As such, the change in opinion seems to have been felt among the complete population. The observation that political sophistication does not lead to a resistance to changes in public opinion in accordance with the RAS model is an

observation that is in line with the results obtained by Goren (2004). In this study it was demonstrated that respondents who scored high on scales measuring political awareness, not necessarily are more able to resist new issue positions. Instead, respondents were shown to change their opinion primarily in accordance with their prior beliefs. Goren concludes that the interaction between political awareness and resistance to political information "does not apply as broadly as the conventional wisdom presumes" (Goren, 2004:474).

As always, more research is needed to address these questions. The elements that were formulated by Zaller, political awareness, political predispositions and message reception, still come up as significant predictors for changes in opinion as was demonstrated in the regression on the panel data. However the contribution of political awareness was, although highly significant, overall very low.

As was previously noted, a wider measurement of political awareness could provide more variance and as such provide more insight in the contribution of the variable to changes in public opinion. Testing the RAS model on a change in public opinion that occurs in a relatively short period of time could provide more insight in the role that political awareness and political predispositions have in such changes. This can be done for example by employing a panel over a period of a few weeks in accordance with a change in public opinion. Such a panel study should incorporate more questions to measure political awareness alongside with measurements of likely factors that could be regarded as predispositions towards the issue. The usage of panel data could allow for a more precise assessment on how political awareness influences the likelihood of receiving and subsequently accepting a message in combination with the identified predispositions and a more accurate count of relevant messages in the media.

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7 Appendix

The syntax files in this appendix represent the SPSS calculations that have been executed in order to test the RAS model. The used syntax is derived from the syntax John Zaller provides of the test in change of support for either Gary Hart or Walter Mondale in 1984 Democratic primary elections (Zaller, 1996:71). In each of the two syntax files, the same steps are executed. The difference between the two syntax files is that to test the first hypothesis, political predispositions were left out of the model. This can be seen in the second syntax file in which the model parameters b3 and b33 are included as well as the recoded left right self-placement of the respondents. A short explanation of the variables used in the model is provided next.

Var0: This variable represents the horizontal line to which the model is compared.
Model Parms: These are the initial parameters that were obtained by the explained usage of spreapsheets.
INFO: These are the standardized individual measurements of political awareness that were obtained with the photo recognition questions from the different DPES studies.
PreservemedXXXX: The number of media messages that have been classified as being in favor of non-western immigrants to preserve their own customs. XXXX denotes the election year for which these messages where counted.
AdjustmedXXXX: Analogue to Presevermed. Adjustmed is the count of media message in favor of non-western immigrants adjusting to Dutch culture.
RecodedLeftRight:The recoded left right self-placement of the respondents. The higher this score, the more a respondents identifies with the right.
AdjustOpinion: Recoding of the DPES question that asked if respondents thought non-western immigrants should adjust to Dutch culture of be allowed to preserve their own customs, on a scale ranging from 1 to 7. AdjustOpinion contains respondents in favor of non-western immigrants adjusting to Dutch Culture. These respondents scored 5, 6 or 7 on this question.
PreserveOpinion: Analogue to AdjustOpinion. These respondents scored 1, 2 or 3 on this question.
CenterOpinion: Analogue to AdjustOpinion. These respondents scored 4 on this question.

7.1 Model with hypothesis 1

```
#define reference line and model parameters
COMPUTE var0=0.
MODEL PARMS a0=3.1 a00=.5 a1=5.6 a11=2.1 b0=-.75 b1=.4 b2=0 b00=1 b11=-.42
b22=0.

#Compute baselines
COMPUTE Preservet0 = 1/(1+exp(-a0-a1*INFO)).
COMPUTE Adjustt0 = 1/(1+exp(-a00-a11*INFO)).
COMPUTE Preserve1 = 1/(1+exp(-b0-b1*INFO-b2*preservemed1998)).
COMPUTE Adjust1 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed1998)).
COMPUTE Preserve2 = 1/(1+exp(-b0-b1*INFO-b2*preservemed2002)).
COMPUTE Adjust2 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed2002)).
COMPUTE Preserve3 = 1/(1+exp(-b0-b1*INFO-b2*preservemed2003)).
COMPUTE Adjust3 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed2003t)).

#Compute influence gaps
COMPUTE Preservet1 = Preservet0 + Preserve1 * (1-Adjust1) * (1-Preservet0) - Adjust1 *
(1-Preserve1) * Preservet0.
COMPUTE Adjustt1 = Adjustt0 + Adjust1 * (1-Preserve1) * (1-Adjustt0) - Preserve1 * (1 -
Adjust1) * Adjustt0.
COMPUTE Preservet2 = Preservet1 + Preserve2 * (1-Adjust2) * (1-Preservet1) - Adjust2 *
(1-Preserve2) * Preservet1.
COMPUTE Adjustt2 = Adjustt1 + Adjust2 * (1-Preserve2) * (1-Adjustt1) - Preserve2 * (1 -
Adjust2) * Adjustt1.
COMPUTE Preservet3 = Preservet2 + Preserve3 * (1-Adjust3) * (1-Preservet2) - Adjust3 *
(1-Preserve3) * Preservet2.
COMPUTE Adjustt3 = Adjustt2 + Adjust3 * (1-Preserve3) * (1-Adjustt3) - Preserve3 * (1 -
Adjust3) * Adjustt2.

COMPUTE PreserveP = (p1 * Preservet1 + p2 * Preservet2 + p3 * Preservet3).
COMPUTE AdjustP = (p1 * Adjustt1 + p2 *Adjustt2 + p3 * Adjustt3).
COMPUTE NoChange = 1 - PreserveP - AdjustP.
COMPUTE PRED = ((-LG10(PreserveP) * PreserveOpinion - LG10(AdjustP) *
AdjustOpinion - LG10(NoChange)*CenterOpinion)**.5).

#Test model
NLR var0 with INFO p1 p2 p3 preservemed1998 adjustmed1998 preservemed2002
adjustmed2002 preservemed2003 adjustmed2003 PreserveOpinion CenterOpinion
AdjustOpinion
  /PRED PRED
  /CRITERIA SSCONVERGENCE 1E-8 PCON 1E-8.
```

7.2 Model with hypothesis 2

```
COMPUTE var0=0.
MODEL PARMS a0=3.1 a00=.5 a1=5.6 a11=2.1 b0=-.75 b1=.4 b2=0 b3=-.1 b00=1 b11=-
.42  b22=0 b33=.1.

#Compute baselines
COMPUTE Preservet0 = 1/(1+exp(-a0-a1*INFO)).
COMPUTE Adjustt0 = 1/(1+exp(-a00-a11*INFO)).
COMPUTE Preserve1 = 1/(1+exp(-b0-b1*INFO-b2*preservemed1998-
b3*RecodedLeftRight)).
COMPUTE Adjust1 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed1998-
b33*RecodedLeftRight)).
COMPUTE Preserve2 = 1/(1+exp(-b0-b1*INFO-b2*preservemed2002-
b3*RecodedLeftRight)).
COMPUTE Adjust2 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed2002-
b33*RecodedLeftRight )).
COMPUTE Preserve3 = 1/(1+exp(-b0-b1*INFO-b2*preservemed2003-
b3*RecodedLeftRight)).
COMPUTE Adjust3 = 1/(1+exp(-b00-b11*INFO-b22*adjustmed2003t-
b33*RecodedLeftRight)).

#Compute influence gaps
COMPUTE Preservet1 = Preservet0 + Preserve1 * (1-Adjust1) * (1-Preservet0) - Adjust1 *
(1-Preserve1) * Preservet0.
COMPUTE Adjustt1 = Adjustt0 + Adjust1 * (1-Preserve1) * (1-Adjustt0) - Preserve1 * (1 -
Adjust1) * Adjustt0.
COMPUTE Preservet2 = Preservet1 + Preserve2 * (1-Adjust2) * (1-Preservet1) - Adjust2 *
(1-Preserve2) * Preservet1.
COMPUTE Adjustt2 = Adjustt1 + Adjust2 * (1-Preserve2) * (1-Adjustt1) - Preserve2 * (1 -
Adjust2) * Adjustt1.
COMPUTE Preservet3 = Preservet2 + Preserve3 * (1-Adjust3) * (1-Preservet2) - Adjust3 *
(1-Preserve3) * Preservet2.
COMPUTE Adjustt3 = Adjustt2 + Adjust3 * (1-Preserve3) * (1-Adjustt3) - Preserve3 * (1 -
Adjust3) * Adjustt2.

COMPUTE PreserveP = (p1 * Preservet1 + p2 * Preservet2 + p3 * Preservet3).
COMPUTE AdjustP = (p1 * Adjustt1 + p2 *Adjustt2 + p3 * Adjustt3).
COMPUTE NoChange = 1 - PreserveP - AdjustP.
COMPUTE PRED = ((-LG10(PreserveP) * PreserveOpinion - LG10(AdjustP) *
AdjustOpinion - LG10(NoChange)*CenterOpinion)**.5).
/*COMPUTE PRED = ((-LG10(PreserveP) * PreserveOpinion - LG10(AdjustP) *
AdjustOpinion)**.5).

#Test model
NLR var0 with INFO p1 p2 p3 preservemed1998 adjustmed1998 preservemed2002
adjustmed2002 preservemed2003 adjustmed2003 PreserveOpinion CenterOpinion
AdjustOpinion
  /PRED PRED
  /CRITERIA SSCONVERGENCE 1E-8 PCON 1E-8.
```