

ACQUIESCENCE: STATEMENTS, QUESTION AND TIMEPRESSURE

Aantal woorden / Word count: <17.562>

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Masterproef voorgedragen tot het bekomen van de graad van:
Master's Dissertation submitted to obtain the degree of:

Master in Business Economics: Marketing

Academiejaar / Academic year: 2018-2019

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A. Preface

Following the footsteps of many students before me, I was scared of the tales they told. I was sure that this thesis was going to be the enemy. Saying that nothing was less true, would be a lie. It was a quest with periods of frustration alternated with periods of excitement. Overall, I am surprised of the eager I developed to discover more. It was nice to discover why I sometimes agree in the heat of the moment and question that choice 5 seconds later. I would like to thank my promotor Prof. Dr. Anneleen Van Kerckhove, for providing this interesting subject. She guided me through my master dissertation at the moments when I was most clueless. I would also like to thank my parents for giving me the opportunity to study at Ghent University.

Enjoy reading,

Chayenne Somers

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C. List of abbreviations

ARS	= Acquiescence response style
DARS	= Disacquiescence response style
NARS	= Net acquiescence response style
ERS	= Extreme response style
RR	= Response range
MPR	= Midpoint responding
NCR	= Non-contingent responding
GNP	= Gross National Product

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1. Introduction

Acquiescence response style is the systematic tendency to agree with an item, independently of the content (Messick, S., 2012; Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). The existence of ARS has been investigated for a long time (Jackson, D. N., 1959) and the research appears to be important. Marketing and market research is on the rise and so is the search for perfectly valid information obtained from questionnaires. Knowing why and under which circumstances a respondent indicates to agree aside from his true opinion, can already avoid one sort of distortion. ARS can cause distortions in correlations regarding for example education (McClosky, H., & Schaar, J. H., 1965), social class (Carr, L. G., 1971) and race (McClosky, H., & Schaar, J. H., 1965).

Multiple well known self-reporting scales are affected by ARS. It explains more than 60% of the variance in the F-scale which is a widely used personality test about the authoritarian personality (Bass, B. M., 1955). The Facebook intensity scale which measures Facebook usage, is also highly affected (Ellison, N. B., Steinfield, C., & Lampe, C., 2007). Not only surveys where people need to answer questions about themselves are subjected to ARS. In fact, it is almost infeasible to create a survey that is completely acquiescence-free (Couch, A., & Keniston, K., 1960). Measures about national operation, for example the SRC political efficacy measure, are also affected (Wright, J. D., 1975). Since Likert scales are popular in surveys (Holbrook, A., 2008), the importance of ARS is not likely to decline in the near future.

Literature has found multiple correlating and predicting factors. They can be divided in 2 superordinate categories: respondent characteristics and survey characteristics. Despite the various discoveries, there is still a long road ahead to discover every element that has an influence. Some proportion of variance in ARS is not yet explained. Survey characteristics seems to be the least investigated category of the two. Mode of administration has been investigated more than once but item characteristics are researched a lot less and less in-depth. Bracket use for example can influence the amount of ARS displayed in income questions (Hurd, M. D., & Kapteyn, A., 1999). If something that small can interact with ARS, it is probable that other item-elements could interact as well. The aim of this paper is to explore two survey characteristics and raise awareness on how a researcher can enhance ARS unknowingly.

This research tries to locate differences in ARS between two item constructs: questions and statements. This and the other hypotheses are built upon three different theories. One of the theories is the dual-stage theory of Spinozan concerning responding to statements. This implies that people accept statements immediately and search for contradicting information afterwards (Gilbert, D. T., 1991). The second theory entails that people don't place statements on a scale of agreement or disagreement the

same way they do with questions. They are ought to evaluate a statement as a distance to their own opinion (Fowler, F. J., 1995), which might be the reason individuals tend to react stronger and more sceptical (Dawson, E., Gilovich, T., & Regan, D. T., 2002). The second theory is the confirmatory bias associated with responding to questions. This theory states that the information retrieval stage of answering a question, starts with the retrieval of the affirming information. Retrieving contradicting information will start afterwards (Krosnick, J. A., 1991). A model is created visualising the concepts and the link with the hypothesis which will be presented later on. These models raise questions about an overarching characteristic as well, namely time pressure. This is the second variable that will be investigated in terms of influencing the amount of ARS.

We start this dissertation with a consolidation of literature on ARS in section two. The first part of this section, we dig deeper into the origin of acquiescence in order to find out why people acquiesce. After that a summary of all the characteristics of acquiescent people are provided. We will look into personal traits that correlate with acquiescent behaviour in surveys, as well as demographic characteristics and country-level characteristics. The literature is reported in that order. The last part consists of characteristics of questionnaires that correlate with acquiescent behaviour. This section provides an answer to what survey mode, scales, general survey characteristics and item characteristics induces the most ARS. Section three describes the qualitative research, ranging from the method to the results. In section four, the discussion, limitations and further research can be found.

2. Literature review

2.1 Family tree of ARS

2.1.1 Response bias

A response bias is a tendency to respond on some other basis than the content of the items (Paulhus, D. L., 1991). Research after the effect of response bias has been investigated since the forties, especially its (negative) effect on validity. Response biases distort relations and elevate variance in data (McClosky, H., & Schaar, J. H., 1965). Although these biases prohibit a response reflecting a true opinion, it does reflect characteristics of the respondents and appears to be a consistent component (Frederiksen, N., & Messick, S., 1959). A short list of important categories will be listed in the following paragraphs.

Respondents can adjust their answers according to a certain image they want to reflect on people. This is called a response set (Wetzel, E., Böhnke, J. R., & Brown, A., 2016). They could for example adjust their response to what they believe to be the socially desirable answer. This is called socially desirable responding and is one of the bigger problems within surveys (Bentler, P. M., Jackson, D. N., & Messick, S., 1971). If positive wording is used, and only then, this bias can be synonymous with ARS (Smith, P. B., 2004). The opposite can happen just as well. Socially desirability bias can overpower the volition to acquiesce (Ross, C. E., & Mirowsky, J., 1984). Pettigrew, T. F. (1964) provided a tangible example with the evaluation of the statement 'the trouble with most white people is that they think they are better than other people'. When there was a white interviewer present, there was 21% less ARS with all other factors held constant. The reduction in ARS was allotted to social desirability bias. Simulation and dissimulation are other examples of possible response sets. They entail the overreporting or underreporting of symptoms (Wetzel, E., Böhnke, J. R., & Brown, A., 2016).

Another category of response biases is response order effects. This is the tendency to indicate answers based on its placement. Some people have the tendency to choose the first response presented to them, called primacy effect. Other people are more inclined to choose the last presented item because of recency effect (De Pelsmacker, P. & Van Kenhove, P., 1999). A third category of response bias is misresponse. This is the tendency to answer the same way to two opposite questions. This can find his origin in acquiescence, in item verification difficulty and respondent inattention (Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). Last but not least, respondents can answer to questions according to a systematic answering pattern. This is called a response style (Paulhus, 1991) and will be explained in 2.1.2 Response styles.

A lot of these biases have at least one cause in common with ARS or correlate in one way or another (Krosnick, J. A., 1991). It is practically impossible to remove all response biases since every form of questionnaires has a risk to some response bias(es). Often, they can appear both on their own and in combination with others, elevating the degree of difficulty (McClendon, M. J., 1991).

2.1.2 Response styles

A response style is a systematic answering pattern of a respondent that has nothing to do with the content and/or purpose of the items (Paulhus, 1991). They all lead to a response bias and elevate the variation in the data obtained through the survey. ARS and its opposite, DARS, are two of the most mentioned response styles (Harzing, A. W., 2006). A list of the most mentioned response styles according to Baumgartner & Steenkamp (2001) is provided in table 1.

Table 1 - Response styles

Response styles
Acquiescence response style (ARS): The tendency to agree with a set of heterogenous items, regardless of the content.
Disacquiescence response style (DARS): The tendency to disagree with a set of heterogenous items, regardless of the content.
Net acquiescence response style (NARS): The difference of acquiescence and desacquiescence.
Extreme response style (ERS): The tendency to indicate the most extreme (often the outer) options of a scale.
Response range (RR): The tendency to use a small or wide range of answering categories.
Midpoint response style (MPR): The tendency to indicate the inner options of the scale, closest to the midpoint.
Non-contingent response style (NCR): The tendency to answer at random.

Together with extreme response style, acquiescence response style is considered one of the most problematic biases in psychological research (Paulhus, D. L., 1991; Bentler, P. M., Jackson, D. N., & Messick, S., 1971; Schuman, H., & Presser, S., 1996). ERS and ARS are positively correlated to one another at the individual level ($r = 0.241$) and even more at country-level ($r = 0.601$) (Meisenberg, G., & Williams, A., 2008).

2.1.3 ARS

As described in the list of response styles, acquiescent response style is the systematic uncritical agreement with items, independently of their content (Messick, S., 2012; Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). ARS causes positive answers regardless of the true vision on the statement or question. It can create a problem concerning validity in a variety of questionnaires (Swain, S. D., Weathers, D., & Niedrich, R. W., 2008; Bradburn, N. M., Sudman, S., Blair, E., Locander, W., Miles, C., Singer, E., & Stocking, C., 1979; Cronbach, L. J., 1949). It can distort reliabilities, factor loadings and correlations (Kuru, O., & Pasek, J., 2016). In the beginning it was labelled as a response effect associated with only agree-disagree items, now it has evolved into a broader term. ARS can occur in different items that require a choice between an affirmation and a negation, or a choice between good or bad (Couch, A., & Keniston, K., 1960; Campbell, A., Converse, P. E., Miller, W. E., & Donald, E., 1966; Schuman, H., & Presser, S., 1981). These sort of questions, especially Likert scales, are popular in use. This makes gaining insight in ARS an interesting subject in the market research field (Holbrook, A., 2008). The general view used to be that ARS was an error that needs to be avoided or removed (Smith, P. B., 2004). Although it is still seen as variability in data and a bias to avoid, it is also reviewed as a trait. It is influenced by various factors and contains information concerning the respondent's personality (Couch, A., & Keniston, K., 1960).

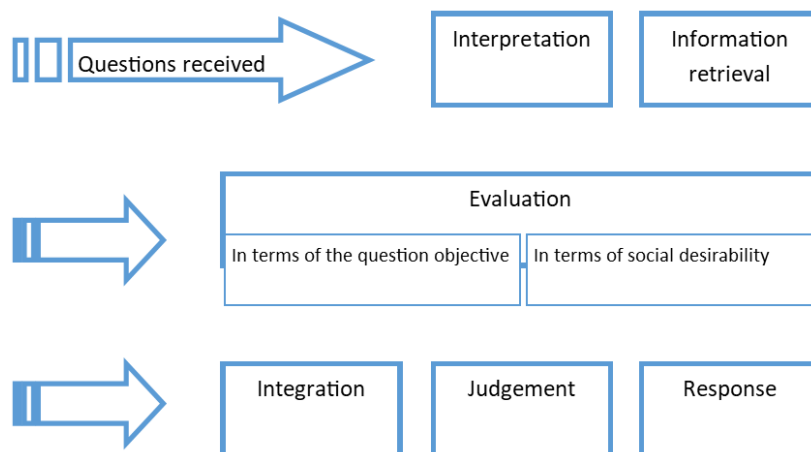
ARS has been detected in a variation of surveys. Attitude and personality surveys are regularly the subject of surveys that score high on ARS (Javeline, D., 1999; Carr, L. G., & Krause, N., 1978). Reporting about people's own health is also subjected to ARS, which could be an important societal factor to resolve (Carr, L. G., & Krause, N., 1978). It can appear in purely knowledge surveys as well, where no personal information is asked (Baron-Epel, O., Kaplan, G., Weinstein, R., & Green, M. S., 2010; Cronbach, L. J., 1946). If such a survey is combined with unbalanced scales, it needs to be corrected for ARS. If not, the data can have under or overestimations of connections between variables and the variance will be heightened (Mirowsky, J., & Ross, C. E., 1991).

2.2 Origin

2.2.1 Process of answering a question

Before looking into the reason why people acquiesce, we are going to elaborate on the cognitive steps to answer a question. Combining the theories of Tourangeau, R., Rips, L. J., & Rasinski, K. (2000), Cannell, C., & Henson, R. (1974) and Pasamanick, B., & Knobloch, H. (1955), we get the model as represented in figure 1.

Figure 1 - Answering process



As described in figure 1, the cognitive process of answering a question starts when the respondent receives the question. From that moment, the question can be interpreted. In this phase, the sounds are first broken down in pieces and stored into the working memory. After that, words are given one single meaning without trying to tie this meaning to other words or any context of the sentence. In the next phase, the meaning of the words are connected and a meaning for the sentence is created. Once the meaning is attributed, the original words of the question are completely discarded and only the meaning is remembered (Krosnick, J. A., 1999). In the information retrieval phase, the respondent tries to gather all the information in relation to the question. That information gets evaluated with the question objective in mind and afterwards with social desirability in mind (Cannell, C., & Henson, R., 1974). The information that got through the evaluation, gets integrated to form an opinion or a concrete fact-based answer. At last, he or she will respond (Tourangeau, R., Rips, L. J., & Rasinski, K., 2000; Cannell, C., & Henson, R., 1974; and Pasamanick, B., & Knobloch, H., 1955),.

In certain circumstances, some people do not answer questionnaires to the best of their ability due to lack of motivation. They provide answers just for that reason and not to provide high-quality data (Krosnick, J. A., 1999). Cannell, C., & Henson, R. (1974) describes motivation in general as a 4-piece concept. Primarily, there needs to be a psychological or physical drive. Secondly, there must be a goal that will satisfy that drive. Thirdly, there needs to be a so-called path to that goal. A person will only be motivated if there is a chance to obtain the goal. And lastly, there are always barriers to that path. Factors that make it less interesting to follow the path to the goal. Only if there is a path to the goal and the barriers are not bigger than the positive values of the goal, the path will be taken, and the motivation will be big enough (Cannell, C., & Henson, R., 1974).

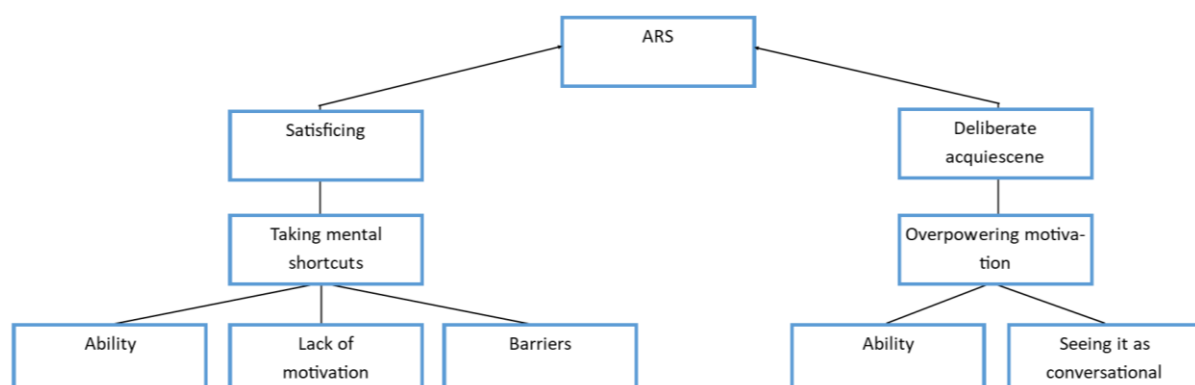
Applying this to a survey, a respondent could for example want to respond as good as possible to avoid feeling guilty (psychological drive) and help the interviewer who is looking for participants (goal). He or she can achieve this by taking his or her time to provide good answers (path), which means that he or she has less time to spend on something else (barrier).

The participants do not only need motivation to provide correct and complete answers, but also the ability to do so. Lack of ability can be a barrier that prevents the respondent to answer correctly (Vroom, V. H., 1964). To give an example: overgeneralization is caused by the inability to differentiate or particularize, instead of being a tendency to overgeneralize (Messick, S., & Jackson, D. N., 1958). Here is lack of ability the reason and not motivation. Ability can be influenced in two ways: the level of task difficulty and the abilities of the respondent. If the abilities of the respondent are lower than the abilities needed to reply to the question, a person will not answer correctly (Krosnick, J. A., 1999).

2.2.2 Causes ARS

There are different causes of ARS to be found in literature. We can divide them all in two overarching categories. The first category is ARS due to satisficing and the second category is deliberate acquiescence. A summarizing model is presented in figure 2.

Figure 2 - Causes acquiescent response style



A. Respondent satisficing

When people do not have the motivation to respond in the most correct manner possible, they are less attentive which leads to mental shortcuts in the answering process (Tourangeau, R., Rips, L. J., & Rasinski, K., 2000). Participants who take these mental shortcuts will tend to satisfice instead of carefully examining the question (Krosnick, J. A., 1991). 'To satisfice' means that the respondent chooses a good enough answer without going through all the available information as good as possible. One of the possible outcomes of satisficing is acquiescence response bias (Krosnick, J. A., 1991; Simon, H. A., 1957; Krosnick, J. A., 1999; Krosnick, J. A., 1991).

Satisficing can lead to ARS because of confirmatory bias in the information retrieval stage. Confirmatory bias is the tendency to first search for reasons and evidence of why you would agree with a question. When people are not motivated enough compared to the barriers, they stop before going through the information retrieval and evaluation phase completely. They will end their search for the correct answer before getting to (all) the reasons that oppose the question. In contrast to weak satisficing, where the respondent simply does not complete the steps with great care, strong satisficing skips the evaluation and retrieval step completely and gives a response that seems likely to be ok. The fact that people guess the interviewer's opinion to be 'agree' much more often than 'disagree', might explain why people guess that an acquiescent answer is an ok answer (Krosnick, J. A., 1999). Satisficing can besides ARS also result in other response biases like: no-opinion responding, non-differentiation, extreme responding, selecting the first reasonable response, endorsing the status quo and mental coin flipping (Holbrook, A. L., Green, M. C., & Krosnick, J. A., 2003; Krosnick, J. A., 1999; Messick, S., 2012).

The lack of motivation can be present from the beginning of the participation but can also be induced during the survey. When people get fatigued near the end for example or when they get distracted while they are filling out the survey (Krosnick, J. A., 1999). These elements cause an extra barrier which could make the negative value of the barriers greater than the positive value of obtaining the goal (Cannell, C., & Henson, R., 1974). The greater the task difficulty, which can be compared to the effort of the path, the greater the chance of satisficing (Krosnick, J. A., 1999; Cannell, C., & Henson, R., 1974). This is where ability also comes into place, or at least one side of ability. If a person lacks the ability to answer a question correctly, he will also be inclined to satisfice (Messick, S., 2012).

Formula 1 - Chance of satisficing from Messick, S. (2012)

$$p(\text{Satisficing}) = \frac{a_1(\text{TaskDifficulty})}{a_2(\text{Ability}) * a_3(\text{Motivation})}$$

B. Respondent deliberate acquiescence

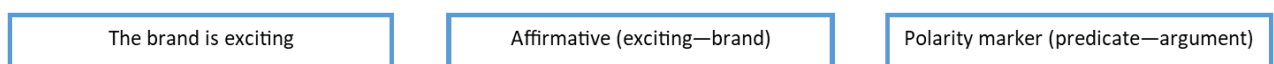
ARS is not always the side-product of lack of motivation. ARS can also be the goal of the motivation process. Some people treat a survey as conversational (Brown, P., & Levinson, S. C., 1987; Pasek, J., & Krosnick, J. A., 2010). This lets them behave according to the social norm to be agreeable in social interactions (Pasek, J., & Krosnick, J. A., 2010; Brown, P., & Levinson, S. C., 1987; Leech, G. N., 2016; Krosnick, J. A., 1999), or in a milder form at least present them less resistant (Carr, L. G., 1971). Here too, the fact that people guess the interviewer's opinion to be consistent with the acquiescent answer can clarify the acquiescent response (Krosnick, J. A., 1999). When the topic is rather embarrassing, people can also choose to acquiesce to avoid giving embarrassing answers (Tourangeau, R., & Yan, T., 2007).

Lack of ability is another contributor to respondent deliberate acquiescence. Converse, & Philip E. (1969) believed that respondents treat a survey as an IQ-test. He hypothesised that this results in reluctance to indicate 'no opinion', even when they have no knowledge on the subject. Combining this with the info mentioned above about participants guessing that the interviewer would answer 'yes' more often than 'no' (Krosnick, J. A., 1999), this can cause ARS.

C. Item verification identification

As mentioned in 2.1.1 Response bias, acquiescence is one of the possible causes of misresponse and item verification is a second one (Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). It is not a traditionally mentioned cause of ARS since the participants don't choose an answer aside from the content. It will though lead to positive answers despite their true opinion which makes it important to mention in this dissertation (Tourangeau, R., Rips, L. J., & Rasinski, K., 2000). Item verification is a process of comparison between information that is received and own knowledge affirming or negating that information. In this process a person compares the predicate and argument first and afterwards the polarity marker. The argument is the subject, the predicate is the associated characteristic of the subject and the polarity marker indicates if the relation between the predicate and the argument is affirmed or negated. An example of these terms is provided in figure 3.

Figure 3 - Item verification: polarity marker, predicate and argument



If the comparison is a match, the process continues. If not, a tag is created and the process starts over. A tag can get interpreted as ‘correct’ because of recognition, while it is actually incorrect. This is what leads to the false acceptance of items that are contrary to the respondents true believes. In table 2 you can see the process for true affirmation, false affirmation, false negation and true negation (Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). Reiser, M., Wallace, M. and Schuessler, K. (1986) indicated that ARS will generally be greater for negatively worded items. This could be explained by item verification if we look at the example of false negation and true negation in table 2.

Table 2 - Item verification process

		True affirmation (The brand is exciting)	False affirmation (The brand is boring)	False negation (The brand isn't exciting)	True negation (The brand isn't boring)
Step 1	Item	Affirmed (exciting, brand)	Affirmed (boring, brand)	Negated (exciting, brand)	Negated (boring, brand)
	Belief	Affirmed (exciting, brand)	Affirmed (exciting, brand)	Affirmed (exciting, brand)	Affirmed (exciting, brand)
	Result	Match, True, Continue	Mismatch, False, Tag, Continue	Match, True, Continue	Mismatch, False, Tag, Restart
Step 2	Item	Affirmed (exciting, brand)	Affirmed (boring, brand)	Negated (boring, brand)	Negated (exciting, brand)
	Belief	Affirmed (exciting, brand)	Affirmed (exciting, brand)	Affirmed (exciting, brand)	Affirmed (exciting, brand)
	Result	Match, True, Stop	Match, False, Continue	Mismatch, False, Restart	Match, False, Continue
Step 3	Item		Affirmed (boring, brand)	Negated (exciting, brand)	Negated (boring, brand)
	Belief		Affirmed (exciting, brand)	Affirmed (exciting, brand)	Affirmed (exciting, brand)
	Result		Match, False, Continue	Match, False, Continue	Mismatch, True, Tag, Restart
Step 4	Item			Negated (exciting, brand)	Negated (boring, brand)
	Belief			Affirmed (exciting, brand)	Affirmed (exciting, brand)
	Result			Match, False, Stop	Match, True, Continue
Step 5	Item				Negated (exciting, brand)
	Belief				Affirmed (exciting, brand)
	Result				Match, True, Continue

2.3 Respondent characteristics

Based on personality-traits, demography and characteristics of the country, you can determine who has a higher or less high chance to be in the danger zone of contaminating the results of your survey by acquiescent responding. Meisenberg, G., & Williams, A. (2008) found that 1%-5% of the variance in ARS within country samples could be explained by individual characteristics. 63.2% of the variance between countries was explained by country-level characteristics. Although this analysis did not use all the possible factors of the 3 domains, we can see strong indications that country-level characteristics determine the biggest part of world-wide ARS variance. There is though a lot of variance that is still unexplained and might or might not be due to personal-level traits or other factors that were not included in his research. In the following parts we will explore which factors of these 3 domains are determining the odds.

2.3.1 Personal traits

In the sixties, there was little believe in the personality factor behind acquiescence. Some researchers believed that no one had been able to successfully collect evidence of ARS being a broad personality trait. They also questioned if acquiescence compromises the validity of personality questionnaires instead of being part of it (Nunnally, J. C., Bernstein, I. H., & Berge, J. M. T., 1967; Rorer, L. G., 1965; McGee, R. K., 1962). There were though already believers, like Couch, A., & Keniston, K. (1960) who called acquiescence a deep-seated personality trait. In the meantime, it's clear that ARS is also an individual-level trait that correlates with more than one psychological factor (Kuru, O., & Pasek, J., 2016). In the following paragraphs the personal traits that correlate with a higher chance of acquiescing, are gathered from literature and connected to one of the reasons why people acquiesce. This does not mean that these personality traits are proven to be correlated with a specific reason. It is merely a means to an end to categorise the traits in an intuitive way.

A. Ability

First, we take a look at personality traits that have a connection with the reason 'ability' that is part of both satisficing and deliberate acquiescence. Cronbach, L. J. (1946) theorized that there are 2 ways a respondent can lack the ability to answer correctly. One: not having (enough) knowledge about the subject and therefore not knowing what the right answer is. And two: not knowing what the question means which leads to incapability of completing all the steps of the answering process. Low knowledge as a personality trait is correlated with ARS (Jackman, M. R., 1973; Meisenberg, G., & Williams, A., 2008). It does not need much further explanation as to why this causes a higher chance at lacking the ability to avoid ARS. If someone has low knowledge, it is of course likely that this person will not know the answer to more than one subject. The same way of thinking can be applied to intellectual ability (Elliott, L. L.,

1961; Forehand, G. A., 1962; Frederiksen, N., & Messick, S., 1959; Jackson, D. N., & Pacine, L., 1961; Messick, S., & Frederiksen, N., 1958; Shaw, M. E., 1961; Meisenberg, G., Lawless, E., Lambert, E., & Newton, A., 2006).

Lower/limited cognitive ability also has some correlation to ARS (Kuru, O., & Pasek, J., 2016; Krosnick, J. A., 1991, Campbell, A., Converse, P. E., Miller, W. E., & Donald, E., 1966; Peabody, D., 1966; Jackman, M. R., 1973, Schuman, H., & Presser, S., 1981; Krosnick, J. A., 1999; Krosnick, J. A., & Alwin, D. F., 1987; Schuman, H., & Presser, S., 1996). Having this, low cognitive sophistication (Jackman, M. R., 1973), low verbal intelligence (Elliott, L. L., 1961; Frederiksen, N., & Messick, S., 1959; Jackson, D. N., & Pacine, L., 1961; Messick, S., & Frederiksen, N., 1958; Shaw, M. E., 1961) and/or low verbal ability (Messick, S., 1966; Messick, S., & Frederiksen, N., 1958) could lead to a higher chance of not knowing what the question means or being uncertain about the meaning. Both can explain the correlation with ARS. There is also a correlation with poor performance in interpreting riddles (Messick, S., 1966). Although it was not mentioned in the article, it could be that this lesser ability to decode applies to both riddles and questions. People who often perform complicated mental tasks are less likely to acquiesce (Krosnick, J. A., 1999). If the previous speculation is correct, this could have the exact opposite reasoning as explanation. All the personality traits mentioned in this paragraph and the paragraph before, are called intellectually based ARS factors (Messick, S., 1966).

There are other personality traits that can cause acquiescence through lack of ability but don't belong in the description of intellectually based ARS factors. Christie, R., Havel, J., & Seidenberg, B. (1958) for example thought that ARS was only present with participants that were in a state of ideological confusion. Instead of lacking the knowledge to a knowledge question, this could cause a lack of knowledge about attitude questions or social matters. Not knowing what the right/wrong/socially acceptable answer is, is not surprisingly a barrier to answering correct and/or consistent. The same principle applies to people with little logical consistency which according to Messick, S. (1966) also has a significant correlation with acquiescent responding.

B. Respondent deliberate acquiescence

When we look at personality traits that could align with “respondent deliberate acquiescence”, we start off with a trait that is the same as a sub reason: agreeableness (Costa Jr, P. T., & McCrae, R. R., 1992; Knowles, E. S., & Condon, C. A., 1999). This personality trait can be defined as being pleasant, equable, participative, cooperative, and inclined to interact with others harmoniously (Lounsbury, J. W., Smith, R. M., Levy, J. J., Leong, F. T., & Gibson, L. W., 2009). People who have it in them to be agreeable, are likely to feel the need to agree. This can of course also be a subconscious act if agreeing becomes a habit. When a person is satisficing, this habit could replace the true response with an acquiescent one. Other psychological characteristics that correlates with ARS are low self-confidence, low self-esteem and/or lack of assertiveness (Meisenberg, G., & Williams, A., 2008). This might find its origin in a connection with agreeableness but this link has not yet been established in literature.

C. Respondent satisficing

Messick, S. (1966) divides 2 main categories when it comes to personality traits that correlate with acquiescence. The first category is intellectual based and the second category is temperamentally based. The second category contains several personality traits that all match a person that responds unreflectively or at least reflects less before responding to some extent. This impulsive personality takes little consideration and is judgemental as well as fast in perceptual-motor tasks (Messick, S., 1966). This is a way of taking mental shortcuts and can thus lead to satisficing (Krosnick, J. A., 1991). This temperamentally based acquiescence correlates with a high speed of judgement, fast reaction in different kind of tasks, rapid tempo in preferred rates of movement, and in a slightly smaller amount with high verbal fluency (Messick, S., 1966). Couch, A., & Keniston, K. (1960) and Johanson, G. A., & Osborn, C. J. (2004) support Messick, S. and found evidence of a correlation between impulsiveness and ARS. Low self-control is strongly correlated to impulsiveness (Mao, T., Pan, W., Zhu, Y., Yang, J., Dong, Q., & Zhou, G., 2018) and needless to say to ARS (Meisenberg, G., & Williams, A., 2008).

There are other personality traits, aside from the temperamentally based factors that can be linked to respondent satisficing. People can be stimulus-rejecting introverts or stimulus accepting extraverts. The first has a higher chance of being a nay-sayer and the second a higher chance at being an acquiescent person (Messick, S., 1966). Emotionality also seems related to satisficing (Messick, S., 1966), just like low rationality (Meisenberg, G., & Williams, A., 2008). Need for cognition on the contrary seems to correlate with optimizing instead of satisficing (Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G., 1996).

2.3.2 Demographic differences

Not only personal traits, but also demographic characteristics can determine the chance at acquiescing at an individual level (Krosnick, Jon A., Sowmya Narayan, and Wendy R. Smith., 1996). The most cited demographic determinant is level of education. People who have a lower education, have a higher chance to acquiesce than people with a higher education (Billiet, J. B., & McClendon, M. J., 2000; Krosnick, J. A., 1999; Krosnick, J. A., & Alwin, D. F., 1987; Schuman, H., & Presser, S., 1996; Baron-Epel, O., Kaplan, G., Weinstein, R., & Green, M. S., 2010; Snyder, M. K., & Ware, J. E., 1974; Ware Jr, J. E., 1978; Meisenberg, G., & Williams, A., 2008; Dohrenwend, B. P., 1966). Lower educated people will have limited cognitive abilities (McClendon, M. J., 1991), less general knowledge and lower cognitive sophistication which explains their higher probability of answering independently of the content (Jackman, M. R., 1973). Another explanation mentioned in literature is that educated people tend to be more self-confident and assertive in general, and in their answering (Meisenberg, G., & Williams, A., 2008).

The amount of years an individual has studied, is also a factor. This heightens the personal trait ‘cognitive sophistication’. It makes a person more likely to desacquiesce to simplistically worded statements and less likely to acquiesce to hard statements (Campbell, A., Converse, P. E., Miller, W. E., & Donald, E., 1966). Other psychological factors that are related to education, have the same influence. For example intelligence and rationality have a negative relation to ARS. Self-control and self-confidence have similar relation (Meisenberg, G., & Williams, A., 2008). This demographic explanation has its boundaries though. Most of the literature uses a sample of college students and with their relatively high education, ARS is still present (Schuman, H., & Presser, S., 1981).

Being less educated correlates with having a lower socioeconomic status (Schuman, H., & Presser, S., 1981) and correlates with ARS as well (Schuman, H., & Presser, S., 1981; Ross, C. E., & Mirowsky, J., 1984; Winkler, J. D., Kanouse, D. E., & Ware, J. E., 1982; Lenski, G. E., & Leggett, J. C., 1960; Carr, L. G., 1971). This is called the deference hypothesis and is at least valid under self-administered surveys (Schuman, H., & Presser, S., 1981). When education is filtered out, the effect of social class is still significant. A study of Lenski, G. E., & Leggett, J. C. (1960) revealed that even slight to mediocre differences in class, can already correlate with a difference in the likelihood of acquiescing. This was discovered in a comparison of three groups: high-status lobbyists, medical students in high status institutions and freshmen and sophomores from lower-middle-class families in a public university. The social status of the respondent was based on the occupation of the head of the household with a segmentation of middle-class white-collar households and working-class blue-collar households. A lower income also correlates with ARS (Snyder, M. K., & Ware, J. E., 1974; Ware Jr, J. E., 1978; Lenski, G.

E., & Leggett, J. C., 1960). This is not surprising since income correlates highly with both education and occupational class (Geyer, S., Hemström, Ö., Peter, R., & Vågerö, D., 2006).

With and without education in the picture (with education held constant), Lenski, G. E., & Leggett, J. C. (1960) and Dohrenwend, B. P. (1966) found a difference between races. Coloured people appeared more susceptible to acquiescent responding than white people in their research. This finding could partially be explained by the significant link they found between white people and social class (Bachman, J. G., & O'Malley, P. M., 1984). In the study of Carr, L. G., & Krause, N. (1978) they found differences between Caucasians and Puerto Ricans as well as differences between Caucasians and coloured people. Differences in race, in case of Negroes and whites, is a result of both psychological factors and the social situation of interaction (Carr, L. G., 1971). In general, for race and other factors, being a minority has a big influence on the chance of ARS (Baron-Epel, O., Kaplan, G., Weinstein, R., & Green, M. S., 2010). Carr, L. G., & Krause, N. (1978) were able to support this theory in his finding that Puerto Ricans (minority group) showed more signs of acquiescing than Anglos (not a minority). Ross, C. E., & Mirowsky, J. (1984) was able to support this as well with their findings that El Paso acquiesce more than Juarez and Mexicans acquiesce more than Anglos.

Age is another demographic variable with a significant relation to ARS. Older people tend to acquiesce more (Billiet, J. B., & McClendon, M. J., 2000; Ross, C. E., & Mirowsky, J., 1984; Campbell, A., Converse, P. E., Miller, W. E., & Donald, E., 1966; Meisenberg, G., & Williams, A., 2008). Meisenberg, G., & Williams, A. (2008) hypothesised that this might be due to less willingness to question traditional values and social conventions. If this hypothesis is correct, it might explain why ARS is most likely to appear in questionnaires that measure conformity to traditional values, as for example the California F-scale (Messick, S., & Frederiksen, N., 1958, Ray, J. J., 1979). Women are also found to be more likely to acquiesce than man (Ross, C. E., & Mirowsky, J., 1984). This might find its explanation in the personality trait agreeableness. Women are in general more submissive and agreeable than men (Costa Jr, P. T., Terracciano, A., & McCrae, R. R., 2001) while men tend to be more assertive and less anxious (Feingold, A., 1994).

2.3.3 Country-level

The last decades, researchers started exploring on a cross-cultural level to find (in)consistencies in personality and values (Smith, P. B., 2004). These (in)differences in cultural characteristics tend to influence the tendency to acquiesce, which makes respondents with a different background and culture hard to compare (Fisher, R., 2004). Geographical places where the majority of the residents behave in an acquiescent manner, are probably reflecting old values or norms in interacting with each other that overpower the personal relation between actors of a conversation (Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J., 2002). Keeping this in mind, Smith, P. B. (2004) had a different approach on ARS. Instead of seeing it as a bias that results in error, he considered treating it as a result of different communication styles reflecting values. He believed ARS to be a stable constant within cultures and the differences in ARS to be a result of cultural differences.

One of the higher correlating factors on country-level is corruption. The more corruption a country has, the higher the chance of a high ARS-rate. To live in a corrupted society, means that you have to be subservient to people with more power and/or prestige. If inhabitants carry this habit over into their way of responding at questions, this results in ARS (Meisenberg, G., & Williams, A., 2008). There can also be a deference to high-status individuals in countries that don't necessarily have corruption. This is also a characteristic of a country that correlates with a higher chance of ARS (Fisher, R., 2004; Javeline, D., 1999). The researchers or the interviewer could be perceived as high-status causing the deference (Fisher, R., 2004). A different, more general form of deference can be that a culture has a general norm of agreeableness/social agreement. If this norm transcends the individual relationship, the population will tend to acquiesce independently of the perceived status of the researcher or the interviewer (Hui, C. H., & Triandis, H. C., 1983; Javeline, D., 1999; Fisher, R., 2004). The same effect can appear with a cultural characteristic of politeness, which also correlates positively with ARS (Fisher, R., 2004; Javeline, D., 1999).

National-level collectivism is mentioned the most as factors in cross-national surveys regarding ARS (Smith, P. B., 2004; Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J., 2002; Asch, S. E., 1956; Bond, R., & Smith, P. B., 1996; Aday, L. A., Chiu, G. Y., & Andersen, R., 1980; Grimm, S. D., & Church, A. T., 1999; Johnson, T., O'Rourke, D., Chavez, N., Sudman, S., Warnecke, R., Lacey, L., & Horm, J., 1997; Marin, G., Gamba, R. J., & Marin, B. V., 1992; Ross, C. E., & Mirowsky, J., 1984; Van Herk, H., Poortinga, Y. H., & Verhallen, T. M., 2004; Smith, P. B., 2004; Hofstede, G., 2001; Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005; Harzing, A. W., 2006). The mindset in collectivistic cultures can explain why this is the case. Hofstede, G. (2001) hypothesised that these cultures might feel more social pressure and have an emphasis on being agreeable, deference and maintaining harmony. In-group

harmony, also called family-collectivism, and deference to seniors can be expected in high-power distance culture according (Smith, P. B., 2004). Smith, P. B. put that idea forward as a cause of the proven correlation between high power distance and ARS (Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J., 2002; Harzing, A. W., 2006; Hofstede, G., 2001). Although most literature is equally minded, Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S. (2005) found a contradictory outcome. Oddly, individualism within a country, which is often perceived as the contrary of collectivism, was also found to correlate with ARS in certain studies (Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005; Harzing, A. W., 2006; Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005; Smith, P. B., 2004).

Another high correlating factor is the GNP (Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005; Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J., 2002) which is, together with affluence/luxury, a negatively correlating factor (Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005). Political freedom and democracy have a significant negative correlation as well (Meisenberg, G., & Williams, A., 2008). Although not mentioned in the article, we can hypothesise that this could have an influence on the assertiveness of inhabitants. When it comes to masculinity or femininity, there is some contradiction in the literature. Some found a correlation between ARS and masculinity (Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005; Harzing, A. W., 2006; Smith, P. B., 2004), while others found no (negative) correlation between ARS and femininity using Hofstede's femininity dimension (Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J., 2002; Smith, P. B., 2004), implying that they are not complementary exclusive.

Anxiety, uncertainty and uncertainty avoidance in a country are other factors that correlate with ARS (Smith, P. B., 2004; Harzing, A. W., 2006; Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005). The reasoning behind this might be the same for uncertainty avoidance on individual level. Uncertainty avoiding cultures and people might be more afraid to answer wrong, resulting in a safe choice. This safe way out might be what they believe is an appropriate answer for the researcher, which is often believed to be the agreeing option (Krosnick, J. A., 1999). The findings of Meisenberg, G., & Williams, A. (2008) and Meisenberg, G. (2004) that acquiescing participants are likely to belong to a religious denomination, are consistent with the findings of Van Hemert, D. A., Van de Vijver, F. J., Poortinga, Y. H., & Georgas, J. (2002). They was able to link ARS to geographical places where old values and norms are reflected. These can be societal, family-related, moral or in this case religious (Meisenberg, G., & Williams, A., 2008).

Meisenberg, G., & Williams, A. (2008) were able to find a predictive model explaining 63.2% of the variance in ARS between countries. The best predictor and the only positive relation was the level of corruption. The second best predictor was GDP, followed by political freedom, years of communism and level of education of the country. The only significant predictor on the individual level when comparing different countries, was the education level of the sample. In annexes, you can find the standardized beta's and the significance-levels.

2.3.4 Interaction individual- and country level traits

Acquiescent responding has a lot of similarities when you compare individual-level with country-level characteristics. There are some exceptions to the general rule though. For example, only the average education of the sample has a significant predicting value on the degree of ARS, not the level of education at country-level. This is thus a demographic factor that plays a part in the individual chance at acquiescing, but not a determinant of where people would acquiesce more or less geographically speaking (Meisenberg, G., & Williams, A., 2008).

There are also some differences in individual characteristics between countries that determine or correlate with ARS. Gender for example is a determining factor in some countries, but not in others (Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005). Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S. (2005) found a predictive model specifying individual- and country-level factors. This model has 6 variables explaining the variance between samples, which is in this case between countries. These 6 variables were power distance, uncertainty avoidance, individualism, masculinity, GNP per capita and as only individual-level trait, length of current employment. Gender did have a significant predictive value of random effect, indicating that the relation between gender and ARS differs between countries. Length of employment also has a significant predictive value of random effect besides its significant predictive value at country-level. His model is added in annexes.

2.4 Survey characteristics

When different scales are compared in terms of acquiescence, they often don't show the same results (Rorer, L. G., 1965; Ray, J. J., 1983). This points out that there is another factor besides personal characteristics, demographics and country level characteristics that influences ARS. This other factor, called an instrument or methods factor, are characteristics of the survey itself (Rorer, L. G., 1965). This can be a survey mode, the type of questions, formulation or other elements. (Block, J., 1971; McClendon, M. J., 1991; Schuman, H., & Presser, S., 1981). Groves, R. M. (2004) even found acquiescence to be more a result of the survey-method than of the characteristics of the respondent(s). The literature is though not always consistent concerning survey modes.(Hox, J., de Leeuw, E., & Vorst, H., 1995, De Leeuw, E. D., 2005).

2.4.1 Mode of administration

There are a lot of different modes of administration that all have their advantages and disadvantages. A higher chance at acquiescence is one of the disadvantages that a choice of format can have (Dillman, D. A., & Christian, L. M., 2005). For example, even though both methods have a probability of inducing ARS, there is a higher chance when an interview is used compared to using a self-administered questionnaire such as a mail questionnaire (Bowling, A., 2005, De Leeuw, E. D., 1992). Multiple explanations are at hand. The first is based on mental shortcuts as an indirect cause of acquiescence through satisficing. With self-administered questions, the respondent can take as long as he wants to fill in a questionnaire. The use of an interviewer puts time pressure on the respondent which might lead to mental shortcuts (De Leeuw, E. D., 1992). The second is based on the social, country level trait 'deference to higher status individuals'. As seen in point 2.3.3 Country-level these higher status individuals can be researchers and interviewers (Lenski, G. E., & Leggett, J. C., 1960; Carr, L. G., 1971). One can hypothesise that for an interviewer, the higher status is more visible/tangible than an (unseen) researcher and therefore causes a higher need to be agreeable. A third option is based on a personal trait namely 'avoiding to embarrass themselves'. When there is an interviewer present, it is harder to get true and unbiased answers on sensitive topics because the answer is for sure not anonymous (Tourangeau, R., & Yan, T., 2007).

Evidence of the second explanation is found in the study of Williams Jr, J. A. (1964). He revealed that the ARS caused by difference in race (white interviewer, black respondent) decreased when the status of the respondent augmented. Matching the race and ethnicity of the interviewer and interviewee does

not lower the level of ARS much which implies that this explanation is not conclusive on its own and there are other underlying reasons (Carr, L. G., 1971, Carr, L. G., & Krause, N., 1978).

Telephone surveys have a (slightly) higher rate of ARS than face to face interviews (Nicolaas, G., Thomson, K., & Lynn, P., 2000; De Leeuw, E. D., 1988; Holbrook, A. L., Green, M. C., & Krosnick, J. A., 2003; Hall, M. F., 1995; Jordan, L. A., Marcus, A. C., & Reeder, L. G., 1980; Groves, R. M., 1979). The theory of deference to interviewers and the theory of wanting to be agreeable when a survey is seen as conversational, might lead to the expectation of a higher ARS rate for face to face interviews. There is though a perfectly reasonable explanation for this opposite phenomenon. A telephone survey appears to be completed in a shorter amount of time (Holbrook, A. L., Green, M. C., & Krosnick, J. A., 2003). This shorter time could lead to taking mental shortcuts (De Leeuw, E. D., 1992). However, evidence of taking mental shortcuts is hard to find, Holbrook, A. L., Green, M. C., & Krosnick, J. A., 2003 did find evidence of a higher satisficing level with telephone surveys compared to face to face interviews.

Mail is verified to foster less acquiescence than a telephone survey (Hall, M. F., 1995; Dillman, D. A., & Mason, R. G., 1984; Tarnai, J., & Dillman, D. A., 1992). Since this method is a self-administering method, the same three explanations apply here. Not all the literature is consistent though. Heerwegh, D., & Loosveldt, G. (2011) found no significant difference between those two methods. The origin of these differences (and differences in general) might be attributed to differences in participants. De Leeuw, E. D. (1992) found a difference in ARS between mail and telephone surveys until he/she corrected the results for difference in gender and married/unmarried participants.

A. Interaction with demography

A difference in demography of two compared modes is not the only way demography can interfere in the results of mode comparisons. There can also be an interaction between a specific group and mode of administration. For example, one study had different outcomes in comparing demographic groups based on age when using different modes. Older people answered more positive than younger people in the mail survey, while this was not the case in the telephone survey (Heerwegh, D., & Loosveldt, G., 2011). In that survey they suggest that there might be a difference in the difficulty of the modes. If this is indeed the case, different modes might elevate the amount of ARS due to a reduction in ability to answer correctly.

2.4.2 Overarching characteristics

Letting people answer anonymously and guaranteeing the anonymity, is a first general trait of a survey that can limit acquiescent responding (Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P., 2003). If we believe the opposite to be true as well, asking personal identifiable information will trigger ARS. You can also assure that there is no right or wrong answer (Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P., 2003). This could find its origin in people who acquiesce to avoid making a fool out of themselves. These people will acquiesce when they are in doubt about the right answer. The last general trait about a survey is about the length. In order to avoid satisficing due to fatigue, the survey should not be too long. The latest questions have the most chance at ARS (Clancy, K. J., & Wachler, R. A., 1971). The subject of the questionnaire can also determine the chance at ARS. It is the greatest for questions of conventional, conformist, moralist of authoritarian nature (Meisenberg, G., & Williams, A., 2008) or doctrinaire questions about social issues (Bass, B. M., 1955).

2.4.3 Scales

A better alternative to reversed Likert items and balanced scales (cfr: 2.4.4 Items), is reversing the scale options. Changing half of the response coding improves the answer quality significantly (Locker, D., Jokovic, A., & Allison, P., 2007, Barnette, J. J., 2000). Changing the format completely is the most soundproof method to avoid ARS. A Forced-choice item format for example is a good alternative to find out people's attitude (Messick, S., 1962, Schuman, H., & Presser, S., 1981). Since the participant is obligated to choose between 2 given items or rank alternatives, there is lesser indication/ pre-emption of what the interviewer might answer or what the socially desirable answer would be (apart from the item content). This was proven to be a better measure than agree-disagree response format when it comes down to measuring public attitudes (Javeline, D., 1999). Another option is using item-specific questions which ask about the extremity. To use an example provided by Kuru, O., & Pasek, J. (2016): an item-specific alternative for 'I like cookies' with a Likert scale, is 'how much do you like cookies' with a scale ranging from 'not at all' to 'a great deal'. These have a higher reliability and validity and eliminate the risk of ARS (Ross, C. K., Steward, C. A., & Sinacore, J. M., 1995; Saris, W., Revilla, M., Krosnick, J. A., & Shaeffer, E. M., 2010).

Since the Likert scale is a popular scale and might not be replaced by another scale very often (or quick), it is important to know what you should avoid in order to limit ARS as much as possible. Tourangeau, R., Rips, L. J., & Rasinski, K. (2000) recommend using verbal labels at the midpoint scales and avoiding bipolar scales. Contrary to what one might expect, enlarging the amount of options does not limit ARS.

The quality of a 5-point scale is better than those with more answering possibilities (Revilla, M. A., Saris, W. E., & Krosnick, J. A., 2014). Different labelling interacts with response styles as well. If all the response options are labelled, the amount of NARS rises (Weijters, B., Cabooter, E., & Schillewaert, N., 2010). The effect on ARS individually was not reported, but it is an indication that scale options should be carefully chosen and an effect on ARS might be found if it was explored.

2.4.4 Items

Some factors play directly into the ability to answer correctly. The clearest example is the correlation between difficult items and a higher ARS rates (Cronbach, L. J., 1950; Ray, J. J., 1983). The higher the amount of cognitive operations needed, the more difficult the items become and the higher the chance of item verification difficulties (Swain, S. D., Weathers, D., & Niedrich, R. W., 2008). Not properly defining questions or asking purely ambiguous questions also correlates with ARS (Cronbach, L. J., 1950; Ray, J. J., 1983; Bass, B. M., 1955; Carr, L. G., 1971; Peabody, D., 1966; Jackman, M. R., 1973), just like unfamiliar questions (Peabody, D., 1966; Ray, J. J., 1983). These could be barriers, reducing the capability to answer correctly. Questions about people in general are also harder to answer than questions about a group or the self (Christie, R., Havel, J., & Seidenberg, B., 1958). This might be due to the ambiguous nature of a question that is not specific. Unspecific questions have a lot of different reference points and possible contradicting factors which make every phase of the responding process larger. This might encourage satisficing. It might also leave the respondent undecided or too uncertain, leading to deliberate acquiescence if they are afraid of posing themselves in a negative light.

Positive wording is another item characteristic that has a strong correlation with ARS (Baron-Epel, O., Kaplan, G., Weinstein, R., & Green, M. S., 2010; Bass, B. M., 1955). To avoid ARS, a lot of literature recommends using balanced scales where the respondents must answer to items with an opposite meaning about the same concept (Nunnally, J., 1978; Schriesheim, C. A., & Hill, K. D., 1981; Carr, L. G., 1971; Messick, S., & Jackson, D. N., 1958; Knowles, E. S., & Nathan, K. T., 1997; Ray, J. J., 1983, Ten Berge, J. M., 1999, Kuru, O., & Pasek, J., 2016; A., 2008, Likert, R., 1932; Smith, P. B., 2004; Chen, C., Lee, S. Y., & Stevenson, H. W., 1995; Johnson, T., Kulesa, P., Cho, Y. I., & Shavitt, S., 2005). Despite the extensive use (Cronbach, L. J., 1950), this method has been challenged more than once. Acquiescing people are simply left out of the data by putting them in the centre instead of correcting for ARS and finding out what their 'real' response would be (Carr, L. G., 1971; Saris, W., Revilla, M., Krosnick, J. A., & Shaeffer, E. M., 2010; Billiet, J. B., & McClendon, M. J., 2000; Pasek, J., & Krosnick, J. A., 2010). Since ARS correlates with specific personal and demographic traits, a specific group of people have a higher chance of being left out of the results. If people acquiesce, and thus answer the same to the opposite questions,

there is no way in telling which answer was the correct one and which was due to ARS or DARS (Baron-Epel, O., Kaplan, G., Weinstein, R., & Green, M. S., 2010). An even bigger issue lies in the inaccuracy and lack of reliability that comes with mixed item directions (Chamberlain, V. M., & Cummings, M. N., 1984; Schriesheim; C. A., Eisenbach, R. J., & Hill, K. D., 1991). Schriesheim, C. A., & Hill, K. D. (1981) found over 50% more misresponse in all negative and mixed item surveys, compared to a survey with all positive worded items. Swain, S. D., Weathers, D., & Niedrich, R. W. (2008) stated the same problem with reversed Likert items as Schriesheim, C. A., & Hill, K. D.

The original reasoning behind the use of altered keying, was that they believed it would increase participants attentiveness and consideration about the item (Locker, D., Jokovic, A., & Allison, P., 2007). The difficulty of answering to negatively worded items, seems to overpower a good outcome (Benson, J., & Hocevar, D., 1985). The ability to answer correct to negatively worded items, correlates with young individuals their reading level (Marsh, H. W., 1986). Looking back at the example of item verification identification in point 2.1.2 Response styles, it is clear that this could be the cause of the lesser validity of negatively stemmed items. Another cause lies in the pre-emption that these negative items belong to the same factor as the positively worded items (Benson, J., & Hocevar, D., 1985; Wright, B. D., & Masters, G. N., 1982). The opposite appeared to be true (Benson, J., & Hocevar, D., 1985; Knight, R. G., Chisholm, B. J., Marsh, N. V., & Godfrey, H. P., 1988). Negatively worded items cause both unexpected factor structures (Babakus, E., & Boller, G. W., 1992) and diminished scale reliabilities (Herche, J., & Engelland, B., 1996). A perfect example was found by Saris, W., Revilla, M., Krosnick, J. A., & Shaeffer, E. M. (2010). His/her study discovered that phrasing an item with 'rarely', correlates more with ARS than using the term 'usually', which is the positively stemmed opposite of rarely.

A. Questions versus statements

Besides positive and negative formulation, not a lot of research has been done on the influence of item construction even though something as small as brackets can interact with acquiescence bias (Hurd, M. D., & Kapteyn, A., 1999). Before making decisions on the exact formulation when composing an item, one of the bigger decisions is choosing between using a question or a statement. Aside from the general recommendation to use statements instead of questions if you want to use negated structures, there are not many recommendation about which item type to use (Fowler, F. J., 1995).

Questions and statements have a different connotation. Questions ask about an opinion while statements in contrast are declarative. Statements impose content and force to affirm or negate to a certain content (Hewes, D. E., Graham, M. L., Doelger, J., & Pavitt, C., 1985). They are experienced as being more direct in comparison to questions. Individuals tend to be more sceptical and inclined to think

contradictive (Dawson, E., Gilovich, T., & Regan, D. T., 2002). The Spinozan model of belief states that the initial understanding of a statement starts with the automatic acceptance of the information and only after that, relevant information will be gathered (Gilbert, D. T., 1991). Starting with automatic acceptance means that it is less relevant to gather information that confirms the statement. The next logical step is to gather information on why the statement could be incorrect. This might explain why statements trigger contradictive thinking compared to questions which trigger a confirmatory bias. Questions start from a neutral point, gathering positive information because of the confirmatory bias (Krosnick, 1999). After the positive information, the contradicting information is also gathered. This is a first reason to believe that statements would foster less acquiescence than questions.

A second reason for this, is that people tend to evaluate a statement based on how far it lies from their own opinion. Instead of comparing all the elements and aligning them on a scale of agreeing to disagreeing, every element that does not align with their retrieved information will create a contradictive association (Fowler, F. J., 1995). This makes it easier to disconfirm since your opinion can differ from the given statements in two directions. To make a tangible example, we imagine a scenario where someone is sitting in an ecru-coloured room. That person might indicate one (on a Likert scale ranging from -2 to 2) to 'Is this room painted white?' and indicate a minus one to the statements 'The room is painted white'. With both the items he will think that the room is ecru-coloured which is somewhat white but not completely the same. When the item is formulated as a statements he will deduct the distance from his retrieved information. The one out of five that is deducted from giving the perfect score for the question, could result in a minus 1 starting from the middle option.

A specific example where reactions to statements versus questions have been compared, is found in the cigarette business. Glock, S., Müller, B. C., & Ritter, S. M. (2013) researched if reformulating warning labels could create a different effect. The difference between warning labels as questions, warning labels as statements and no warning labels were compared. All of them were always paired with an image. The warning labels formulated as statements tended to create a defensive response. The solution to this defensive responding, was to reformulate the statements as questions. This affirms the brisker reaction to statements. If negative items are used, there is an extra reason to expect a higher ARS rate with questions since negative questions are harder to answer (Kitchenham, B. A., & Pfleeger, S. L., 2002). This lowers the ability to answer correctly and elevates the chance at ARS.

H1: Items will be more susceptible to ARS if they are formulated as questions in comparison statements.

B. The impression of time

Figure 4 - Theorized response curves statements

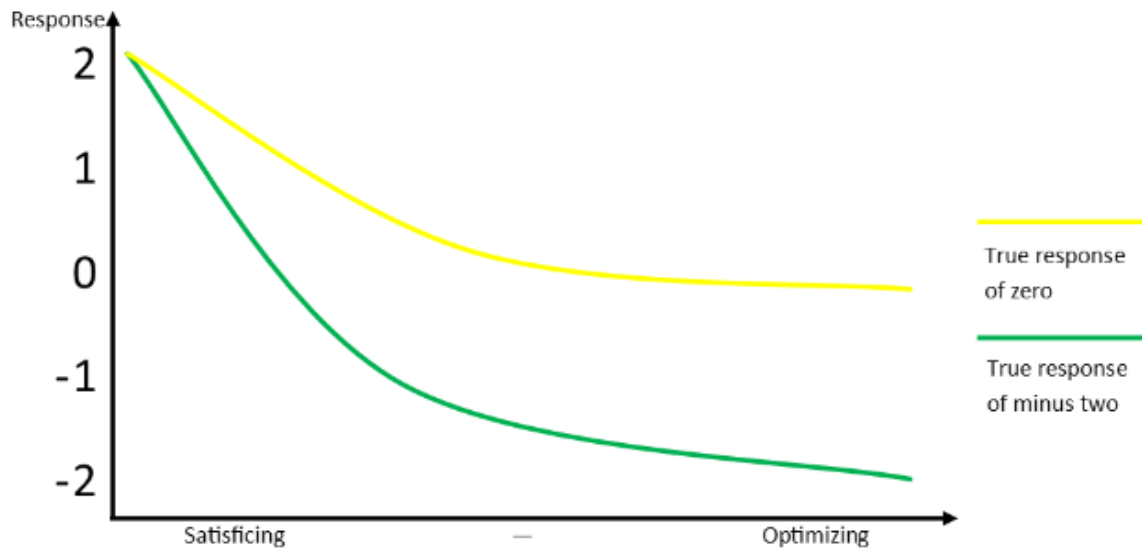


Figure 5 - Theorized response curves questions

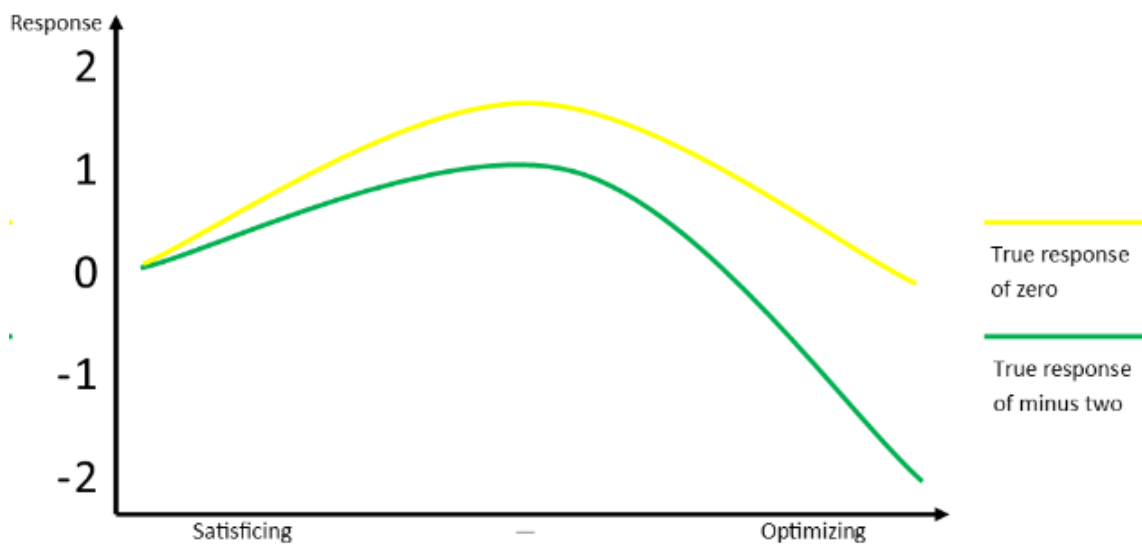


Figure 4 and 5 are a visual representation of the supporting theories of hypothesis one, according to the interpretation in this dissertation. It shows the expected relation of participants response on a balanced Likert scale ranging from minus two to positive two (y-axis) and the duration of the answering process (x-axis) at the individual level. The duration of the answering process is relative to an individual his/her own answering speed, labelled as a continuous scale ranging from satisficing to optimizing. The green curve represents the course of the response when his/her true opinion is minus two. The yellow line represents the course of the response when his/her true opinion is zero.

The immediate acceptance of statements proposed in the dual-stage model of Spinozan explains the start at a higher point, whereas the response curve of questions starts at a neutral point. The immediate acceptance of statements is followed by counterfactual thinking which creates the descending of both the yellow and the green curve. The facts that statements are evaluated according to the distance to peoples opinion, creates the somewhat steeper relationship. Finding a first contradicting fact will not deduct the position to one out of two, creating a slightly less accepting opinion. It will create an immediate distance between the new opinion and the automatic acceptance, creating a bigger negative change. The response-curve of questions raises from the beginning because of the confirmatory bias in the information retrieval stage. Afterwards, counterfactual information will be gathered. This dissertation hypothesises that the response at the top of the curve will depend on the level of confirming information that can be gathered.

When a respondent has less time to answer, there is a higher chance of that person taking mental shortcuts. As explained before, this can lead to acquiescence because of a confirmatory bias that is associated with answering questions (De Leeuw, E. D., 1992). As for statements we expect the search for contradicting information to be shortened, resulting in a more positive answer than the true opinion. This is why we expect both statements and questions to be associated with a higher level of ARS when time pressure is present.

Keeping track of time could also be an extra cognitive task which makes it harder to evaluate information (Gilbert, Tafarodi and Malone, 1993). There are a lot of models concerning cognitive tasks, but all include the deprivation of task quality when multiple tasks are performed simultaneously. This could be because of the bottleneck principle where a general maximum capacity is elaborated. This leads to information selection (less retrieval) when the maximum capacity is reached (Vandierendonck, 2003). It could also be because of a limited amount of help sources that get attached to tasks. When these are all assigned to a task, the remaining tasks are performed slower or less accurate. These sources can be general and not divided in specific capabilities comparable to an amount of attention you can divide over tasks (Vandierendonck, 2003; Kahneman, 1973). A third possible explanation for cognitive processing of tasks

is that the sources that get adjoined to tasks are divided in modalities (Navon & Gopher, 1979). This alters the previous theory by adding that tasks are performed slower if the sources from a certain modality are used up, instead of all the sources in general. There are multiple authors supporting the fact that doing more tasks simultaneously that use the same information process, are harder to do. Even when they are simple cognitive tasks (Pashler, 1994). When time pressure is applied, the respondent will thus have to divide his/her attention over both tasks: keeping track of the timer and answering to the items (Zakay, 1990). This could be a second reason to believe that time pressure will raise the amount of ARS for both statements and questions. Although prior research has refuted time pressure as a sufficient cognitive burden to interact with NARS (Cabooter, E., 2010).

H2: Items will be more susceptible to ARS if they are to be answered under time pressure

We expect the level of ARS against time pressure to follow a different course for both sorts of items. The different course for both response models, as presented in figure 4 and 5, creates the foundation for the expectation to find a smaller raise in ARS for questions than for statements when time pressure is applied. The shorter the answering process, the steeper the relation for statements becomes. The shorter the answering process for questions, the less steep the relation gets. It could eventually even lead to a reversed relation if the time pressure is high enough.

Figure 6 - Theorized response curves statements with indication time pressure

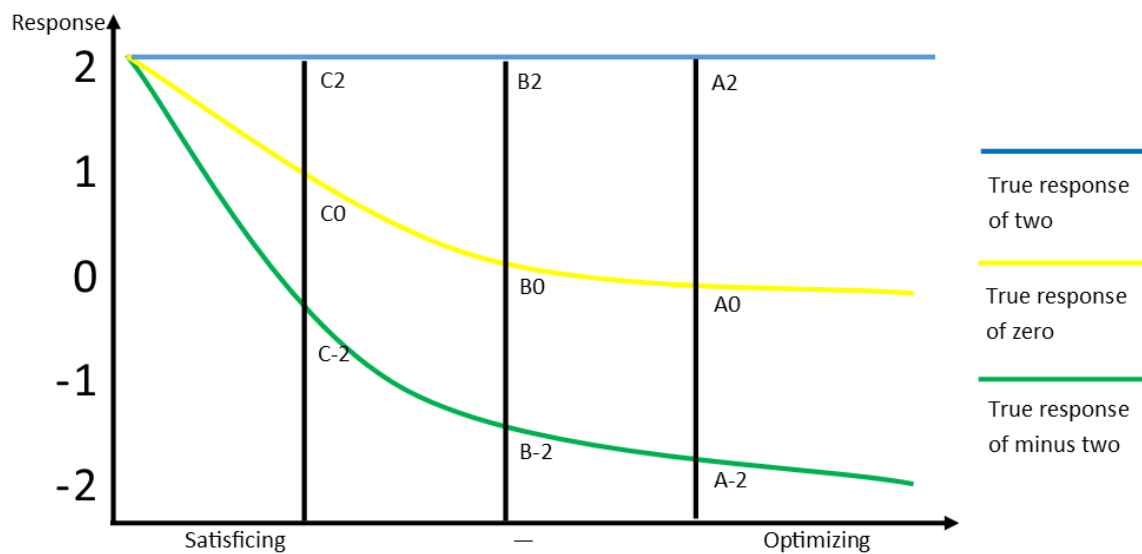
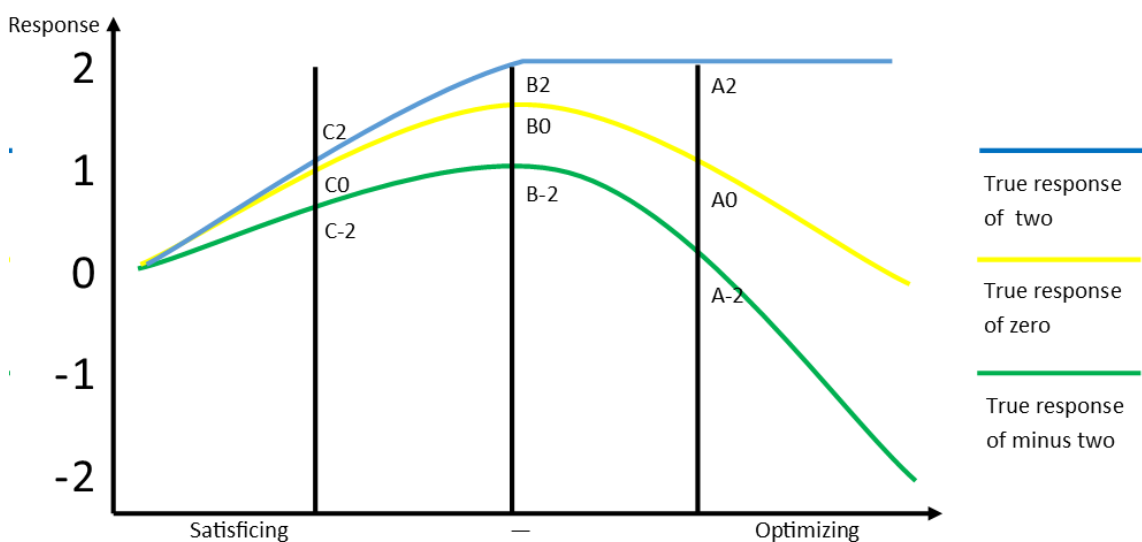


Figure 7 - Theorized response curves questions with indication time pressure

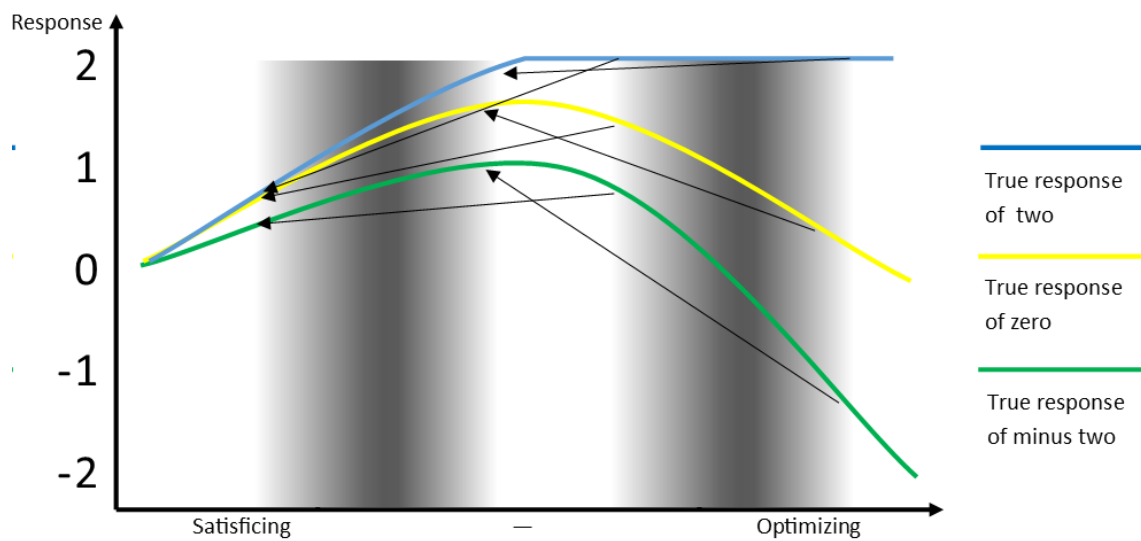


The individual answering process of a participant can have a different duration with and without time pressure. This can be determined by the correlating factors listed in the literature review: personal traits, demographic traits and/or country-level traits. Some participants will already satisfy, while others will not. An example for both sorts of items is provided in figures 6 and 7. A third curve is added in comparison to figures 4 and 5. The blue curve represents the response curve when the individuals true opinion is two.

A person might answer at a certain point in his/her answering process which can be equal to A, B or C in the figure. For statements we expect a shorter answering process to lead to equal or more ARS on the individual level. The shorter the process the higher the effect of an even shorter processing time will be. For example, someone who would answer at point A without time pressure and at point B with time pressure, will have a smaller difference in ARS to a series of items than someone who would answer at point B without time pressure and at point C with time pressure. Note that a hypothetical point A, B or C is a place on the nominal scale of satisficing to optimizing. The number next to the letter shows to which curve of true response the point belongs.

With questions we do not expect an extra time pressure to lead to a higher ARS-score indefinitely. If a person would answer at point A without time pressure and at point B with time pressure, there will be a higher ARS score with time pressure. If a person would already satisfy when there is no time pressure, for example answering at duration point B, there is a chance that the ARS-score will decline to point c when there is a time pressure. This would happen in our example if the individual shortened his answering process to point A.

Figure 8 - Theorized response curves questions with indication net ARS time pressure



We expect the net change in ARS to be positive because we expect the raise of less satisficing people to overpower the decline of people who were already satisficing more. Figure 8 shows how we expect the sample of condition 'no time pressure' to have a lower mean ARS score than the sample with condition 'time pressure'. The two grey gradient squares represent the distributions of the two samples based on their level of satisficing or optimizing. The sample without time pressure is located on the right and the one with time pressure is located on the left. The difference in optimizing without and with time pressure is caused by personal characteristics, motivation and barriers. The arrows connect the outer points of both the conditions, representing here the most or least satisficing participants from the samples. Depending on the true opinion about an item, we expect almost none to a bigger difference in responding on individual items by individual participants. Despite the fact that this is a highly simplified model, we expect the change of true negative opinions changing into a positive answer to overpower the chance of true positive opinions changing into a negative response. This is very dependent on the starting position of the participants and the amount of mental shortcutting that different time pressures apply. Therefore we do not expect an interaction effect between questions and time pressure

H3: There is a higher ARS increase caused by time pressure for statements in comparison to questions

Figure 9 - Theorized response curves statements with indication variance

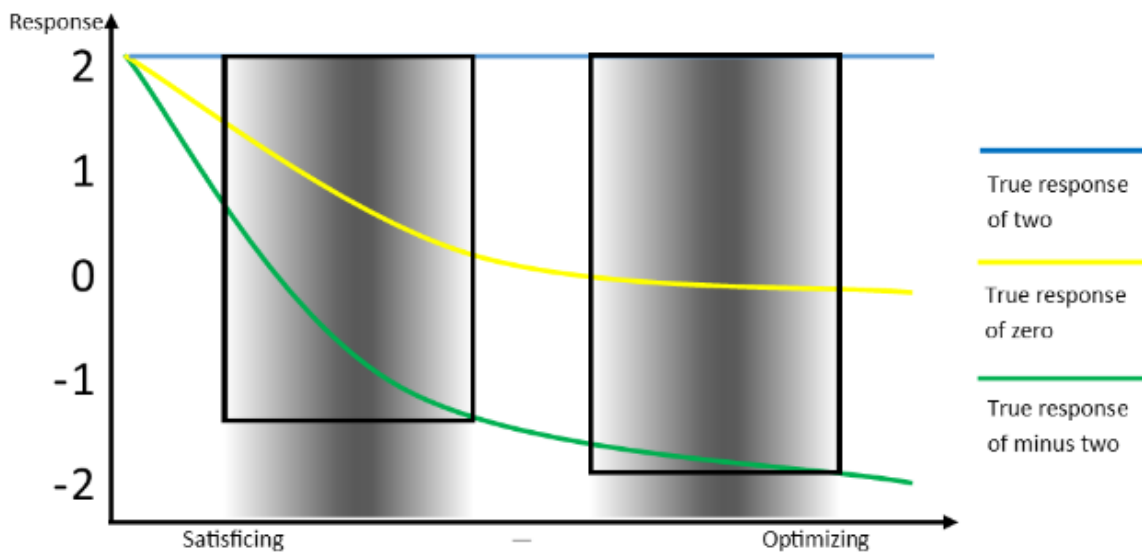
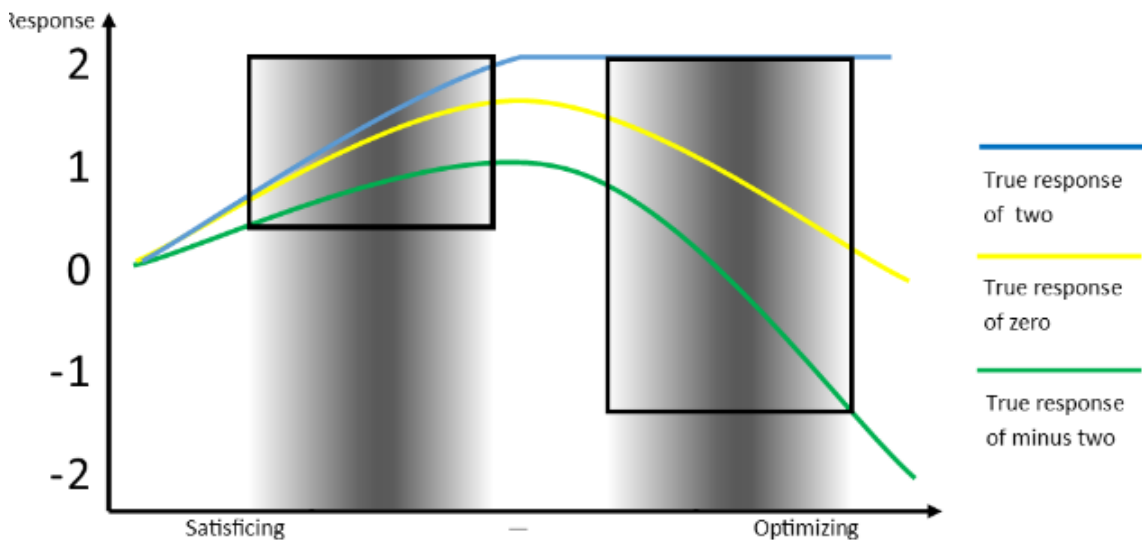


Figure 10 - Theorized response curves questions with indication variance



As we stated in the aforementioned paragraph, people will have different response times even under the same conditions. Figures 9 and 10 give an example of two possible samples of both a non-time pressured condition (on the right) and a time pressure condition (on the left). According to the presented model, we expect less variation in the possible responses for questions than for statements. Less variation in the possible responses insinuates less variation in the individual ARS-scores. The foundation of this hypothesis lies in the spread of the response-curves for different true opinions. A different true opinion of different participants will result in more varied responses for statements. The response curves of questions are closer to each other resulting in less variety in the answers despite true different opinions.

The fact that statements get compared to peoples own opinion through distance also has an expected influence. One item might not get the same result due to this different way of evaluating. In figures 9 and 10 we compared response curves with the same true opinion, but this theory creates a difference in the true opinion. As explained before in the example of the ecru-coloured room, a statement can create a lower true response than questions despite a careful reformulation of the item and all other variables held constant. Lower true opinions have a steeper response curve which might also result in more variance within a sample from statements. This because more satisficing or optimizing will create a bigger difference in the answer if the curve is steeper.

H4: The variance in ARS-score for statements is higher than for questions

3. Quantitative research

3.1 Methodology

3.1.1 Pretest

The manipulation of item type (statements and questions) was objective and straightforward to establish. The second manipulation, namely that of time pressure, required pretesting. The first pretest was conducted with 5 items per block and 30 seconds for those who had a counter. The choice of 30 seconds was based on the average reading speed. With a mean speed of average readers being 173 words per minute and an average item consisting of 9 words, a participant should be able to read the 5 items in 15 seconds (Jackson, M. D., & McClelland, J. L., 1979). Having 30 seconds would mean that they, the average readers, should not be able to read the items twice and still have time left to choose an answer. Although the average duration to fill in the questionnaire declined significantly, the respondents did not indicate any pressure from the time limit. Therefore, the second pretest was conducted with 7 questions with a 30 seconds time limit. Here, some people indicated not having enough time to answer, while others indicated that they were not influenced a lot by the time pressure. In the final survey, the 7 questions were accompanied with 35 seconds, equal to 6 questions in 30 seconds. The aim of taking the average, was to make sure everyone was able to answer all the questions within the time limit.

When the questionnaire was conducted, too many participants reported not having enough time and multiple participants reported not keeping track of the countdown clock after the first set. A second questionnaire was conducted with a 50 seconds counter for 7 item sets. This was based on the average responding time per item set of the previous survey, which was 49,95 seconds. A second method was included in this survey in order to obtain a method where everyone feels pressure despite differences in reading level, intelligence, or other personal characteristics. This was entered because of the big difference in responding to the questions asking how they experienced the time pressure. It seemed interesting to test not two methods of applying time pressure.

The measurement techniques also required pretesting. Two sets of questions or statements were provided in the first pretest. The first being a range of heterogeneous items from different marketing scales obtained from a selection used in Cabooter, E. (2010). The second being pairs of contradicting items obtained from Reiser, M., Wallace, M., & Schuessler, K. (1986). These items are direct opposites with the same wording in a negated sentence or an antonym. This appeared inappropriate for our goal. Some participants indicated getting the same questions because they remembered the opposite question with the same wording. In contrast to the expectations, their will to answer consistent did not create deliberate opposite answers reducing ARS, but deliberate equal answers to the opposite wording.

The outcome of the statements versus questions, would not have been pure. It would have been influenced by how easily contestants confuse the opposite item for the same item. In the second pretest, these items were replaced with matched pairs of logical opposite items obtained from Winkler, J. D., Kanouse, D. E., & Ware, J. E. (1982). This solved the problem.

3.1.2 Design

The data used in this paper, is based on quantitative research collected through an online anonymous survey. The survey was conducted in one language: Dutch. All the items required responses on a 5-point Likert scale ranging from ‘completely not’ to ‘completely so’. Only the end points were labelled with words as well as -2, respectively 2 and the middle options were only labelled with a number (-1, 0 and 1). Everyone was allowed to participate and was randomly assigned to one of the conditions creating an in-between design.

Two variables were manipulated in this questionnaire: item and time pressure. Item has statements and questions as possible conditions creating two levels. Time pressure has three levels. The first is no time pressure at all. The second is a timer counting down from fifty seconds per item set consisting of seven items. The last one is an impression of time pressure created through a message asking the respondents to answer as fast as possible without endangering the quality of the answers accompanied with a stopwatch. An overview of the different conditions of the 2x3 between subjects design can be found in table 3.

Table 3 - Conditions

	No time pressure	Time pressure	
		Countdown clock	Stopwatch
Statements	Group 1	Group 2	Group 3
Questions	Group 4	Group 5	Group 6

3.1.3 Manipulation check

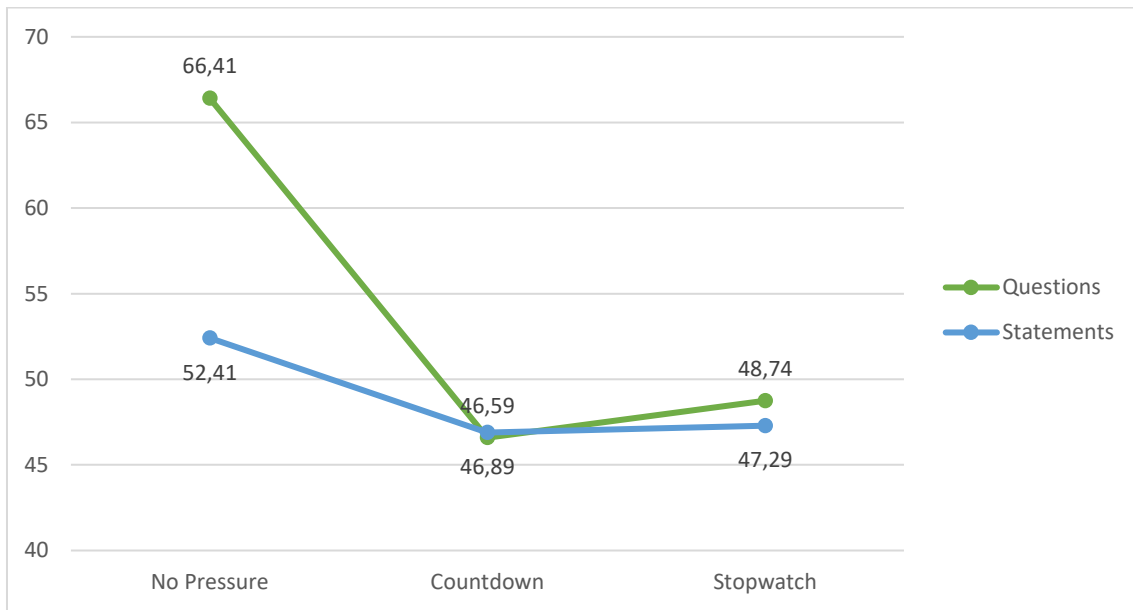
The only variable that needed a manipulation check, was time pressure. Both the method with a countdown clock and the method with a stopwatch should raise the pressure to answer faster. The participants who obtained a countdown clock were asked how they experienced the time pressure. Questions and statements both had answers ranging from ‘more than enough time’ to ‘too fast’. Since we are looking for the effect of specific methods of applying time pressure and not ‘being short on time’, this does not influence our research. It is important to keep in mind that the answers to this questions differed a lot among respondents. In the first pretest, the results showed that people can experience

the time pressure as non-determining while speeding up their answering process subconsciously. In order to check if a time pressure is perceived, we will compare the mean duration of the conditions. A Two-way ANOVA is conducted to see if 1) there is a main effect between the variable time pressure and duration; 2) if a main effect between the variable item and duration is present and 3) to find out if there is an interaction effect. The first will determine if the manipulation check has succeeded or not. The latter two are conducted to keep in mind while interpreting the results of the hypotheses.

Before conducting this analysis, the data was controlled for outliers in duration. Since the duration of the answering process depends on many characteristics of the participant, it was not possible to simply check for outliers in general since this could be people who have for example a lower education compared to the rest of the group. A slightly different procedure was conducted to make sure, especially for the condition without time pressure, that there are no deforming results of people who for example stopped the questionnaire in between and continued later on. The average time per set was calculated by dividing the time participants spend on a set of items, by the amount of sets. This new variable was plotted in a boxplot to find outliers based on an outer limit of one and a half times the interquartile above Q3. These outliers were checked for inconsistencies in their answering times for the different sets. If there was an outlier in their own answering times causing them to become an outlier, this participant was excluded from the manipulation check. If they were simply answering longer on all the questions, they remained part of the analysis. Five participants were removed. Three from the group who got the conditions: statement and no time pressure, and two from the group who got the condition: questions and countdown clock. This does not mean that these participants are excluded from the hypotheses-testing. The boxplots output from the controlled participants as well as the individual boxplots of the deleted participants are added in annexes.

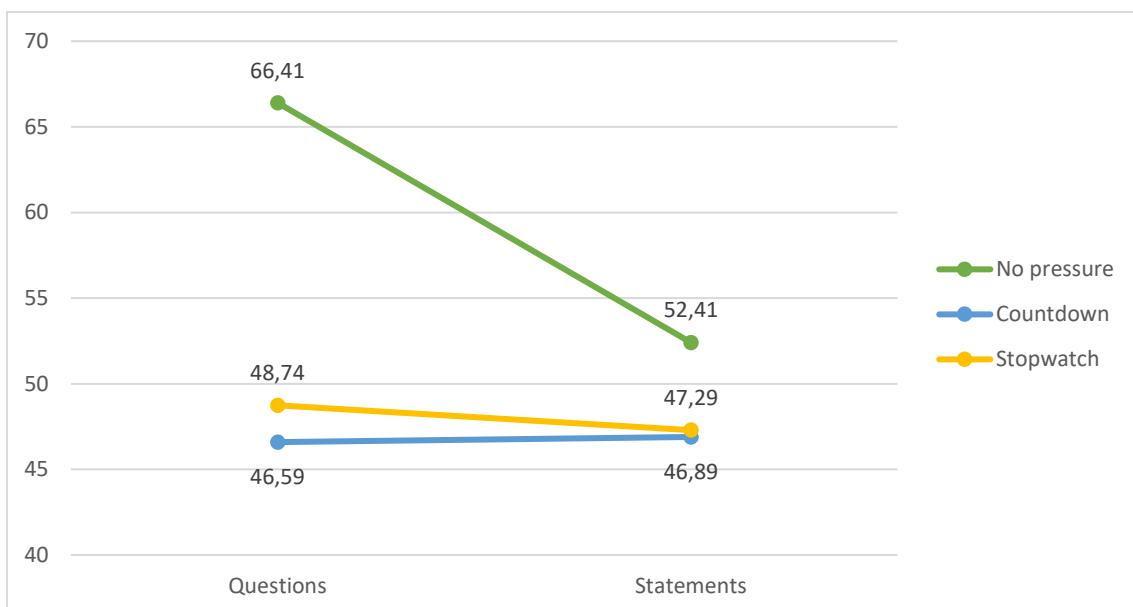
A Two-way ANOVA was conducted on 'average time to answer an item set' with items and time pressure as fixed variables. The explanatory power of the model is 16,10%. Results show a significant main effect of time pressure on the average time to answer an item set ($t(2,261) = 18.93, p < 0.001$). It also shows a significant main effect of item type ($t(1,261) = 7.17, p = 0.008$). The results showed a significant interaction effect as well ($t(2,261) = 5.91, p = 0.003$). When questions are used, there will be a difference in average time to answer an item set ($M_{\text{NoPressure}} = 66.41, M_{\text{Countdown}} = 46.59, M_{\text{Stopwatch}} = 48.74, t(2,261) = 22.21, p < 0.001$). When statements are used, there will not be a difference in average duration to answer an item set ($M_{\text{NoPressure}} = 52.41, M_{\text{Countdown}} = 46.89, M_{\text{Stopwatch}} = 47.29, t(2,261) = 1.91, p = 0.150$). Figure 11 visualizes this interaction effect.

Figure 11 - Interaction item on average time to answer an item set



Another significant interaction effect was found. When no time pressure was applied there will be a difference in average duration to answer an item set between the item types ($M_{\text{Questions}}= 66.41$, $M_{\text{Statements}}= 52.41$, $t(1,261) 20.10$, $p < 0.001$). The interaction effect will not appear with the countdown method ($M_{\text{Questions}}= 46.59$, $M_{\text{Statements}}= 46.89$, $t(1,261)= 0,01$ $p=0.932$) nor with the stopwatch condition ($M_{\text{Questions}}= 48.74$, $M_{\text{Statements}}= 47.29$, $t(1,261)= 0.20$, $p=0.655$). Figure 12 visualizes this interaction effect.

Figure 12 - Interaction time pressure on average time to answer an item set



In this dissertation a decrease in duration is seen as a sufficient condition, but not a necessary one. A lack of time difference would not have meant that there is no time pressure. Participants could already have been satisficing, making it harder to reduce their answering time for example. The fact that there is a significant difference in time, insinuates that there is a time pressure present.

Item also seems to be a correlating factor of average duration to answer an item set. Together with the interaction effect between questions and no time pressure, we assume that a mistake has been made in the pretest by assuming that questions and statements don't differ significantly in time to answer. The complete average duration of answering the questionnaire lowered when the time limit was present. This should have been tested for statements and questions individually as the two items have a significant difference in response duration if no other variable is manipulated. Despite that fact, the manipulations did succeed in both ways of applying time pressure. The time differs between the non-pressure and the two ways of applying time pressure. The duration of both items do not differ between the two sorts of time pressure applications. Important to notice is that the average duration of statements in the two time pressure conditions is practically the same, just as questions. This could indicate that the countdown clock did not put less time pressure on statements than questions, unless the third factor had the same effect. The second option seems unlikely since this time pressure was completely based on an incentive. This is unlikely to have a different effect on different item constructs.

3.1.4 Measures

ARS will be measured according to three different formulas. The first two are applied on a set of twenty heterogeneous items. The third is applied on eleven pairs of logical opposites. With the first set of items, a weighted and non-weighted ARS-score was computed according to formulas 2 and 3 on the next page. First the variables of the items were recoded indicating one for an acquiescent score and zero for a non-acquiescent score. The sum of these recoded variables divided by forty-two (the amount of items) forms the non-weighted ARS-score. For the weighted ARS-score, the variables were recoded according to the level of acquiescence. two and one out of two remained two and one. All the other non-acquiescent answers were computed into a zero. For this formula too, the sum divided by the amount of items computes the ARS-score.

With the matched pairs of logical opposites we calculated a non-weighted ARS-score with formula 2 on the next page. Dummy variables were created indicating a one if the two items of the matched pairs were both answered positive. The sum of these dummy variables were divided by eleven (the number of matched pairs) to form the ARS-score. This measure assumes that agreeing with opposite statements is a sign of acquiescence (Cloud, J., & Vaughan, G. M., 1970; Ware Jr, J. E., 1978).

Formula 2 - Non-weighted and weighted ARS-score.
ARS-score.

Formula 3 - Pairs of logical opposites

$$\begin{aligned} \text{Non-weighted ARS-score} &= \frac{\#(4 \text{ and } 5 \text{ responses})}{\#items} \\ \text{Weighted ARS-score} &= \frac{(\#4 \text{ responses}) + 2 * (\#5 \text{ responses})}{\#items} \end{aligned}$$

$$\text{Matched pairs of logical opposites} = \frac{\#opposite \text{ questions with both 4 or 5 responses})}{\#matched \text{ pairs}}$$

3.1.5 Procedure

First, the participants got a general introduction informing them about the fact that all the data gets processed anonymously. After the general introduction, the groups with a countdown clock got informed about the counter and were asked to be sure to answer all the items within this time. The groups with the stopwatch condition, got informed about the time tracking and were asked to answer as fast as possible without influencing the quality of their answers. All the groups then obtained 6 sets of seven items. These items consisted of both the twenty heterogeneous items and eleven matched pairs of logical opposites (good for twenty-two items) which means that a total of forty-two items had to be answered. The matched pairs of logical opposites were placed as far as possible from each other. The participants answered the first half of matched pairs first, then the heterogeneous items and then the other half of matched pairs. In the sets of seven items, the items were presented in a random order. The sets of items were followed by personal questions about age, education, gender, nationality and device use.

A list of the items can be found in annexes. All the sets of seven items had a measurement of time to respond, including those without a time pressure. This was not displayed to the participants who had the condition 'no time pressure'.

3.1.6 Participants

The group of participants consisted of 273 people that finished the survey completely. The counts per condition were all above the necessary 30 participants. The specific distributions are listed in table 4. There were 30.40% male and 69.60% female participants. The gender distribution differs between the conditions, ranging from 23.64% male participants in group 1, to 61% male participants in group 6. The complete distributions of the different demographic variables can be found in annexes.

Table 4 - Participants per condition

	No time pressure	Time pressure	
		Countdown clock	Stopwatch
Statements	54	40	46
Questions	46	42	44

All age categories are represented, going from 17 until 75 ($M= 32.61$, $SD= 14.88$). The same applies to the education of the participants. 53.5% of the participants did not obtain a degree above secondary school. 68.86% of the responses were filled in with a cellphone. 43.84% with a computer and the rest with a tablet. The spread between the conditions of these different factors can be found in annexes.

Since we are working with ARS, no control variables were implemented and no participants were deleted. The goal of this research is to investigate the effect of time pressure on ARS within a survey, not on individuals. Deleting outliers based on the ARS-score might exclude a certain demographic that correlates with more acquiescence.

3.2 Results

The first two measurement methods rely on heterogeneous items as described in 3.1.4 Measures. The internal consistency was measured with Cronbach's alpha to determine if these items are indeed heterogeneous. The internal consistency of the items was 0.46 for statements and 0.29 for questions. We can presume the items to be heterogeneous.

For the measure of ARS dependant of pairs of logical opposites, the ARS score per pair was first calculated. These eleven new variables should measure the same construct. Cronbach's alpha was calculated to affirm or negate. Cronbach's alpha for the questions was 0.79 and for the statements 0.81, indicating that the construct is internally consistent for both sorts of items.

3.2.1 Questions versus statements

The proposed models in this dissertation indicate that a difference between questions and statements in terms of ARS should be present. In order to test this hypothesis, we conducted an independent samples t-test between statements and questions (independent variables) without the manipulation of other variables. This was conducted three times, with each time one of the three calculated ARS scores as dependant variable. There is a significant difference in non-weighted ARS-score between statements ($M_{statements}=0.56, SD=0.17$) and questions ($M_{questions}=0.61, SD=0.12; t(97.99) -1.72, p=0$, Messick, S., 2012). For the weighted ARS-score there was no significant difference between statements ($M_{statements}=0.86, SD=0.24$) and questions ($M_{questions}=0.91, SD=0.20; t(97.73) -1.00, p=0.321$). The ARS-measurement through the pairs of logical opposites, also indicated no difference between statements ($M_{statements}=0.27, SD=0.19$) and questions ($M_{questions}=0.27, SD=0.14; t(99.00) -0.18, p=0.859$).

As proposed in hypothesis 1, questions do induce more non-weighted acquiescent responding than statements. Participants responded significantly more the options 4 and 5 on the questions. This lends support to the two different theories of responding that this dissertation used as a foundation for our model: the dual-stage theory of Spinozan for statements, and the confirmatory bias theory for questions. The different connotation of statements and questions in a conversational setting, can affect the way people respond including the chance at ARS.

The non-weighted ARS did not confirm this hypothesis. The mean amount of weighted ARS between questions and statements differed exactly as much, rounded up to 2 decimal places, as the mean amount of non-weighted ARS. This was not significant on the bigger scale of weighted ARS. ARS based on logical opposites did not differ either. Participants were not more inclined to respond positive to 2 opposite items.

3.2.2 The impression of time pressure: mean

The theory of confirmatory bias and the dual-stage hypothesis of Spinozan led us to expect that there is an effect of time pressure on the amount of ARS. To test this hypothesis, three One-way ANOVA's were conducted. The dependent variable was each time an ARS-score calculated according to the three measures mentioned under 3.1.4 'Measures'. The fixed variables were in each ANOVA 'time pressure' and 'items'.

It appears that the non-weighted ARS-score does not differ significantly depending on the presence of time pressure or not ($t(2,269) = 2.23, p = 0.109$). Weighted ARS does not differ significantly either ($t(2,269) = 1.36, p = 0.258$). The same results were found for ARS measured through the affirmation of logical opposites. There was no significant effect of time pressure ($t(2,273) = 0.01, p = 0.992$).

Participants do not have the tendency to answer more 4 and 5 responses. Not when it is viewed as the same positive response and not when the amount of acquiescence is measured through a weighted formula. There is also no significant effect on the amount of times participants answer positive on two logical opposites. Applying time pressure through a countdown clock or through a stopwatch were both not effective to induce more ARS in any way of measurement. The null hypotheses cannot be rejected and hypothesis 2 can not be accepted.

3.2.3 The impression of time pressure: variance

The models we conducted from the theories of confirmatory bias and the dual-stage model of Spizonan, raises the question if there could be a difference in the variance of ARS based on the way the item is presented: through questions or statements. We expect the variance to be higher for statements. This hypothesis was tested with an independent samples t-test by looking at Levene's test for variance. A dummy variable indicating questions or statements, was inserted as the grouping variables.

For non-weighted ARS, the variance in ARS with statements ($SD = 0.14$) did not differ from the variance with questions ($SD = 0.12, p = 0.348$). For weighted-ARS, the same results were found. The variance in ARS with statements ($SD = 0.25$) did also not differ significantly from the variance with questions ($SD = 0.91, p = 0.438$). The third way of measuring ARS joins the previous two in the findings. In this t-test there was no significant difference to be found in variance between statements ($SD = 0.17$) and questions ($SD = 0.14, p = 0.781$) either.

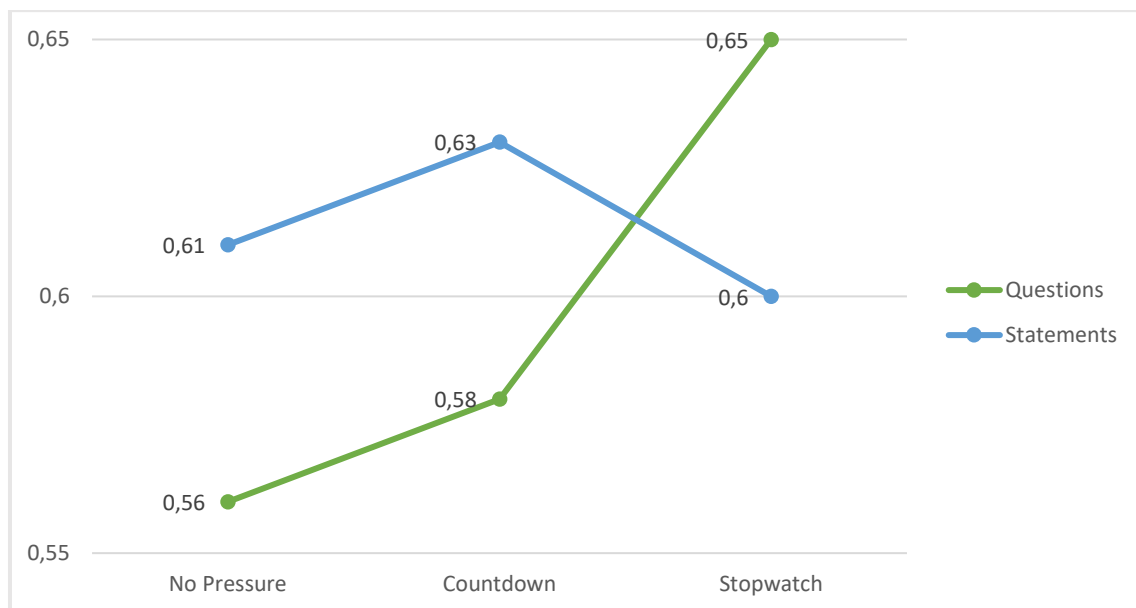
The expected difference in variance did not appear in the results. Independent of the method of calculating ARS, we cannot confirm H3. The visual model that we introduced in this dissertation does not get affirmed with this hypothesis.

3.2.4 The Impression of time pressure: interaction

We expect time pressure to have in interaction with statements on the amount of ARS it induces. This thought rises from the different trends we expect a participant's response-curves to follow with different item types. To test this hypotheses a Two-way ANOVA was conducted for each type of ARS calculation. The fixed factors were items and time pressure.

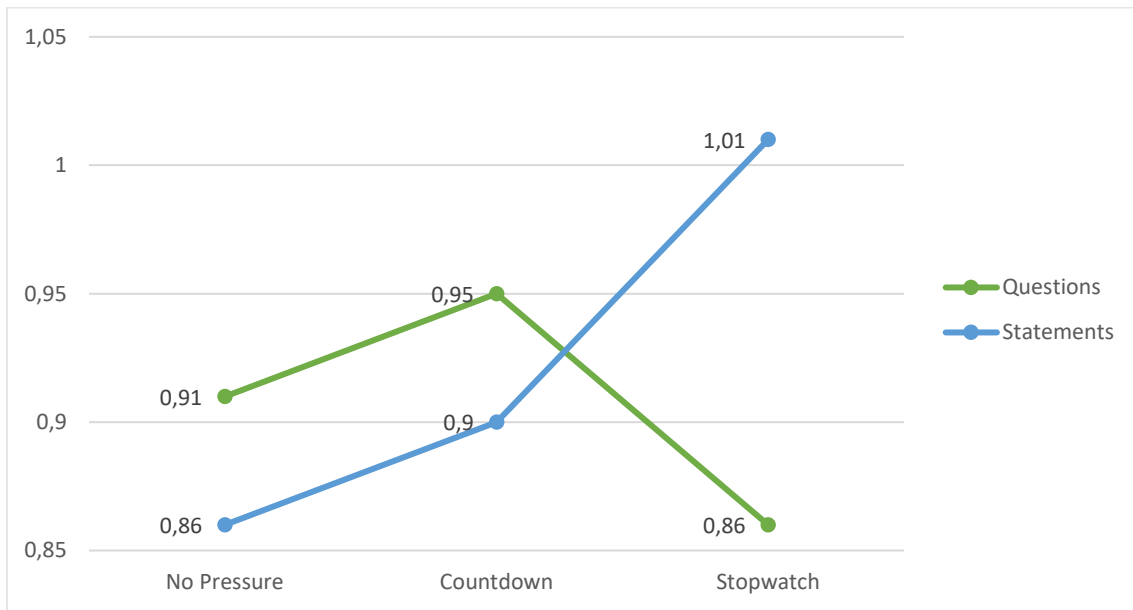
The explanatory power of the non-weighted ARS model is 3.00%. Results show no significant main effect of time pressure on ARS ($t(2,266)= 2.03, p= 0.133$), which is consistent with the previous findings. Neither does it show a significant main effect of item type ($t(1,266)= 0.90, p= 0.343$). More importantly for this hypothesis, the results showed a significant interaction effect ($t(2,266)= 3,99, p= 0.020$). When questions are used, there will not be a difference in ARS caused by time-pressure ($M_{NoPressure}= 0.61, M_{Countdown}= 0.63, M_{Stopwatch}= 0.60, t(2,266)= 0.54, p= 0.585$). When statements are used, there will be a difference in ARS caused by time-pressure ($M_{NoPressure}= 0.56, M_{Countdown}= 0.58, M_{Stopwatch}= 0.65, t(2,266)= 5.68, p= 0,004$).

Figure 13 - Interaction effect statements non-weighted ARS



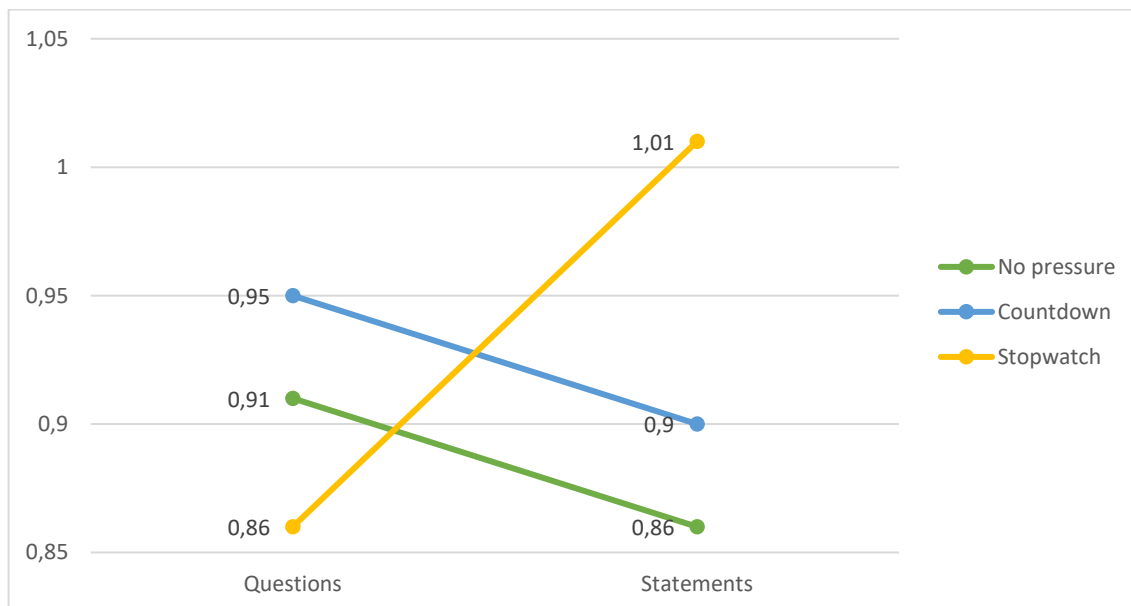
The explanatory power of the weighted ARS model is exactly the same as the explanatory power of the non-weighted ARS model: 3.00%. Results show no significant main effect of time pressure on ARS ($t(2,266)= 1.22 p= 0.296$). Neither does it show a significant main effect of item type ($t(1,266)= 0.29, p= 0.633$). There was a significant interaction effect ($t(2,266)= 5.21, p= 0.006$). When questions are used, there will not be a difference in ARS caused by time-pressure ($M_{NoPressure}= 0.91, M_{Countdown}= 0.95, M_{Stopwatch}= 0.86, t(2,266)= 0.54, p= 0.585$). When statements are used, there will be a difference in ARS caused by time-pressure ($M_{NoPressure}= 0.86, M_{Countdown}= 0.90, M_{Stopwatch}= 1.01, t(2,266)= 5.04, p= 0.007$).

Figure 14 - Interaction effect statements weighted ARS



When the stopwatch method of applying time pressure is used, there will be a difference in ARS between item types ($M_{\text{Questions}} = 0.91$, $M_{\text{Statements}} = 0.86$, $t(1,266) = 8.48$, $p = 0.004$). The interaction effect will not appear with the countdown method ($M_{\text{Questions}} = 0.95$, $M_{\text{Statements}} = 0.90$, $t(1,266) = 1.21$, $p = 0.273$) or with the no-pressure condition ($M_{\text{Questions}} = 0.86$, $M_{\text{Statements}} = 1.01$, $t(1,266) = 0.96$, $p = 0.328$).

Figure 15 - interaction effect stopwatch weighted ARS



The explanatory power of the last model, with ARS calculated through the agreement with 2 logically opposites, is 0.01%. Results show no significant main effect of time pressure on ARS ($t(2,267) = 0.01$, $p = 0.992$), neither does it show a significant main effect of item type ($t(1,267) = 2.12$, $p = 0.147$). It does not confirm the results of the other two methods of calculating ARS concerning an interaction effect ($t(2,267) = 0.49$, $p = 0.616$).

There is an interaction effect between statements and time pressure when we use the weighted or non-weighted ARS formulas. This interaction confirms hypothesis 3. There was a clear tendency to answer more 4 and 5 responses with the condition where time pressure was induced with a stopwatch. The expectation of statements inducing a more negative view with more time to think about an answer, stands correct. Participants did not answer positive to two opposite items more often with time pressure.

A second interaction effect was found for the weighted measure of ARS. The stopwatch condition created an elevated difference between statements and questions. This effect was not found for the non-weighted measure of ARS. The created difference in acquiescing could thus be due to a certain amount of 4 responses becoming 5 responses, as this is the only way to elevate the weighted ARS score without elevating the non-weighted ARS score. The time pressure applied through a countdown clock did not create the same effect. The curve clearly has the same difference between statements and questions but on a higher level.

4. Conclusion

4.1 Discussion

4.1.1 Hypothesis and theories

The response models used in this master thesis, seem to get some touch points with reality in terms of ARS. This dissertation is a confirmation of the different purposes questions and statements have in an interaction such as a survey. It is very likely that statements foster counterfactual thinking and that this is the cause of the interaction effect between statements and time pressure on ARS. With less time to think, there is less counterfactual information gathered. The automatic acceptance would be the reason that less information results in faster acquiescence instead of a neutral point. The dual-stage theory of Spinozan thus certainly has value in the search after acquiescent behaviour in surveys if statements are in the picture.

The interaction effect between statements and time pressure induced by a stopwatch caused a change as to which item sort creates the most ARS. When no other variables are manipulated, questions foster more acquiescent responding than statements. Under time pressure, statements foster more acquiescence than questions. This information should be kept in mind during the development of a questionnaire that is susceptible to ARS. If the setting fosters a feeling of time pressure to answer, for example when an interviewer is present, people should opt to use questions instead of statements if they want to avoid acquiescent responding.

4.1.2. Measures

The different measures of ARS resulted in different outcomes. This raises questions about what measure should be used and what conclusion a researcher can make if two measures give a different result. Although weighted and non-weighted ARS are computed from the same homogeneous questions, the two measures do not always align. Weighted ARS needs a bigger change in answers to create the same percentual difference. There is a difference in definition of ARS if we interpret the two formulas. Non-weighted ARS measures the uncritical agreement with items, aside from how much an individual agrees. Weighted ARS measures the extent of uncritical agreement with items.

The applicability of the latter can differ depending on which sort of ARS is investigated. In research on ARS caused by satisficing, weighted ARS can determine if the level of acquiescence raises with a tangible meaning. For example, if the proposed response-curve for statements in this dissertation is correct, we could explore if a change in duration of the answering process when the answering process is already short, would induce more weighted ARS. A raise in ARS would confirm the model and a decline would contradict the model. A difference in how much people agree, has a meaning in this case. Non-weighted ARS will in this specific example not have a validating power.

In research on deliberate acquiescence, weighted ARS might lack meaning concerning acquiescent responding. If a person deliberately acquiesces, this is completely independent of the item content and thus not because of satisficing in the answering process. A difference between completely agreeing and agreeing to a lesser extent might then not originate from ARS. The difference between completely agreeing or agreeing to a lesser extent might originate from the tendency to respond at the extreme points of a scale or the midpoints of a scale (ERS or MRS respectively). In this case, non-weighted ARS might be preferred to weighted ARS.

This research did not obtain any significant results of the third measure: ARS calculated through the agreement to logical opposites. This measure results from the interpretation of ARS as 'agreeing with opposite items'. In the subject of this dissertations, this measure might have less value than the other two measures. The uncritical agreement with 2 opposites statements will happen more if someone is a deliberate acquiescent person. If research wants to detect a satisficing individual who acquiesces because of the mental shortcuts, he will have to satisfice to both the items.

For statements this means that both the opposite statements need to be evaluated with enough mental shortcuts to cause acquiescence. The theory of distance comparison concerning statements, makes this tougher. If this theory stands correct, two logical opposites could create non-opposite true responses. The statements 'boys are taller than girls' and 'girls are taller than boys' could for example result in both negative true responses. Combined with counterfactual thinking, an individual could find information that is opposite to both the items. He/She might know tall girls and tall guys and be of the opinion that boys are in average taller, but not at all as a general rule. This could result in a neutral or minus one true response to the first statements and a minus two true opinion for the second statement. If an individual acquiesces to one, this will not be noticed. This is a very specific example with exactly contradicting items instead of logical pairs of opposites. Logical pairs of opposites could have more details that differ between the opposite statements without being the exact opposites. This creates an elevated chance at extra distance to their retrieved information. Despite this, we would have expected to find an

interaction effect between statements and time pressure. Or the time pressure was not high enough, or the model presented has some differences with reality.

The results do not affirm a difference in statements and questions for this measure of ARS. It is possible that during the confirmatory bias-stage, no or not enough affirming information can be found to get an acquiescent answer no matter where the answering process gets shortened. If there is enough information to reach this stage, it is not simply a matter of 'a shorter answering process'. The affirming information needs to be retrieved and then the answering process needs to be cut off (at or near the maximum of the parabolic response-curve). It is important to keep in mind that the length of the response curve is different for every item and every participant. For example, a less educated person could have a longer duration to interpret a question.

4.1.3 The matter of time pressure

The two sorts of time pressure created the same reduction in mean time to respond to the questionnaire but created different results in ARS. This is especially visible in the plot of the interaction effect. This difference might be due to the different message that the two sorts of time pressure give. The method with the stopwatch simply lets people know that their time is evaluated and asks to respond on time without letting it affect the quality of their answers. This method might incentivise more to take shortcuts than 'having to'. If this is the actual cause, it could imply that the motivation to answer faster creates more mental shortcutting than an imposed time limit. This would fit in the theory of satisficing. Every satisficing source is created through not enough motivation to answer correct in comparison to the barriers or through more motivation for something else. Here, the motivation to answer fast would have been greater. Another explanation could be that the stopwatch method causes people to add more cognitive modalities to the time tracking than with time pressure. The same average time between the two sorts of time pressure, would then be a distorted outcome. The answering process would go slower, lengthening the curve horizontally and thus placing the same average duration on a different place on the scale of satisficing and optimizing.

4.2 Limitations and further research

The model of response-curves that is presented in this dissertation is highly simplified. First of all, this only addresses acquiescence causes by satisficing and not deliberate acquiescence. Deliberate acquiescence will probably not follow these curves. Choosing to acquiesce could have a different relation to item type and time pressure, which is not discussed in this dissertation. Secondly, questions and statements are ought to have the same true response in this comparison. The theory of statements being evaluated according to the distance of an individual's own opinion, indicates otherwise. As mentioned before, this could create a negative value to a difference in both directions. This was applied in the model through a steeper relation in the response-curve for statements, but not in the actual comparison of true opinions. The true opinion about a statement could differ from the same item formulated as a question. Lastly, the confirmatory bias is expected to always find some extend of affirming information. A question far from an individual's own opinion could result in no or not enough affirming information to get to the point of an acquiescent answer. It is also important to keep in mind that only the beginning relation between ARS from question and ARS from statements is established, together with a interaction effect. They confirm the presented response-models, but in no way validate it completely.

The definition of time pressure needs to be defined clearly when this variable is used and better measures should be inserted in the questionnaire if we want to discover the effect of time-pressure on the individual tendency to acquiesce. Research on the individual-level should keep peoples cognitive abilities in mind when establishing a time-limit. The different duration of a normal answering between item types should also be kept in mind. Although the method with the stopwatch, is expected to put time pressure on every participant, it was also only treated and investigated on the survey-level. This makes it impossible to make conclusions on the individual level.

The interaction effect between statements and time pressure raises the question if other ARS-inducing variables might also correlate to only one kind of item type. Maybe we shouldn't see predicting and correlating variables to easily as correlating to ARS in general. Some factors or characteristics might reduce counterfactual thinking or lengthen the confirmatory bias stage. If this was the case, these factors would only correlate with statements or questions respectively. Further research on this topic could be interesting. Another interesting path could be the investigation of motivation in time pressure. By adding a scale to measure motivation, researchers could find out if motivation to answer fast has an influence on ARS, both as a moderator from duration and on its own. Paying respondents per questionnaire they fill in, might otherwise be an inducer for acquiescent responding.

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H. Annexes

Annex 1a: The best-fitting model for ARS (Meisenberg, G., & Williams, A., 2008)

Predictor	Standardized beta	Significance level
Average education of the sample	-0.190	0.016
Education of the country	-0.080	0.281
GDP	-0.236	0.109
Corruption	0.513	0.002
Political freedom	-0.138	0.095
Years of communism	-0.100	0.245

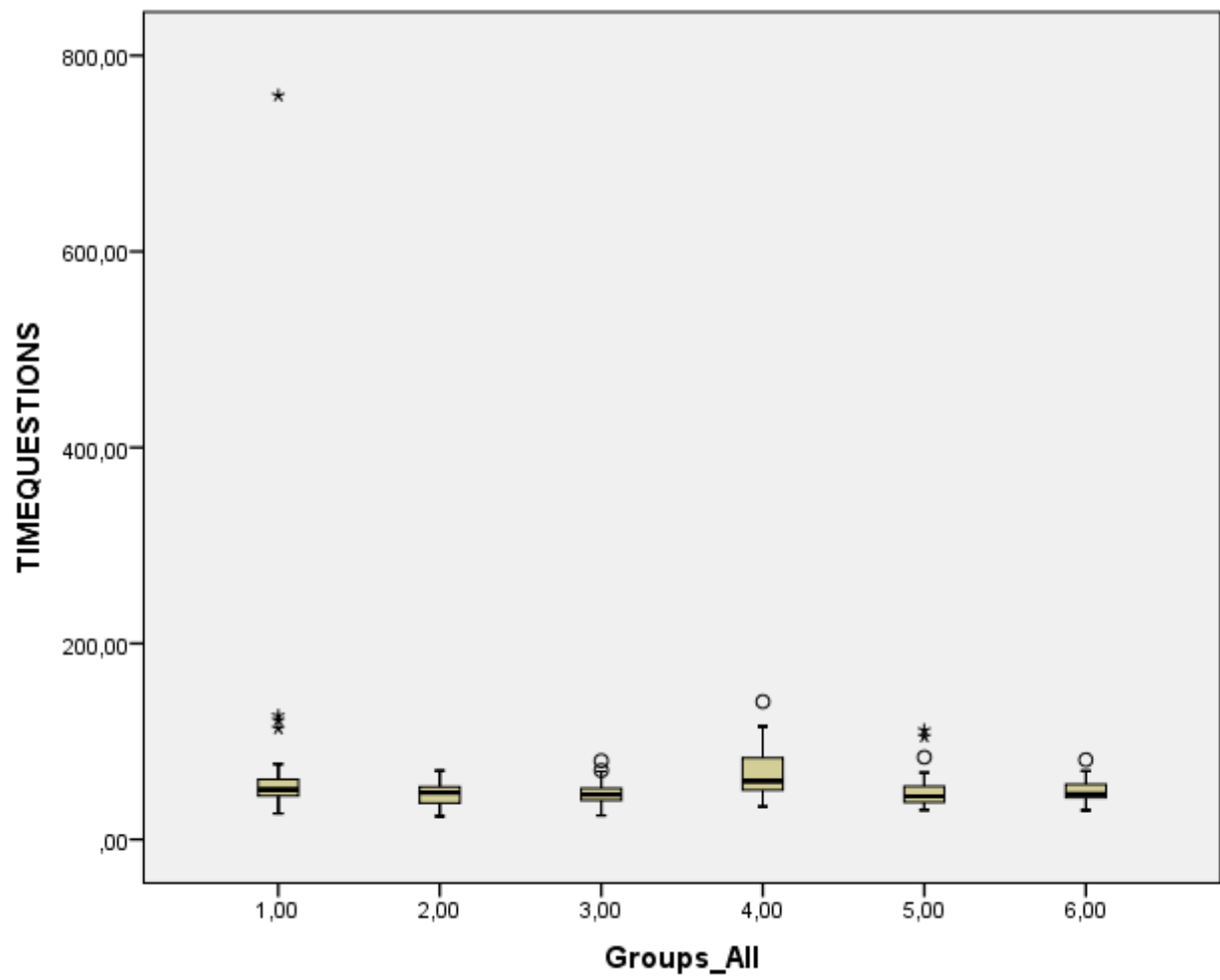
Annex 1b: The best-fitting model for ARS (Meisenberg, G., & Williams, A., 2008).

TABLE 3
Hierarchical Linear Models Evaluating Effects of Individual- and National-Level Measures on Extreme and Acquiescent Responding

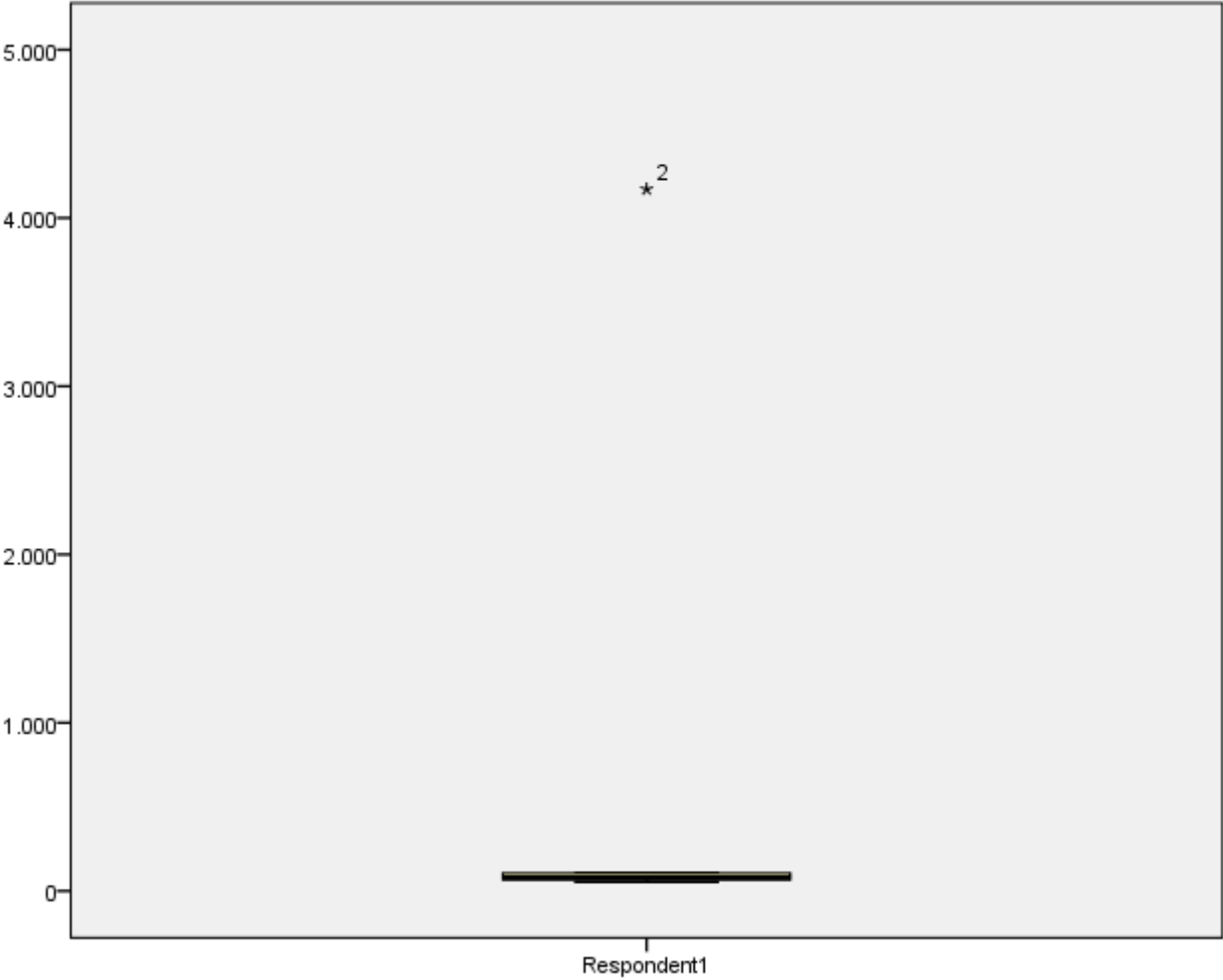
<i>Fixed effect</i>	<i>Extreme Response</i> N = 18,308 (19 nations)		<i>Acquiescence</i> N = 8,062 (10 nations)	
	<i>Coefficient (SE)</i>	<i>t-ratio</i>	<i>Coefficient (SE)</i>	<i>t-ratio</i>
Intercept	-10.06 (15.62)	-.66	9.85 (1.01)	9.74***
Person-level predictors				
Gender (male)	-.26 (.28)	-.95	.08 (.06)	1.31
Age	.14 (.17)	.81	.04 (.03)	1.43
Tenure (length of current employment)	.31 (.18)	1.68	.09 (.04)	2.50*
Country-level predictors				
Power distance	9.63 (2.71)	3.55**	-.94 (.24)	-3.92*
Uncertainty avoidance	.59 (1.18)	.50	-.32 (.11)	-2.88*
Individualism	3.41 (2.40)	1.42	-.35 (.09)	-3.99*
Masculinity	5.80 (1.73)	3.36**	-.62 (.16)	-3.92*
GNP per capita	-2.30 (1.84)	-1.55	-.30 (.08)	-4.03*
<i>Random Effect</i>	<i>Variance Component (df)</i>	χ^2	<i>Variance Component (df)</i>	χ^2
Person-level variance	179.09		3.10	
Country-level (between countries)				
Average level	41.52 (13)	169.72***	.08 (4)	19.60**
Effect of gender	.74 (18)	35.32**	.02 (9)	20.99*
Effect of age	.36 (18)	35.22**	.00 (9)	7.82
Effect of tenure	.50 (18)	85.46***	.01 (9)	35.77***

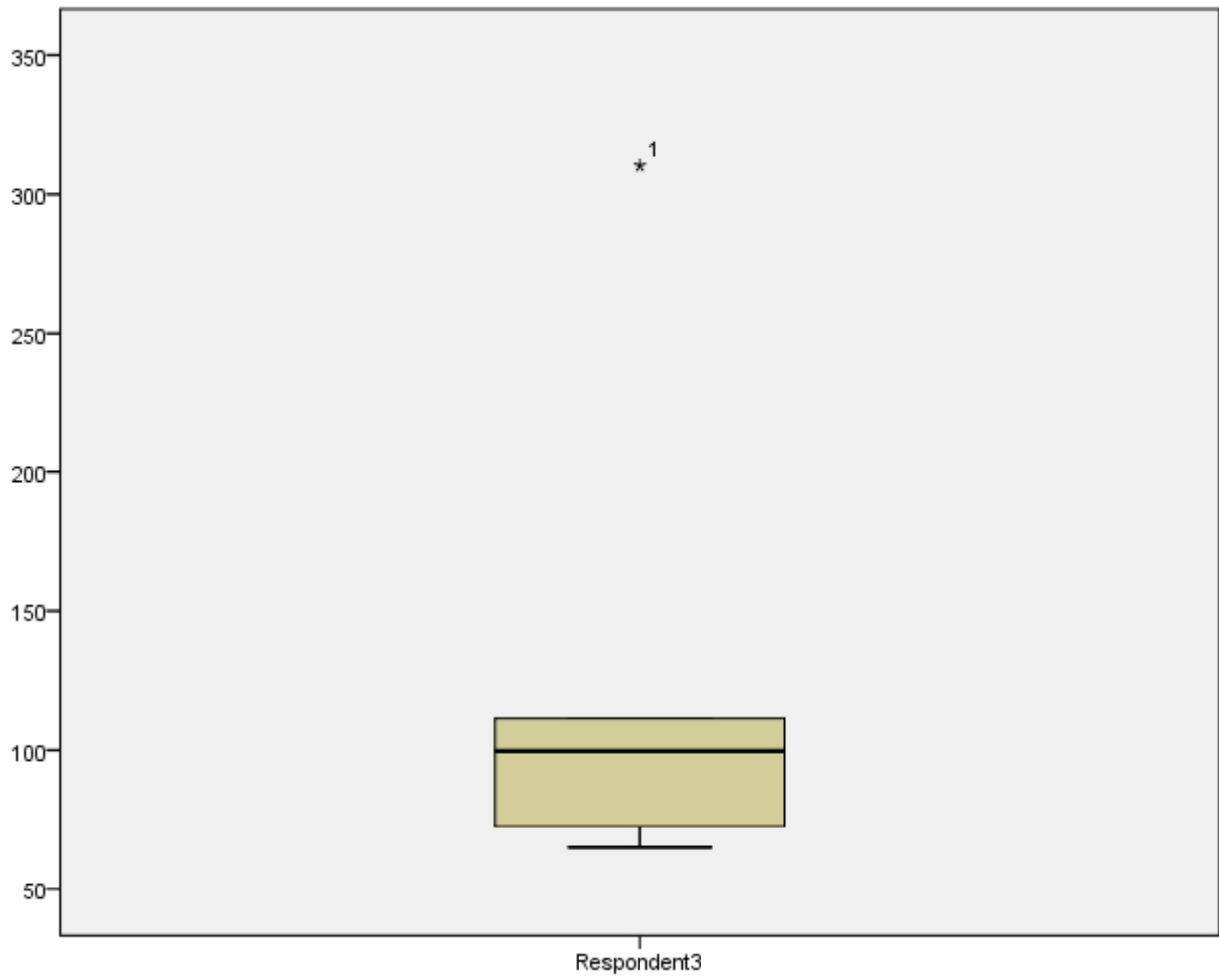
* $p < .05$. ** $p < .01$. *** $p < .001$.

Annex 2a: Boxplot outliers per group based on average duration to fill in an item set

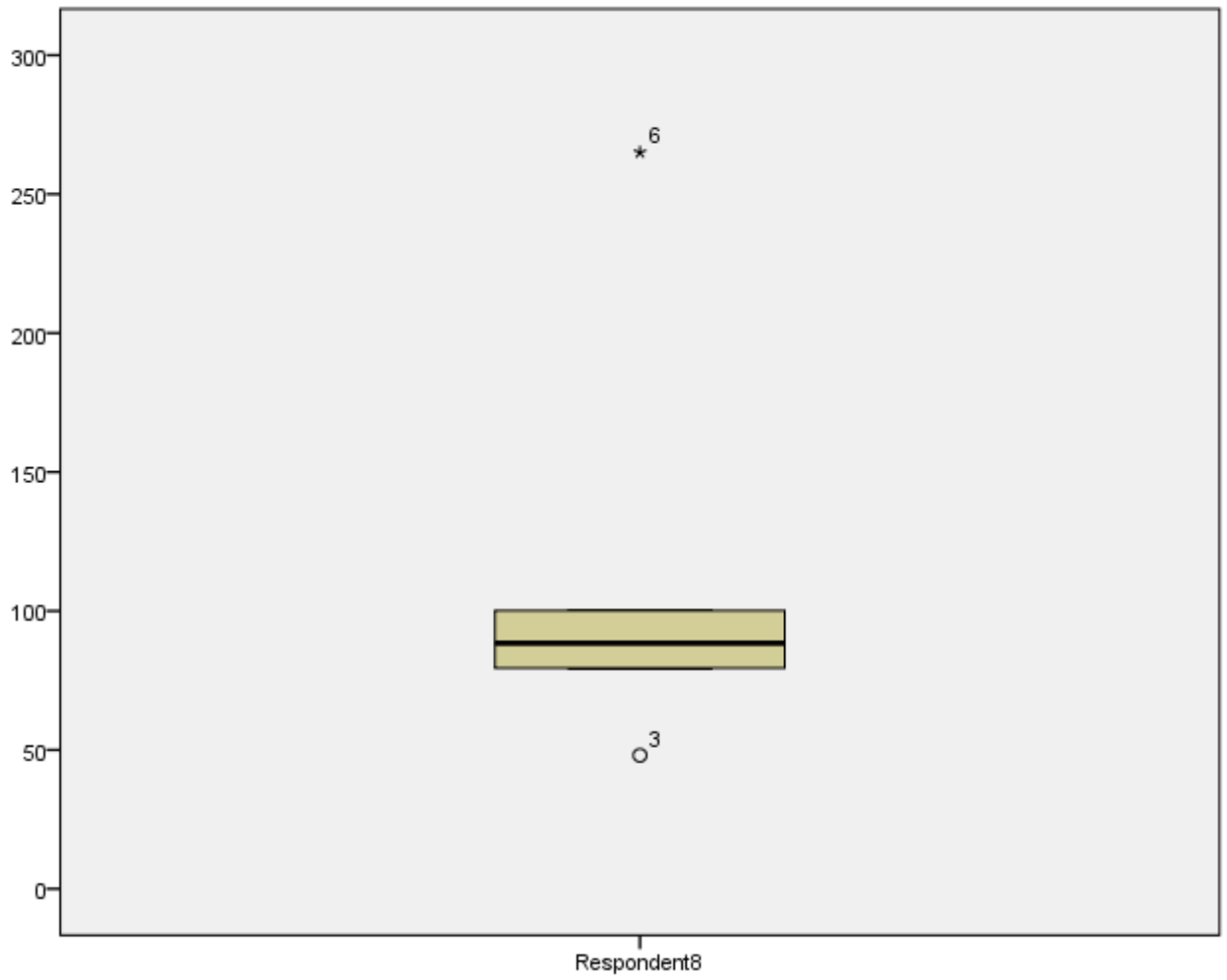


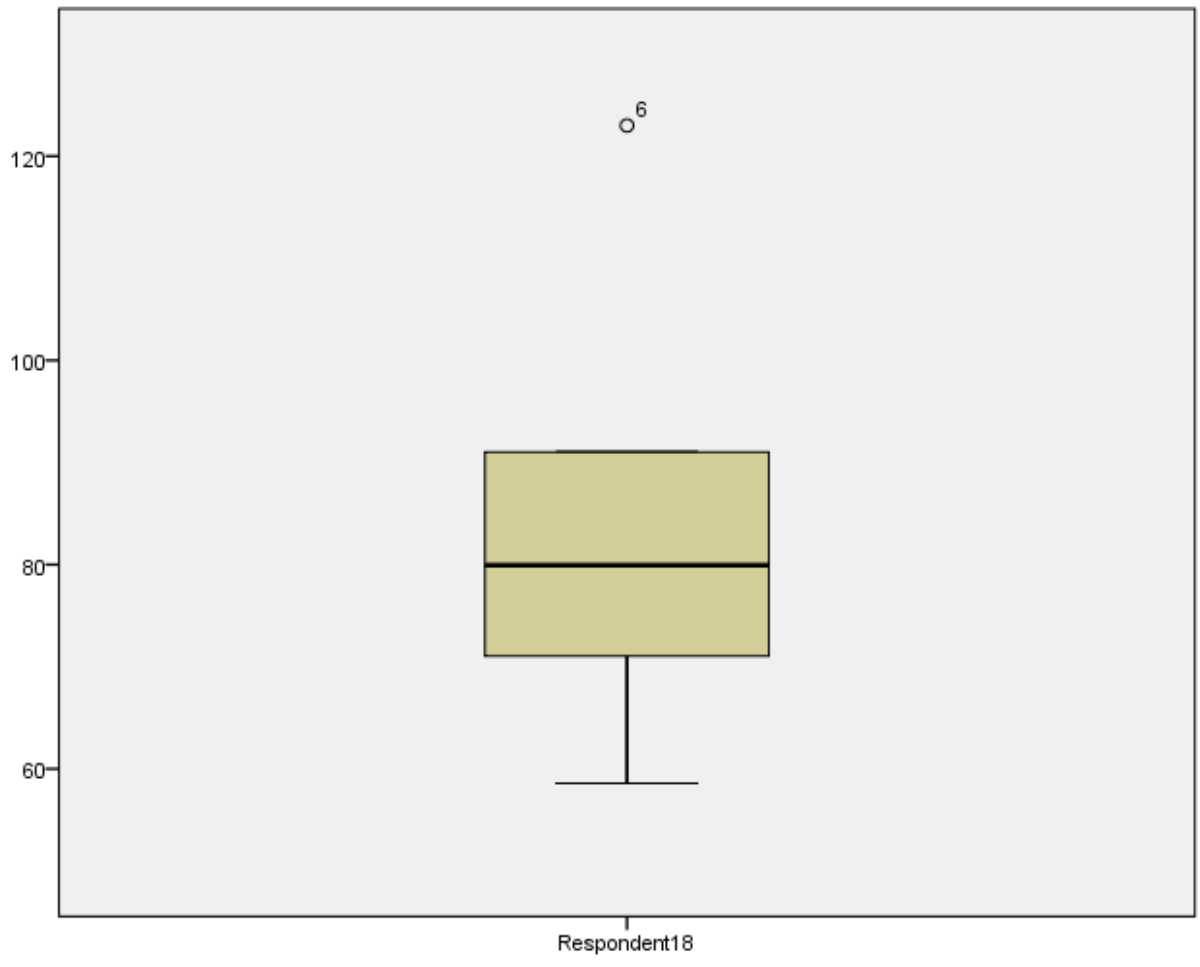
Annex 2B. Boxplots of the duration to answer an item set from the deleted participants











Annex 3a: Questionnaire flow Quatrics

Show Block: Inleiding (1 Question) Add Below Move Duplicate Delete

Randomizer
 Randomly present of the following elements Evenly Present Elements [Edit Count](#)
Add Below Move Duplicate Collapse Delete

- Show Block: Statements - Geen Tijdsdruk** (12 Questions) Add Below Move Duplicate Delete
- Show Block: Statements - Impressie Tijdsdruk** (13 Questions) Add Below Move Duplicate Delete
- Show Block: Statements - Tijdsdruk 50** (14 Questions) Add Below Move Duplicate Delete
- Show Block: Vragen - Geen tijdsdruk** (12 Questions) Add Below Move Duplicate Delete
- Show Block: Vragen - Impressie Tijdsdruk** (13 Questions) Add Below Move Duplicate Delete
- Show Block: Vragen - Tijdsdruk 50** (14 Questions) Add Below Move Duplicate Delete

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Show Block: Persoonlijke vragen (10 Questions) Add Below Move Duplicate Delete

Annex 3b: Questionnaire questions

Introductie alle condities		
<p>Beste participant,</p> <p>Eerst en vooral bedankt om de tijd te nemen om mij verder te helpen in het onderzoek omtrent mijn masterproef. De survey bestaat uit 6 vragen die telkens over 7 elementen jouw opinie vraagt. Aan de hand van een 5-puntenschaal kan je jouw mening weergeven. Er zijn geen foute of goede antwoorden. Alle antwoorden worden volledig anoniem en enkel statistisch verwerkt. Jouw antwoord wordt dus nooit 1 op 1 bekeken. Om de gegevens niet te beïnvloeden, wordt het onderwerp van de survey nog niet meegegeven.</p> <p>Vriendelijke groeten, Chayenne Somers</p>		
Extra informatie per conditie omtrent tijdsdruk		
Geen tijdsdruk	Countdown	Stopwatch
/	Je krijgt telkens 50 seconden om 7 stellingen te beoordelen. Zorg ervoor dat alle stellingen zeker binnen deze tijd beoordeeld zijn.	Bij elke set wordt de tijd gemeten die je nodig had om de items te beantwoorden. Gelieve de vragen zo rap mogelijk te beantwoorden zonder dat de kwaliteit van de antwoorden er onder leidt.

Duo's van logische tegengestelden per conditie omtrent formulering			
Statements		Questions	
Voorgeschreven medicijnen doen vaak meer kwaad dan goed	Voorgeschreven medicijnen helpen bijna altijd	Doen voorgeschreven medicijnen vaak meer kwaad dan goed?	Helpen voorgeschreven medicijnen bijna altijd?
Een persoon zou enkel medicijnen moeten nemen als laatste optie	Het is dwaas om je slecht te voelen als een medicijn je beter kan doen voelen	Zou een persoon enkel medicijnen moeten nemen als laatste optie?	Is het dwaas om je slecht te voelen als een medicijn je beter kan doen voelen?
Goede gezondheid is grotendeels een kwestie van geluk hebben	Als het aankomt op je gezondheid, bestaat 'pech' niet	Is een goede gezondheid grotendeels een kwestie van geluk hebben?	Is 'pech' onbestaande als het aankomt op je gezondheid?
Eender wie kan een paar basisregels over gezondheid leren om ziekte te voorkomen	Er is weinig dat een persoon kan doen om ziekte te vermijden	Kan eender wie een paar basisregels over gezondheid leren om ziekte te voorkomen?	Is er weinig dat een persoon kan doen om ziekte te vermijden?
Voor jezelf zorgen beïnvloedt of je wel of niet ziek wordt	Mensen die slecht voor henzelf zorgen worden rapper ziek op lange termijn	Beïnvloedt voor jezelf zorgen of je wel of niet ziek wordt?	Worden mensen die slecht voor henzelf zorgen rapper ziek op lange termijn?
Vooral goede geneeskundige zorg ligt aan de basis van genezing	Geneeskundige zorg kan maar weinig voor je doen als je ernstig ziek bent	Ligt vooral goede geneeskundige zorg aan de basis van genezing?	Kan geneeskundige zorg maar weinig doen wanneer je ernstig ziek bent?
Ik heb liever dat mijn dokter gewoon zegt wat ik moet doen	Wanneer er een belangrijke beslissing is, wil ik genoeg informatie zodat ik die beslissing mee kan helpen nemen	Heb je liever dat je dokter gewoon zegt wat je moet doen?	Wanneer er een belangrijke beslissing is, wil je dan genoeg informatie zodat je die beslissing mee kan helpen nemen?
Dokters bekijken steeds alles nauwkeurig	Dokters vergeten soms details te controleren	Bekijken dokters steeds alles nauwkeurig	Vergeten dokters soms details te controleren

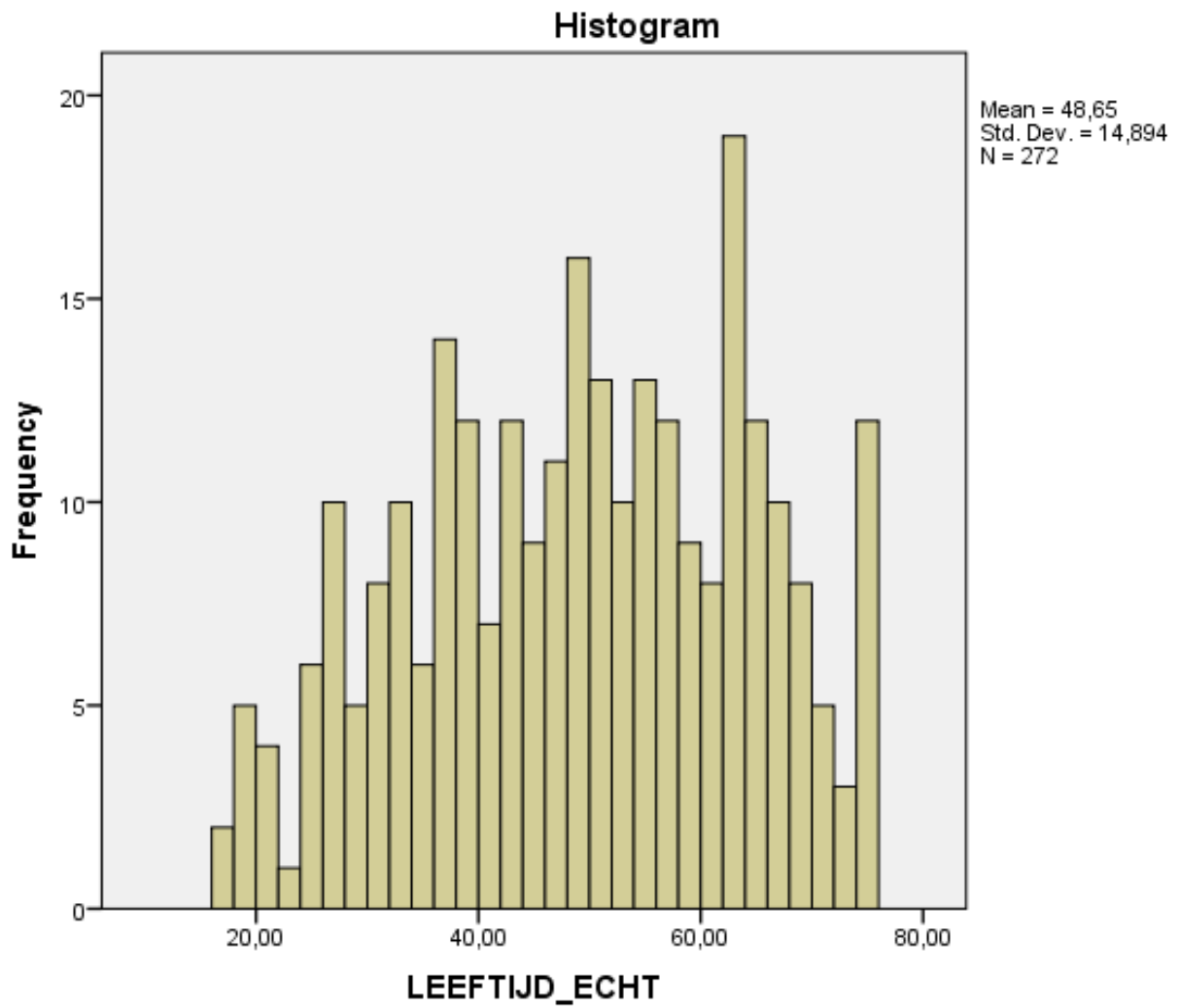
wanneer ze een patiënt onderzoeken	wanneer ze patiënten onderzoeken	wanneer ze een patiënt onderzoeken?	wanneer ze patiënten onderzoeken?
Goede dokters zullen bijna altijd overeenkomen over hoe een patiënt moet behandeld worden	Zelfs goede dokters kunnen het soms oneens zijn over hoe je een bepaalde ziekte geneest	Zullen goede dokters bijna altijd overeenkomen over hoe een patiënt moet behandeld worden?	Kunnen zelfs goede dokters het soms oneens zijn over hoe je een bepaalde ziekte behandeld?
Dokters stellen hun patiënten zo weinig mogelijk bloot aan onnodige risico's	Soms schrijven dokters onnodig risicovolle behandelingen voor	Stellen dokters hun patiënten zo weinig mogelijk bloot aan onnodige risico's?	Schrijven dokters soms onnodig risicovolle behandelingen voor?
De meeste dokters leggen nauwkeurig uit wat er gaat gebeuren aan hun patiënten	Dokters leggen gewoonlijk je gezondheidsprobleem niet voldoende uit	Leggen de meeste dokters nauwkeurig uit wat er gaat gebeuren aan hun patiënten?	Is het ongewoonlijk voor dokters om voldoende uit te leggen wat je gezondheidsprobleem is?

Heterogene items per conditie omtrent formulering

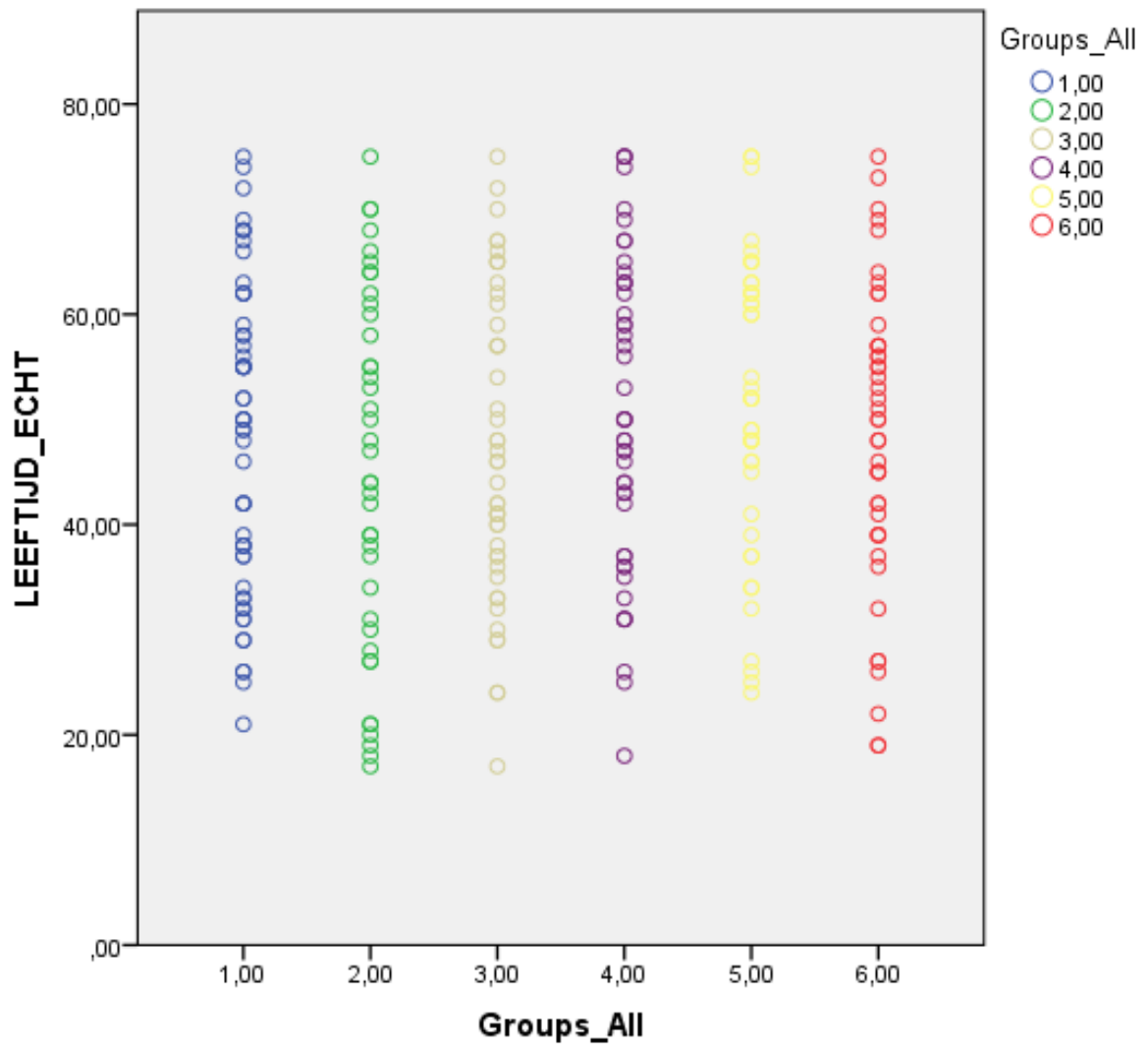
Statements	Questions
Ik ben er gerust in dat ik technologie-gerelateerde vaardigheden kan aanleren	Ben je er gerust in dat je technologie-gerelateerde vaardigheden kan aanleren?
Ik winkel omdat dingen kopen me gelukkig maakt	Winkel je omdat dingen kopen je gelukkig maakt?
Ik beschouw mijzelf als een merkentrouwe consument	Beschouw je jezelf als een merkentrouwe consument?
Ik voel me vaak misleid door reclame	Voel je je vaak misleid door reclame?
Ik ben erg met mijn gezondheid begaan	Ben je erg met je gezondheid begaan?
ik heb het gevoel voortdurend in tijdnood te zijn	Heb je het gevoel voortdurend in tijdnood te zijn?
We ervaren een achteruitgang in de levenskwaliteit	Ervaren we een achteruitgang in de levenskwaliteit?
Ik koop soms producten die overdreven verpakt zijn	Koop jij soms producten die overdreven verpakt zijn?
Ik vind dat een geordend en regelmatig leven bij mijn aard past	Past een geordend en regelmatig leven bij jouw aard?
Financiële zekerheid is erg belangrijk voor me	Is financiële zekerheid erg belangrijk voor je?

In de winkel het prijsetiket van een product veranderen, vind ik volstrekt ontoelaatbaar	Vind je het ontoelaatbaar om in de winkel het prijsetiket van een product te veranderen?
Ik vind het belangrijk om het boodschappen doen goed te organiseren	Vind je het belangrijk om het boodschappen doen goed te organiseren?
In een groep mensen ben ik zelden het middelpunt van de belangstelling	Ben jij zelden het middelpunt van de belangstelling in een groep mensen?
De zaken die ik bezit zijn erg belangrijk voor mij	Zijn zaken die je bezit erg belangrijk voor je?
TV-kijken is mijn belangrijkste vorm van ontspanning	Is TV-kijken jouw belangrijkste vorm van ontspanning?
Luchtvervuiling is een belangrijk en wereldwijd probleem	Is luchtvervuiling een belangrijk en wereldwijd probleem?
Menselijk contact bij het verlenen van diensten maakt het proces prettig voor de consument	Maakt menselijk contact bij het verlenen van diensten het proces prettiger voor de consument?
In het algemeen vind ik dat ik erg gelukkig ben	Vind jij dat je in het algemeen erg gelukkig bent?
Een buitenshuis werkende vrouw met jonge kinderen is nog steeds een goede moeder	Is een buitenshuis werkende vrouw met jonge kinderen nog steeds een goede moeder?
Ik kleed me vaak op een manier die tegen de stroom ingaat	Kleed jij je vaak op een manier die tegen de stroom ingaat?
Persoonlijke vragen voor alle condities	
Wat is jouw leeftijd?	
Wat is jouw hoogst behaalde diploma?	
(indien overig is geselecteerd) Gelieve te definiëren wat jouw hoogst behaalde diploma is (of 'geen' in te vullen)	
Ben je op dit moment bezig met een tot op heden onafgewerkte opleiding?	
Wat is jouw geslacht?	
(Indien overig is geselecteerd) Gelieve hieronder te definiëren hoe je jezelf identificeert.	
Wat is jouw nationaliteit?	
Wat is jouw moedertaal?	
Op welk toestel heb je deze vragenlijst ingevuld?	
Indien je opmerkingen hebt omtrent de survey mag je deze hier plaatsen. Deze opmerkingen mogen omtrent alles zijn. (vb: dubbele vragen, dubieuze vragen, omschrijving, etc)	

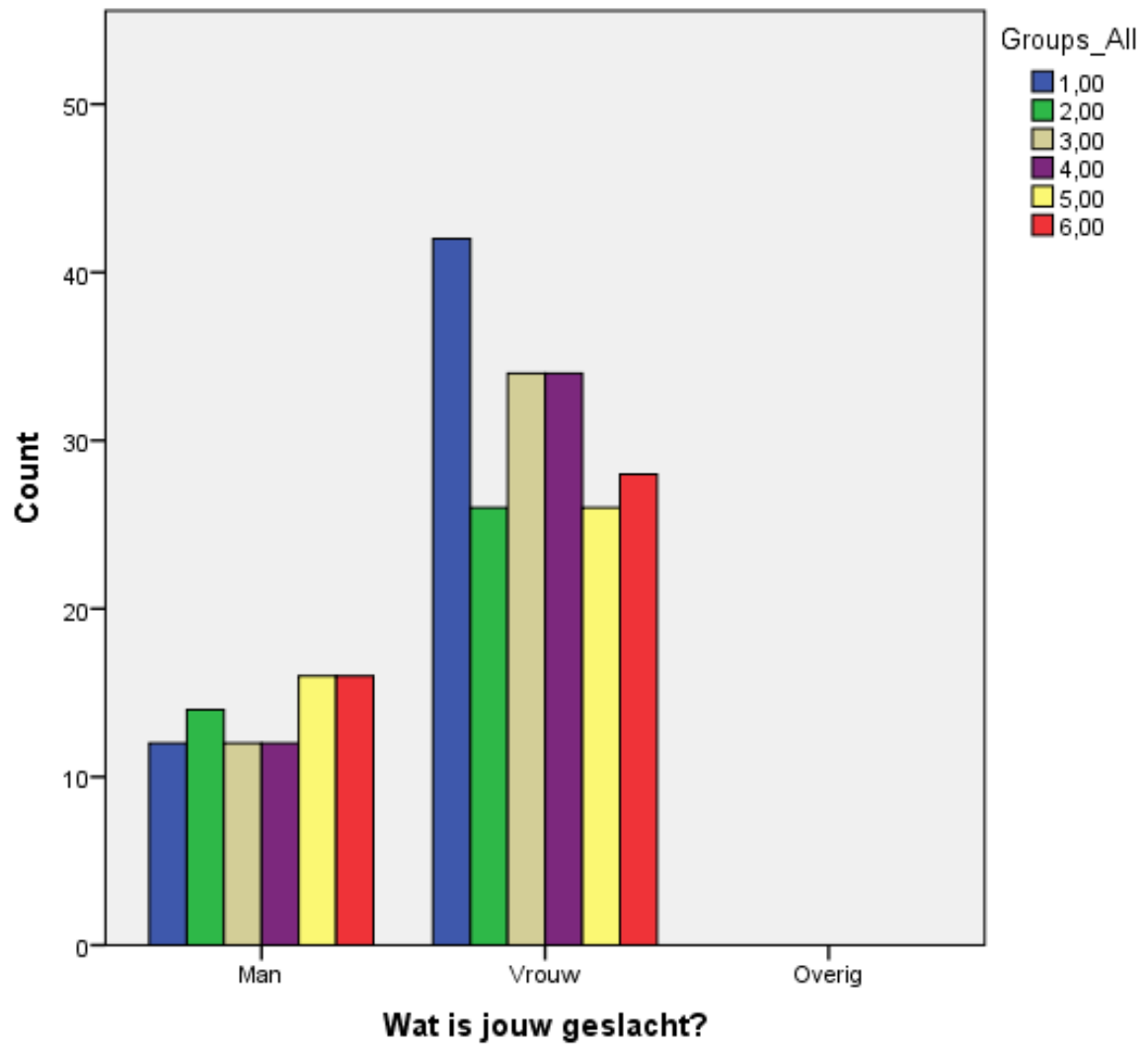
Annex 4a:Frequencies of age from the complete sample



Annex 5b: Scatterplot of age per condition



Annex 5c: Frequencies of gender per condition



Annex 5d: Crosstabs highest obtained diploma per condition

Wat is jouw hoogst behaalde diploma? * Groups_All Crosstabulation

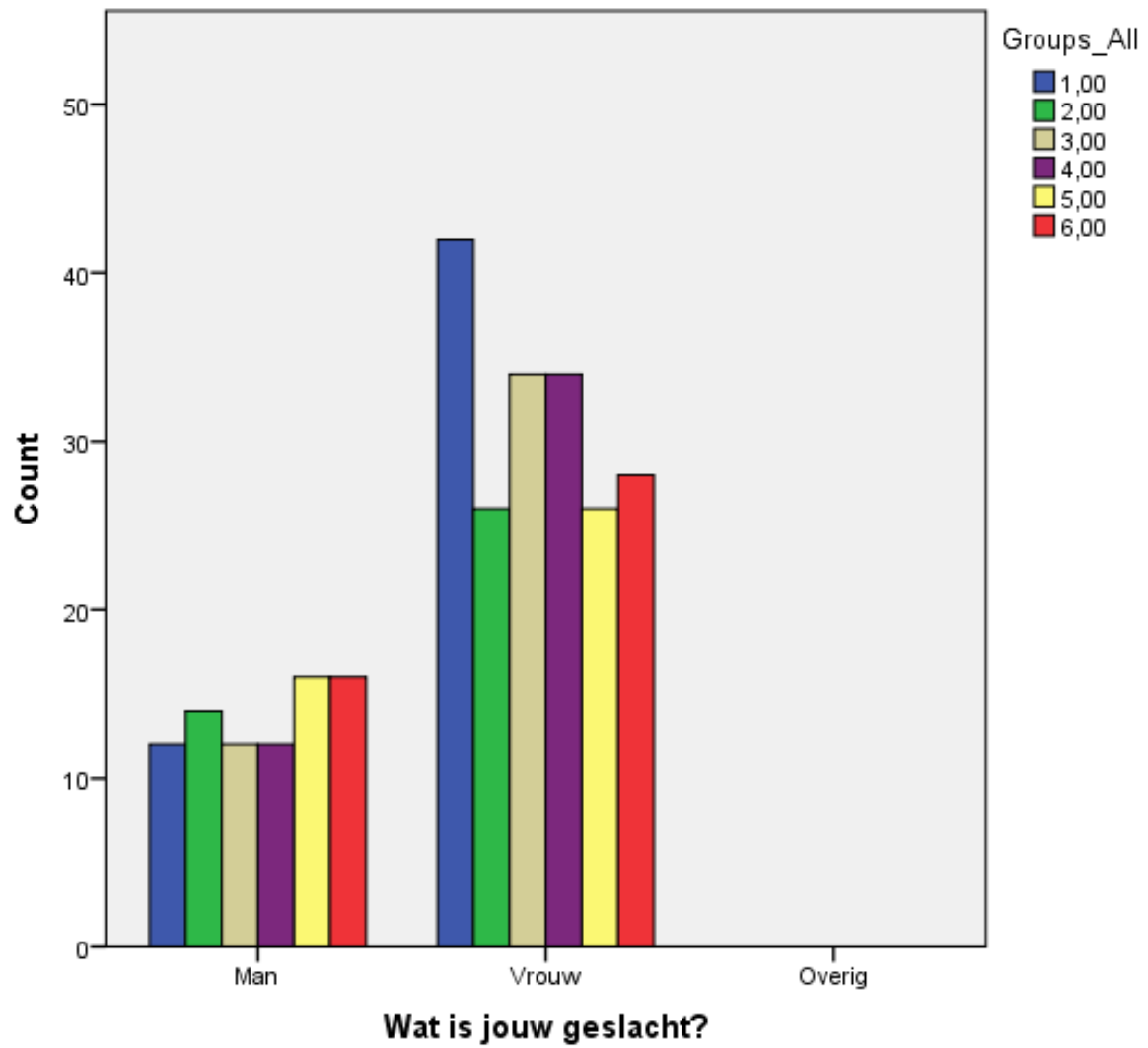
		Groups_All						Total
		1,00	2,00	3,00	4,00	5,00	6,00	
Wat is jouw hoogst behaalde diploma?	Lager onderwijs	0	3	4	3	2	1	13
	BSO	10	1	2	1	7	6	27
	TSO	12	9	12	12	7	10	62
	ASO	11	9	8	8	5	2	43
	Graduaatsdiploma	4	2	4	7	7	11	35
	Professionele bachelor	10	6	9	3	5	6	39
	Academische bachelor	3	3	2	4	2	3	17
	Academische master	4	4	3	4	3	3	21
	Overig	0	3	2	4	4	2	15
Total		54	40	46	46	42	44	272

Annex 5e: Crosstabs unfinished studies per condition

**Ben je op dit moment bezig met een (tot op heden onafgewerkte) opleiding? * Groups_All
Crosstabulation**

		Groups_All						
		1,00	2,00	3,00	4,00	5,00	6,00	Total
Ben je op dit moment bezig met een (tot op heden onafgewerkte) opleiding?	Lager onderwijs	1	0	0	0	1	0	2
	TSO	1	1	1	0	0	0	3
	ASO	0	1	0	2	1	0	4
	Gradaatsdiploma	1	1	0	1	0	0	3
	Professionele bachelor	2	1	2	1	1	3	10
	Academische bachelor	1	2	0	1	0	0	4
	Academische Master	0	2	0	0	0	0	2
	Nee	48	32	43	41	39	41	244
Total		54	40	46	46	42	44	272

Annex 5f: Graph gender per condition



Annex 5g: Crosstabs gender per condition

Wat is jouw geslacht? * Groups_All Crosstabulation

		Groups_All						Total
		1,00	2,00	3,00	4,00	5,00	6,00	
Wat is jouw geslacht?	Man	12	14	12	12	16	16	82
	Vrouw	42	26	34	34	26	28	190
Total		54	40	46	46	42	44	272