

Good versus bad

A research into visual and auditory nonverbal cues in NOS journaal and Jeugdjournaal

Nanouk Bel (362577), Irene Claessens (429515), Yvonne van Hooren (268414), Whitney Prins (736248) & Linsey Schats (996940)

Abstract

People adapt their message to the audience, also nonverbally. However, newsreaders should be neutral in their communication of the news and thus adaptation of the message might not occur. Because nonverbal communication often happens unconsciously, this paper describes an investigation on the difference between newsreaders communicating to adults or children for nonverbal visual and auditory cues. Visual cues are rated by a perception test for being able to see if the newsreader is telling good or bad news. Those cues are also coded by the authors through ECSI coding system. Furthermore, the auditory cue voice pitch is analysed for NOS journaal and Jeugdjournaal. The pre-test showed that the subjects of the news fragments covered either bad or good news. The perception test showed that Jeugdjournaal was evaluated as broadcasting more positive news than NOS journaal. However, the results of the pre-test differed from the perception test, which suggests that there is a difference between verbal (written) and nonverbal communication. ECSI analyses, however, the difference of kind of journal is less significant. Results on the auditory analyses revealed that newsreaders from Jeugdjournaal had higher voice pitch than NOS journaal. These results are discussed and suggestions for future research are given.

Keywords: Good news, bad news, nonverbal cues, face expression, auditory cues, visual cues, nonverbal communication.

Introduction

Neutrality is one of the most important things for the public news broadcasting organisation NOS. The code of conduct for good governance and integrity in the public broadcasting states that those organisations need to be transparent and complete in the information they spread. The vocabulary is one thing where the public broadcasting organisations has to be neutral in, but it can also be expected that the nonverbal communication should be neutral (NPO, 2011). Newsreaders themselves also argue that they are neutral in providing information; they have to be as objective as possible about the content of the news.

However, there are aspects in language production that might influence this neutrality. Language production and language comprehension are connected to each other (Carroll, 2008). The language production will change when language comprehension fails. Therefore it can be said that the language producers adapt the form of their message to their audience. According to this information, news aimed at children can be somewhat different from news aimed at adults. Children are more open in expressing their emotions

than adults, which may be one of the reasons for newsreaders to adapt their language production to the audience as well (Fabes & Martin, 1991). When changing the language production, one does not only change the language but also the nonverbal communication. Therefore, auditory as well as visual cues will also change.

Swerts and Krahmer (2010) investigated visual cues in nonverbal communication by conducting two experiments. Study 1 was about the alignment of facial expressions with the accented word in a sentence pronounced by a newsreader. The second study they conducted led to the study in this paper. Swerts and Krahmer (2010) investigated whether newsreaders adapt their facial expressions to the seriousness of the information and/or to the audience they are addressing. For this study they used fragments of NOS journaal, aimed at adults, and NOS Jeugdjournaal, aimed at children. 54 participants were asked to rate all 40 fragments on the expressiveness of the newsreader and on the seriousness of the topic they thought the newsreader was speaking about. The results showed that newsreaders were less expressive when the news was serious than when they were communicating lighter news. This is not in line with the meta-analysis conducted by Westermann, Speis, Stahl and Hesse (1996), who stated that presenting a film or story induced most effectively positive or negative moods, with larger effect sizes for negative mood inductions. This suggests that people express negative nonverbal cues sooner than positive nonverbal cues, which is the opposite of the outcome of Swerts and Krahmer's study. However, this contradiction can be explained by the rating of the participants themselves or the person they saw in the movie. With mood inducing procedures, the participants had to describe their moods, while in the study of Swerts and Krahmer the newsreaders are rated for their expressiveness.

Besides the difference in showing the seriousness of the topic, the results of Swerts and Krahmer (2010) show us that there was indeed a difference in nonverbal communication in case of a different audience; NOS Jeugdjournaal newsreaders were more expressive than newsreaders addressing adults. Overall, newsreaders addressing adults were seen as more serious than newsreaders addressing children. The nonverbal communication of the seriousness of information was rated as less clear concerning news for adults than concerning news aimed at children. Thus, newsreaders do adapt their visual nonverbal communication – maybe unconsciously – to their audience, while they actually should be neutral.

Emotion can also be revealed by auditory cues (Zuckerman, Lipets, Koivumaki & Rosenthal, 1975). Characteristics of the voice, such as volume, pitch and rate, can indicate the speaker's emotions. Applied on news readers, the pitch of the voice can for example indicate whether the message is positive or negative. Based on the fact that language production depends on language comprehension (Carroll, 2008), can be expected that the auditory cues can be different when the audience changes. This is what will be focused on in this study.

Besides predicting the audience the news is aimed at, non verbal cues can also predict if the message is positive or negative. Maynard (2010) found that gestures indicate whether a news message is positive or negative. This research did not take facial expressions and auditory cues into consideration. These are the cues that are most important when analyzing news readers. As gestures can predict how positive or negative a message is, it can be expected that this also counts for facial expressions and auditory cues.

In short, this research will investigate if the production of language expressions that are intended to be neutral is influenced by the audience. Thereby, this study will also focus on the fact if visual and auditory cues support how positive or negative the message is. The research question that is formulated is:

What are the differences in auditory and visual cues between NOS and Jeugdjournaal with regard to transmitting good and bad news?

Based on the discussed literature, the two following hypotheses are formulated to support this research question:

H1: there are more visual cues in Jeugdjournaal than in NOS journal.

H2: there are more auditory cues in Jeugdjournaal than in NOS journal.

H3: there are more nonverbal cues when newsreaders were reporting good news than when with bad news.

Stimuli collection

Selection Criteria and Procedure

For the online perception test 40 fragments about news items were collected. The 40 fragments contained 20 subjects on both good or bad news. Both the Jeugdjournaal and NOS journal condition contained 20 fragments and thereby covering the subjects. This means that there were four conditions of fragments which are shown in table 1.

Table 1 The different conditions of this research

	Good news	Bad news
NOS	10 fragments	10 fragments

Jeugdjournaal | 10 fragments 10 fragments

The fragments were dated between 2002 and 2014 and were presented by 18 different news readers. During the selection of the fragments, the subject of the fragments was taken into account. Therefore, the fragments in the good news and bad news conditions had the same or familiar subjects. An overview of the fragments with the subjects is shown in Appendix 1.

Furthermore, the gender of the newsreader was taken into account. In total, the participants saw 16 male and 24 female news readers presenting the news items. This was divided over the different conditions, so that each condition had approximately the same amount of male and female newsreaders.

Video Editing

The selected videos were edited in Windows Movie Maker. Only the introduction of the subject in the news was selected as stimuli for the online perception test, because these were the moments that the news readers were on camera. The average duration of these introductions was 15.15 seconds (minimum 7 seconds and maximum 28 seconds). Four snapshots of the fragments in the different conditions are shown in Appendix 3.

Survey pre-test

The pre-test tested if the subjects really covered good or bad news items. In total, 20 participants received a little survey on paper to test their opinions about good or bad news. They were asked to rate the 22 different news items on a 7 point Likert- scale, where 1 was indicated as very bad news and 7 as very good news. The participants got 22 news items because for the bad news condition there were two pairs in the bad news condition that could not be completed otherwise because not each pair was both displayed in NOS and Jeugdjournaal. Results showed that the different items did cover good or bad news. An example of the pre-test is shown in Appendix 2.

Online perception test

Participants

In our study, 20 people participated. Half of the participants was men. The average age was 36.25 years (SD = 14.7). No children (under age of 18) were involved because their perception of non-verbal cues is not fully developed.

Procedure

In the online perception test, 40 fragments were shown to the participants in an online survey which was presented at the participant's home. All fragments were presented in a randomized design. Participants had to answer on a 7 point

Likert-scale if they thought the news reader was telling good or bad news (1= very bad news & 7 = very good news).

Before the participants started the online survey they were instructed to answer the best they can (so only if they really had no idea, they might choose the neutral option). First the participants had to answer some personal questions about age, gender and education level. After that the 40 fragments were presented. The 40 fragments were shown without sound, because otherwise it was too easy to indicate the subject as good or bad news. This way, the participants could focus on the mimic of the news readers.

Results Online perception test

In order to be able to conduct analyses on the data gained with the online perception test, the averages of each condition were calculated. In table 2 these descriptives are displayed.

Table 2 Descriptives for each condition online online perception test (mean, standard deviation)

	Journal	Mean (SE)
Bad news	NOS	2.95 (0.18)
	JEUGD	5.66 (0.12)
Good news	NOS	3.94 (0.10)
	JEUGD	4.67 (0.09)
Total	NOS	3.45 (0.12)
	JEUGD	5.16 (0.08)

To compare the scores on recognition an ANOVA was conducted. Levene's test showed that the error variance is equal across the different groups and also the assumption of sphericity is not violated either.

A significant main effect of kind of journal was found: $F(1, 18) = 176.07, p < .001, \eta^2 = .90$. News fragments from Jeugdjournaal were evaluated as more positive than the news from NOS journaal. There was no main effect found for kind of news. There was an interaction effect found between kind of journal and kind of news: $F(1,18)=49.90, p < .001, \eta^2 = .74$.

These effects can be interpreted as strong effects which means that the kind of journal really affects the perception of the news. Also the interaction between kind of journal and kind of news can be interpreted as a strong effect. The direction of the interaction effect is as follows (deduced from an analysis of an interaction plot in SPSS): when the news is bad there is a big difference between the both journal conditions. When there is good news there is little difference between perception scores on both journal conditions.

Results comparison online perception test and paper survey

In the subject pre-test survey the participants only evaluated the subject of the fragment on good and bad news, while in the online perception test the participants evaluated if the

newsreader told good or bad news without knowing the subject. To test whether the answers in the online perception test and the pre-test differed, another ANOVA was conducted. Both the average scores on the pre-test survey and the online perception test for kind of news were compared on medium (online or paper) and kind of news (good or bad). Firstly the descriptives will be displayed in table 3.

Table 3 Descriptives of online perception test and pre-test survey per kind of news.

	Medium	Mean (SD)
Bad news	Online	2.95 (0.76)
	Survey	1.75 (0.40)
Good news	Online	5.66 (0.54)
	Survey	5.58 (0.49)

To compare the scores on recognition an ANOVA was conducted. Levene's test showed that the error variance is equal across the different groups also the assumption of sphericity is not violated.

A significant main effect of kind of medium (online perception test or survey on paper) was found: $F(1, 18) = 54.74, p < .001, \eta^2 = .75$. In addition a significant main effect of kind of news was found: $F(1,18) = 473.03, p < .001, \eta^2 = .96$. There was also an interaction effect found between kind of medium and kind of news: $F(1,18)=12.96, p < .01, \eta^2 = .42$

These effects can be interpreted as strong effects which means that the kind of medium really affects the perception of the news. There is also a main effect of kind of news which is logically explainable: different kinds of news are interpreted in another way. There is also an interaction effect of kind of medium (paper or online) and kind of news which means that (deduced by inspection of the SPSS plot) bad news is perceived as more different for the two medium conditions than good news (with good news, the perception is more consistent).

Auditory analysis

Procedure

All 40 fragments were first converted in sound files (mp3). These sound files were afterwards put into the computer program PRAAT that is developed to analyze sound files on for example pitch. That is also the feature we used in our analysis. Every fragment was analyzed on mean, minimum and maximum pitch (Hz) with the program. All these data was put into SPSS for later statistical analyses.

Auditory Cues

To analyze the pitch in the fragments the program PRAAT was used to deduce all Hz scores. For each of the fragments the minimum, maximum and average Hz score was noted. After that for each condition the averages were calculated. In table 4 these descriptives are displayed.

Table 4 The mean, minimum and maximum Hz scores over the different conditions.

		Measured Hz's	Mean (SD)	Min. score	Max. Score
Bad	NOS	Min. Hz	80.3 (9.0)	67.0	99.4
		Max. Hz	316.3 (69.9)	191.6	413.9
		Mean Hz	170.8 (40.6)	104.3	247.7
	Jeugd	Min. Hz	80.5 (7.5)	72.5	93.6
		Max. Hz	356.1 (63.1)	203.4	413.9
		Mean Hz	196.9 (34.6)	138.7	247.7
Good	NOS	Min. Hz	87.0 (32.7)	54.0	172.4
		Max. Hz	308.5 (59.0)	186.2	376.0
		Mean Hz	159.3 (43.2)	111.9	241.0
	Jeugd	Min. Hz	76.6 (2.3)	74.5	82.1
		Max. Hz	375.1 (64.1)	233.6	419.2
		Mean Hz	210.7 (52.6)	131.7	256.7

To explore the differences between the pitch at good and bad news and the two different kinds of journal a t-test was conducted.

The t-test revealed a significant difference in average pitch between NOS (M=151.97) and Jeugdjournaal (M=203.79) ($t(38)=4.08$, $p<.001$, $\omega^2=0.39$). These differences also remain when the t-test analyses the difference in pitch between transmitting good (M=159.26) or bad (M=144.69) news in both kind of journals. The difference in transmitting bad news was significant ($t(18)=3.72$, $p<.01$, $\omega^2=0.19$) between both kinds of journal (M Jeugd=196.9; M NOS= 170.8)). There was also a significant difference between transmitting good news between both kinds of journal ($t(18) = 2.39$, $p<.05$, $\omega^2=0.28$) (M Jeugd=210.7; M NOS=159.3).

These differences can be further specified: the highest mean pitch was found in the good news condition at Jeugdjournaal. Also for bad news this journal had the highest mean pitch. The explained variance is very weak which means that the differences in pitch cannot really be explained by kind of journal or kind of news.

ECSI analyses

Procedure

The 40 fragments were visually analyzed by the researcher conform an ECSI scheme (Troisi, 1999). Two researchers focused on the eye movements and two other researchers focused on the mouth movements. When the researchers saw a specific movement, they had to notice this on paper. The two researchers per subject indicated the movements separately from each other. After that, they looked if the amounts of movements were the same. If this was not the case, the fragment was analyzed again with both researchers discussing about the movements. In this way, objectivity was tried to be guaranteed.

In the Eye ECSI, five different aspects were analyzed: raise, look down, shut, wink and neutral face. The first aspect raise was defined as raising the eyebrows. Look down was noticed when the presenters were looking down at feet, lap or floor. Shut meant that the eyes of the newsreader were closed for some time. Blinking with both eyes (closing the eyes for a very short moment) was not taken into account in this aspect. On the other hand, winking with one eye was analyzed. The final aspect neutral was defined as a face without expression and without particular muscular tension.

In the Mouth ECSI, seven different aspects were analyzed: smile, lips in, mouth corners back, small mouth, twist mouth, laugh, neutral face. Smile meant that the newsreader's lip corners were drawn back and up. Secondly, lips in was defined as the lips were drawn slightly in and pressed together. Mouth corners back was noticed when the corners of the mouth were drawn back but not raised as in a smile. When the lips corners were brought towards each other so that the mouth looks small, this was noticed as small mouth. The fifth aspect twist mouth meant that the lips were closed, pushed forward and twisted to one side. In addition, laugh was defined as having a smile, but with parted lips showing the upper and lower teeth. The last aspect neutral face had the same definition as in the Eye ECSI.

Results of Eye ECSI

In the Eye ECSI, five different aspects were analyzed: raise (1), look down (2), shut (3), wink (4) and neutral face (5). The mean amount of the different aspects of eye movements divided over the NOS journaal/Jeugdjournaal and good/bad news are shown in table 5.

Table 5: Average amount and standard deviation of the different aspects of eye movements divided over NOS journaal/Jeugdjournaal and good/bad news.

		1	2	3	4	5
NOS	Good	4.5 (2.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.3 (0.5)
	Bad	4.5 (4.0)	0.2 (0.6)	0.0 (0.0)	0.0 (0.0)	0.1 (0.3)
Jeugd	Good	4.1 (1.5)	0.0 (0.0)	0.2 (0.4)	0.0 (0.0)	0.0 (0.0)
	Bad	2.7 (2.0)	0.0 (0.0)	0.4 (1.0)	0.0 (0.0)	0.0 (0.0)

As shown in table 5, the presenters of both NOS journaal and Jeugdjournaal did not often look down, shut their eyes or wink. In addition, a neutral face was also not often used. However, they often raised their eyebrows. To test if the aspects differ in the different conditions, a chi-square test was conducted.

Results of Mouth ECSI

In the Mouth ECSI, seven different aspects were analyzed: smile (6), lips in (7), mouth corners back (8), small mouth

(9), twist mouth (10), laugh (11), neutral face (12). The average amount of the different aspects of mouth movements divided over the NOS journaal/Jeugdjournaal and good/bad news are shown in table 6. Twist and small mouth were excluded in the analysis, due to lack of data.

Table 6: Average amount and standard deviation of the different aspects of mouth movements divided over NOS journaal/Jeugdjournaal and good/bad news.

		6	7	8	11	12
NOS	Good	0.5 (0.5)	0.4 (0.7)	0.3 (0.5)	0.0 (0.0)	0.1 (0.3)
	Bad	0.4 (1.1)	0.4 (0.7)	0.3 (0.5)	0.0 (0.0)	0.4 (0.5)
Jeugd	Good	2.1 (1.4)	0.4 (0.5)	0.5 (0.5)	0.9 (1.0)	1.2 (1.0)
	Bad	0.0 (0.0)	0.7 (1.0)	0.1 (0.3)	0.0 (0.0)	2.1 (0.9)

As shown in table 6 the news readers of the NOS did not often show any mouth movements that could be indicated as one of the seven analyzed aspects. The Jeugdjournaal news readers seem to use more mouth movements when they are telling good news than when they are telling bad news. To test if the aspects differ in the different conditions, a chi-square test was conducted.

Chi-squared test on ECSI data

To be able to see the spreading in eye- and mouth movements and in which way they relate to kind of news and journal a chi-squared analysis was conducted. In tables 7 and 8 these results are displayed.

In table 7 the scores for the eye movements are displayed.

Table 7: Chi- square scores for all eye ECSI-categories. Degrees of freedom are displayed between brackets.

		1	2	3	4	5
NOS	Good	3.2 (5)	-	-	-	1.6 (1)
	Bad	1.2 (7)	6.4* (1)	-	-	6.4* (1)
Jeugd	Good	1.0 (4)	-	3.6 (1)	-	-
	Bad	2.0 (5)	-	6.4* (1)	6.2* (2)	-
Total		19.0* (9)	36.1** (1)	28.9* (1)	63.1** (2)	25.6** (1)

* p < .05 ** p < .01

From this table could be seen that these movements in total relate in a strong way. But if we split the analyses into kind of journal and kind of news these relations are less significant. Only in both bad news conditions (NOS and Jeugdjournaal) eye movements relate significant to the kind of news and journal. For the NOS condition these are looking down and a neutral face and in the Jeugdjournaal

condition these are shutting the eyes and winking with the eyes.

In table 8 the results for the mouth movements are displayed. Twist and small mouth were excluded in the analysis, due to lack of data.

Table 8: Chi-square scores for all mouth ECSI-categories. Degrees of freedom are displayed between brackets

		6	7	8	11	12
NOS	Good	0.0 (1)	6.2* (2)	3.6 (1)	-	6.4* (1)
	Bad	5.4 (1)	8.0* (2)	1.0 (1)	-	1.0 (1)
Jeugd	Good	1.00 (4)	.40 (1)	0.00 (1)	3.60 (3)	1.2 (1)
	Bad	-	3.8 (2)	6.4* (1)	-	0.2 (2)
Total		45.2** (4)	19.9** (2)	7.4** (1)	74.5** (3)	10.7* (3)

* p < .05 ** p < .01

From table 8 could be seen that the movements in total relate in a moderate strong way. But if we split the analyses into kind of journal and kind of news these relations are less significant. Most linked are smile and lips in the NOS bad news condition. In the youth journal condition only mouth corners back is related to that condition.

Online perception test & ECSI analyses combined

As final analysis the most consistent and inconsistent answered fragments from the online perception test were selected. Most fragments had a SD of 1 so the criterium for a more consistent answer was a SD under 1 which was further specified in more consistent (SD <0.75 and SD <0.50) and most consistent (SD <0.25).

Most film fragments that were answered consistent were fragments in the Jeugdjournaal good news condition (seven; in total eight fragments were answered consistent). When we look at average and chi-square eye and mouth movements this is a kind of surprising effect. In the ECSI data no significant movements were found in this condition. The most inconsistent answered fragments are the fragments in both bad news conditions (each kind of news four inconsistent answered fragments). However, the average ECSI scores show more movements and more links between kind of news and non-verbal movements.

Discussion

The aim of this study was to discover what the differences (if any) are between NOS journaal and Jeugdjournaal in auditory and visual cues with regard to transmitting good and bad news. The results show us that there indeed are several differences between the news broadcasting that targets adults and the journal that targets children.

First of all, the results show a significant difference in pitch between good and bad news. The pitch corresponds with the kind of news: a lower pitch for negative news and a higher pitch for positive news. However, the overall pitch

was higher when it comes to Jeugdjournaal. From this we may conclude that newsreaders use a higher voice when addressing children. There was no difference found between the two different kinds of news. From this result we can conclude that when newsreaders use a high pitch, they are telling a positive message, irrespective of the audience. Moreover, the reason for this can be that the pitch is hard to control and can therefore be a clear indicator of how positive or negative the news is. This shows that, besides gestures as was concluded in the research of Maynard (2010), also auditory cues can indicate whether a news message is positive or negative. In this research, we focused on pitch. However, there are also other auditory cues that might support a news message, e.g. tone, resonance and volume. Future research can provide more insight in the use of these cues with regards to transmitting positive and negative messages. Future research can also focus on the perception of news with a different pitch. As we can conclude from our research, news readers use an overall higher pitch when they are addressing children. It would be interesting to find out if news listeners also perceive the news messages differently when there is a higher pitch.

Secondly, we can conclude from the results that the visual cues that are used, both eye movements and mouth movements, are supporting the news message when this message is negative. This corresponds with the research of Westermann, Speis, Stahl and Hesse (1996), which states that people express negative nonverbal cues sooner than positive nonverbal cues. The reason for this might be that newsreaders want to come across as serious, which unconsciously motivates them to use more visual cues. Another reason could be lack of expertise in how to have a neutral look. Future research can focus on the reason for these visual cues to occur when transmitting negative messages.

To conclude with, future research can look at the effect of showing only the face of the presenter instead of the person and background. This way, it will become clear how much influence the background is in evaluating how positive news messages are.

Conclusion

This study examined whether there was a difference in auditory and visual cues in addressing news to children or adults and whether this differed for good or bad news. Results showed that visual cues were more clear when rating the news as good or bad for NOS journaal than for Jeugdjournaal. Auditory cues showed differences between good and bad news; good news had a higher pitch than bad news. Voice pitch was also higher at Jeugdjournaal than at NOS journaal. This shows that there is a difference between visual and auditory cues; visual cues show negativity of the message, while auditory cues show which audience is addressed. However, to be sure of these results, further research is necessary.

References

- Carroll, D. (2008). *Psychology of language*. England: Cengage Learning.
- Horton, W. S. & Gerrig, R. J. (2002). Speakers' experiences and audience design: knowing when and knowing how to adjust utterances to addressees. *Journal of Memory and Language*, 47, p. 589-606.
- Maynard, D.W. (2010). The news delivery sequence: bad news and good news in conversational interaction. *Research on Language and Social Interaction*, 30(2), 93-130.
- NPO (2011). Gedragscode goed bestuur en integriteit publieke omroep 2012. Retrieved from: http://www.integriteitomroep.nl/wordpress/wp-content/uploads/2012/02/Gedragscode_goed_bestuur_en_integriteit_Publieke_Omroep_2012.pdf
- Swerts, M. & Kraehmer, E. (2010). Visual prosody of newsreaders: Effects of information structure, emotional content and intended audience on facial expressions. *Journal of Phonetics*, 38, 197-206.
- Troisi, A. (1999). Ethological research in clinical psychiatry: the study of nonverbal behavior during interviews. *Neuroscience & biobehavioral reviews*, 7, 905-913
- Westermann, R., Speis, K., Stahl, G. & Hesse, F. W. (1996). Relative effectiveness and validity of mood induction procedures: a meta-analysis. *European journal of Social Psychology*, 26, 557-580.
- Zuckerman, M., Lipets, M. S., Koivumaki, J. H., & Rosenthal, R. (1975). Encoding and decoding nonverbal cues of emotion. *Journal of Personality and Social Psychology*, 32(6), 1068.

Appendix 1 Overview of the fragments in the different conditions with their subjects, a description of the subjects, the date of broadcast, gender of the news reader, name of the news reader and time of the fragment.

	Good/ bad	NOS/ Jeugd	Subject	Description of the subject	Data of fragment	Female/male presenter	Name presentator	Time of fragment
1	Good	NOS	Anouk songfestival	For the first time since 2004, the Netherlands has made it to the finals of the Eurovision Songfestival with the act of Anouk with the song Birds.	15-05-2013	Male	J. Overbeek	14 sec.
2	Good	NOS	Serious Request	The radio station 3FM has raised over € 12 million for charity with the serious request campaign. This is a higher amount than the year before.	24-12-2013	Female	S. Weimans	16 sec.
3	Good	NOS	New prince	A new prince is born in Britain. Kate gave birth to a baby boy. The whole country is celebrating.	23-07-2013	Male	R. van Westelaken	11 sec.
4	Good	NOS	Zonderland	Dutch Gymnast Epke Zonderland wins the 2013 World Championship on the higher bar.	6-10-2013	Female	A. Steenhuizen	13 sec.
5	Good	NOS	Sinterklaas	Sinterklaas has arrived in the Netherlands in Groningen with his Pieten.	16-12-2013	Male	R. van Westelaken	20 sec.
6	Good	NOS	FIFA World Cup	The Dutch football team is qualified to the World Cup tournament of 2014 in Brazil.	11-09-2013	Male	H. van der Zandt	12 sec.
7	Good	NOS	Rijksmuseum	After 10 years of renovation and restoration the Rijksmuseum in Amsterdam is reopened.	13-04-2013	Female	A. Kersseboom	16 sec.
8	Good	NOS	Wüst & Kramer	Dutch speed skaters Sven Kramer and Ireen Wüst win the world allround championship.	17-02-2013	Male	R. Trip	20 sec.
9	Good	NOS	Van Gogh painting	A newly discovered painting by the Dutch artist Van Gogh, Sunset at Montmajour, is publicly unveiled.	9-9-2013	Female	A. Steenhuizen	19 sec.
10	Good	NOS	Birthday Beatrix	Queen Beatrix of the Netherlands celebrates her 75 th birthday.	31-1-2013	Male	R. van Bakel	10 sec.
11	Bad	NOS	Bus crash	A bus crashed on the way back. 22 students died.	14-3-2012	Male	R. van Westelaken	25 sec.
12	Bad	NOS	Cell jail	The students of the exam robber need to go to jail.	29-01-2014	Female	A. Steenhuizen	11 sec.
13	Bad	NOS	Ghana	Countries like the Netherlands poisoned children in Ghana with electric equipment.	5-8-2008	Male	J. Overbeek	13 sec.
14	Bad	NOS	Nelson Mandela	The legend Nelson Mandela died.	6-12-2013	Male	J. Overbeek	11 sec.
15	Bad	NOS	Attempt queensday	Attempt on the queen.	30-4-2012	Female	S. de Boer	15 sec.
16	Bad	NOS	Pim Fortuijn	The politician Pim Fortuijn is killed on the streets.	6-5-2002	Female	G. Arninkhof	12 sec.
17	Bad	NOS	Floods	Many floods in the Netherlands.	Male	R. Trip	20 sec.
18	Bad	NOS	Prince Friso	The 44 year old Prince Friso died.	12-08-2013	Female	D. Stax	28 sec.
19	Bad	NOS	War Syria	The war in Syria is terrible. The war also begins in Lebanon.	2013	Male	R. Trip	12 sec.

20	Bad	NOS	Kadhaffi	Kadhaffi was not only a dictator, but he also raped children.	27-1-2014	Female	A. Steenhuizen	27 sec.
21	Good	Jeugd	Anouk songfestival	For the first time since 2004, the Netherlands has made it to the finals of the Eurovision Songfestival with the act of Anouk with the song Birds.	15-05-2013	Female	S. Raijoul	15 sec.
22	Good	Jeugd	Serious Request	The radio station 3FM has raised over € 12 million for charity with the serious request campaign. This is a higher amount than the year before.	24-12-2013	Male	J. Marseille	15 sec.
23	Good	Jeugd	New prince	A new prince is born in Britain. Kate gave birth to a baby boy. The whole country is celebrating.	23-07-2013	Female	R. Moggré	14 sec.
24	Good	Jeugd	Zonderland	Dutch Gymnast Epke Zonderland wins the 2013 World Championship on the higher bar.	6-10-2013	Female	M. Meulens	13 sec.
25	Good	Jeugd	Sinterklaas	Sinterklaas has arrived in the Netherlands in Groningen with his Pieten.	16-11-2013	Male	J. Marseille	13 sec.
26	Good	Jeugd	FIFA World Cup	The Dutch football team is qualified to the World Cup tournament of 2014 in Brazil.	11-09-2013	Female	M. Meulens	7 sec.
27	Good	Jeugd	Rijksmuseum	After 10 years of renovation and restoration the Rijksmuseum in Amsterdam is reopened.	13-04-2013	Female	M. Meulens	16 sec.
28	Good	Jeugd	Wüst & Kramer	Dutch speed skaters Sven Kramer and Ireen Wüst win the world allround championship.	17-02-2013	Female	S. Raijoul	14 sec.
29	Good	Jeugd	Van Gogh painting	A newly discovered painting by the Dutch artist Van Gogh, Sunset at Montmajour, is publicly unveiled.	9-9-2013	Male	N. Renooij	13 sec.
30	Good	Jeugd	Birthday Beatrix	Queen Beatrix of the Netherlands celebrates her 75 th birthday.	31-1-2013	Female	S. Raijoul	14 sec.
31	Bad	Jeugd	Attempt queensday	Attempt on the queen.	30-4-2012	Female	M. Meulens	15 sec.
32	Bad	Jeugd	Bus crash	A bus crashed on the way back. 12 students died.	14-3-2012	Female	M. Meulens	12 sec.
33	Bad	Jeugd	Cell jail	The students of the exam robber need to go to jail.	29-01-2014	Male	J. Marseille	12 sec.
34	Bad	Jeugd	Prince Friso	The 44 year old Prince Friso died.	12-08-2013	Female	R. Moggré	10 sec.
35	Bad	Jeugd	Ghana	Countries like the Netherlands poisoned children in Ghana with electric equipment.	5-8-2008	Female	S. Raijoul	20 sec.
36	Bad	Jeugd	Nelson Mandela died	The legend Nelson Mandela died.	6-12-2013	Male	N. Renooij	13 sec.
37	Bad	Jeugd	Heavy weather	There is heavy weather in Tenerife, which causes floods where people died.	2002	Female	B. van Hulten	17 sec.
38	Bad	Jeugd	Pim Fortuijn	The politician Pim Fortuijn is killed on the streets.	6-5-2002	Female	T. Seur	13 sec.

39	Bad	Jeugd	War Syria	How is it to live in a country like Syria, where is war. Dutch children ask those questions to children who lives in Syria.	2013	Female	S. Raijoul	12 sec.
40	Bad	Jeugd	Japan Tsunami	The heaviest earthquake in more than 100 years in Japan. After the earthquake there was a tsunami where many people died.	19-8-2011	Female	S. Raijoul	23 sec.

Appendix 2 News subject paper survey
Goed of slecht nieuws?

Hieronder vindt U een aantal items, die de afgelopen jaren in het nieuws waren. In hoeverre bestempelt U deze items als goed of slecht nieuws? Omcirkel in een schaal van 1 tot en met 7 wat van toepassing is.

1. Op Koninginnedag rijdt een auto bijna in op de bus van de Koninklijke familie, hierbij vielen doden in het publiek.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
2. Anouk is door naar de finale van Eurovisie songfestival.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
3. Tragisch busongeluk met dodelijke slachtoffers, onder wie 22 schoolkinderen.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
4. Sinterklaas is weer aangekomen in Nederland	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
5. Prins Friso overlijdt op 44-jarige leeftijd, na meer dan een jaar in coma te hebben gelegen.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
6. Landen als Nederland vergiftigen kinderen in Ghana met elektrische apparatuur.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
7. Noodweer leidt tot dodelijke slachtoffers in Tenerife.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
8. Radio station 3FM haalt een recordbedrag op met de Serious Request actie.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
9. In Groot-Brittannië is een nieuwe prins geboren.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
10. Politicus Pim Fortuyn wordt op straat doodgeschoten.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
11. Nederland heeft zich geplaatst voor het WK van 2014 in Brazilië.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
12. Slechte omstandigheden tijdens de oorlog in Syrië.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
13. Nederlandse turner Epke Zonderland wordt wereldkampioen.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
14. Hevige aardbeving in Japan, gevolgd door een tsunami, waarbij velen overlijden.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
15. Na 10 jaar renovatie is het rijksmuseum weer officieel geopend.	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws
16. Schaatsers Ireen Wüst en Sven	Heel erg slecht nieuws	1	2	3	4	5	6	7	Heel erg goed nieuws

Kramer winnen de wereldkampioenschappen allround.	
17. Nelson Mandela is overleden.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws
18. Scholieren betrokken bij examenroof van het centraal examen.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws
19. Een nieuw schilderij van van Gogh is ontdekt.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws
20. Koningin Beatrix is jarig en wordt 75 jaar.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws
21. Nederland wordt geteisterd door overstromingen.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws
22. Khadafi was niet alleen een dictator, maar hij verkrachtte ook kinderen.	Heel erg slecht nieuws 1 2 3 4 5 6 7 Heel erg goed nieuws

Appendix 3 Snapshots of four fragments in the different conditions



Jeugdjournaal Good news:
Serious request new record



NOS Good news:
Serious request new record



Jeugdjournaal Bad news:
Buscrash with Dutch and Belgian students



NOS Bad news:
Bus crash with Dutch and Belgian students