

# What drives selection of online children's news articles?

Journalism

1-16

© The Author(s) 2021



Article reuse guidelines:

[sagepub.com/journals-permissions](https://sagepub.com/journals-permissions)

DOI: 10.1177/14648849211010157

[journals.sagepub.com/home/jou](https://journals.sagepub.com/home/jou)

Jonathan van't Riet  and  
Mariska Kleemans

Radboud University, The Netherlands

## Abstract

Individual news consumers' decisions to select specific news articles online are an important part of the present journalistic landscape, spurring scholars' interest in 'selective exposure' and the factors that influence news selection. In the present study, we investigated predictors of young news consumers' self-selection of individual news articles. We used a dataset containing information on upwards of 18,000 news articles that were published in the smartphone and tablet application of the Dutch children's news television program. The dataset contained the headline of each published news article and the number of views that the article generated in the application. This made it possible to investigate which characteristics of the headlines were predictive of children's selection of the article, that is, number of views. In particular, we investigated the effects of emotion and exemplification on selection. The results showed that anxiety-related information and the use of exemplars significantly increased an article's likelihood of being selected by young news consumers. Information related to anger, sadness and positive affect did not significantly predict selection.

## Keywords

Emotion, exemplification, news, selective exposure, youth

---

### Corresponding author:

Jonathan van't Riet, Department of Communication Science, Radboud University, PO Box 9104, Nijmegen, 6500 HE, The Netherlands.

Email: [jonathan.vantriet@ru.nl](mailto:jonathan.vantriet@ru.nl)

Children's news can play a vital role in helping children to grow up into engaged citizens (Alon-Tirosh and Lemish, 2014; Van Deth et al., 2011). According to the theory of socio-political development (Watts et al., 2003), news media can facilitate reflection on civic issues and can thus foster civic engagement because children can become aware of societal problems and their potential solutions. Journalists, politicians and academics alike therefore argue that preadolescents' engagement with news is important (e.g. Carter, 2014; Kaziaj, 2016; Tuominen and Kotilainen 2012).

Engagement with news is not a one-way street, however, and the mere existence of children's news is not a guarantee that it will make its way into children's daily media consumption. In fact, there has been a dramatic increase in Internet access and (social) media use among children (Kaess, 2020) and as such children's news exists in a hyper-competitive media environment. The factors that drive selection of news stories among children have therefore become increasingly important. Understanding why children select news stories is an important part of understanding how children relate to news. It can inform our understanding of children's engagement with news generally, but it can also inform editorial decisions by children's news outlets, as well as decisions made in media literacy interventions (Cannon et al., 2020).

In the Netherlands – which was the setting of the current study – children's news has had to adapt to the aforementioned changes in children's media environment. The 'Jeugdjournaal', produced by the public service news organisation NPO, is the key provider of news for Dutch children. In the 1980s, it was aired as an evening television newscast five times a week. Currently, the Jeugdjournaal offers television news daily in an evening newscast, during weekdays also in the morning, and is highly active on the Internet and social media via their website, app, YouTube Channel and Instagram page. While the increasing availability of children's news in itself may be a good thing, the hyper-competitive media environment makes it imperative to investigate how children engage with the news.

The issue of news story selection is especially important. While there is empirical research on news selection in adults (Knobloch-Westerwick, 2015; Knobloch-Westerwick et al., 2005; Zillmann, 1988; Zillmann et al., 1996, 2004), we know of no published study that investigated the predictors of selection of news among children. Instead, previous work on children's news has analyzed the content of this kind of news (Walma van der Molen and De Vries, 2003; Walma van der Molen and Van der Voort, 2000), has investigated what children expect from news (Alon-Tirosh and Lemish, 2014), has investigated how children react to news (Kleemans et al., 2017a; Kleemans et al., 2017b; Walma van der Molen and Bushman, 2008; Walma van der Molen et al., 2002), or has discussed the importance of news for children in their development as citizens (Carter, 2017; Carter and Allan, 2005; Clark and Marchi, 2017). It therefore remains unclear how children select news stories.

In the present study, we investigated predictors of young news consumers' selection of individual news articles. We used a dataset containing information on upwards of 18,000 news articles that were published in the smartphone and tablet application of the Dutch children's news television program 'Jeugdjournaal'. Specifically, the dataset,

which was provided to us by the Dutch public broadcasting organisation (NPO) contained the headline of each published news article and the number of views that the article generated in the application. This made it possible to investigate which characteristics of the headlines were predictive of young news consumers' selection of the article, that is, number of views.

Methodologically, focusing on the effects of characteristics of headlines on article selection is an innovation, as previous research on news selection in adults has focused on leads, rather than headlines (e.g. Zillmann et al., 2004). While investigating the effects of leads is worthwhile, headlines are of pivotal importance in news selection (Bonyadi and Samuel, 2013; Lee, 2020). Moreover, many news websites nowadays use only the headline of news messages to attract attention, as do social media 'newsfeeds' and 'timelines'.

In fact, the importance of headlines (which by the way are mostly chosen by editors, not by the journalists who wrote the article) can hardly be overstated (Lee, 2020). Specifically, previous literature has identified two important functions of headlines. First, they summarize the content of a news story, thereby offering readers an immediate understanding of the issue. This function of headlines is sometimes called the 'semantic function' (Andrew, 2007; Dor, 2003; Van Dijk, 1998). Second, they help readers select stories of interest. From the perspective of the news outlet, however, this second function opens up the possibility to grab readers' attention by including especially noteworthy, or sometimes even sensationalistic content. This second function has sometimes been called the 'pragmatic function' (Bell, 1991; Bonyadi and Samuel, 2013; Dor, 2003; Iarovici and Amel, 1989). It is believed that the dominance of either the semantic or the pragmatic function is an indication of news outlets' journalistic quality (Lee, 2020): research shows that quality newspapers are more likely to employ the semantic function, whereas tabloid newspapers are more likely to employ the pragmatic function (Bell, 1991; Dor, 2003). Supposedly, tabloid newspapers are more likely to use sensationalist content to attract readers' attention. This leads to concerns that the quality of the news is downgraded and that a widespread practice of using sensationalist headlines leads to systematic misrepresentations of news stories (Andrew, 2007).

In the present study, we investigated the effects of headlines on selection of news stories. In particular, we investigated the effects of emotion and exemplification.

### *Emotion*

Emotion is increasingly recognized as an important part of the way news is produced and consumed (Beckett and Deuze, 2016). Although journalists have traditionally preferred objectivity to emotional engagement, and many are still deeply ambivalent with regard to the role of emotion in their work (Richards and Rees, 2011), adult news has unmistakably become more explicitly emotional (Peters, 2011). For consumers, the emotions elicited by news stories may help to navigate the extremely crowded information environment: it tells them what to pay attention to (Beckett and Deuze, 2016).

Research on the role of emotions in driving consumers' news selection decisions has focused predominantly on the role of fear/anxiety and positive affect. Stressing the evolutionary foundation of our reliance on news (Davis and McLeod, 2003, Shoemaker, 1996) it has been suggested that news fulfills a 'surveillance function' (Lasswell, 1960). As such, news consumers are highly likely to attend to news of frightening and potentially dangerous events (Grabe et al., 2001). In support of this reasoning, research has found that 'arousing' news stories, for instance stories about fires, accidents or crime, are successful in attracting news consumers' attention (Hendriks and Kleemans, 2018). With regard to joy/happiness, it has been proposed that media consumption serves a mood management function (Zillmann, 1988). As such, it can be expected that consumers will be likely to pay attention to messages that elicit positive affect, and indeed this has been found in previous studies (Chang, 2006, Keib et al., 2018). Emotions other than fear/anxiety and positive affect have received markedly less research attention as possible predictors of news selection, however. In the present study, we therefore included two other basic emotions that are likely to be associated with news selection: anger and sadness. All in all, we investigated the effects of language associated with anxiety, anger, sadness and positive affect, as used in the headline of the article, on young news consumers' decisions to select news articles.

*Anxiety.* As mentioned above, previous work on the function of news has stressed the evolutionary foundation of our reliance on news (Davis and McLeod, 2003, Shoemaker, 1996). According to this view, people have evolved to pay close attention to their environment, particularly to those aspects of the environment that are deviant or unusual, as those may be dangerous (Shoemaker, 1996). Much like a hunting party that is mindful of potential threats when crossing the pre-historic savannah, news consumers scan the news for anything unusual or threatening. As Shoemaker (1996: 32) puts it: 'Journalists fulfill people's innate desire to detect threats in the environment, stay informed about the world, and devise methods of dealing with these threats, whether real or potential'. Most likely, this 'surveillance function' (Lasswell, 1960) of the news is fortified by cultural processes. Most cultures socialize children to keep a close eye on the environment and be mindful of danger (Shoemaker, 1996).

If the news generally serves this function of surveillance, we could expect individual news articles that serve this function to attract more attention than news articles that do not. In the present study, we therefore hypothesized that news articles with headlines including information related to anxiety, i.e., information on (potentially) threatening events, will be more likely to be selected by young news consumers than news articles that do not provide such information (H1).

Another possibility, however, is that the effect of anxiety-related information might be different in children than in adults. Research has shown that a large number of children report fear responses after consuming children's news, especially violent television news (Walma van der Molen et al., 2002). There is also some evidence that children may sometimes avoid news when they think it contains negative and fear-inducing content (Alon-Tirosh and Lemish, 2014). Unfortunately, there is at present no research evidence to address this issue empirically. The present study aimed to fill this gap. Given the well-established finding that fear-related information attracts attention in adults, and

the reasoning that attention to dangerous aspects of our environment is evolutionary advantageous and therefore hard-wired into people's brains, we expected that the same will happen in children.

**Anger.** To a large extent, the reasoning on the effects of anxiety can be extended to anger. Anger and conflict pose potential threats and are thus important to notice quickly (Shasteen et al., 2014). On a fundamental level, research suggests that humans are inclined to quickly detect anger-related stimuli. The 'face in the crowd effect' refers to the finding that threatening expressions are more rapidly detected than other expressions (Hansen and Hansen, 1988). Although the exact mechanisms underlying the effect are still debated (e.g. Coelho et al., 2010), the phenomenon itself is well-established (Pinkham et al., 2010): angry faces are generally detected more quickly than neutral faces, an effect which has also been called an 'anger superiority effect' (Hansen and Hansen, 1988).

More pertinent to news is research that finds that 'conflict framed' news, i.e., news that emphasizes disagreement between individuals, institutions or countries (Bartholome et al., 2015, Cappella and Jamieson, 1997), results in greater reading times than news that is framed in a factual way (Zillmann et al., 2004). In the present study, we tested the expectation that children's news articles containing information on anger will be more likely to be selected than news articles not containing such information (H2). Research has shown that children do sometimes experience anger as a result of news exposure (Buijzen et al., 2007), but there is no empirical evidence on the effect of anger-inducing information on news selection. The present study therefore addresses this issue.

**Sadness.** Another thing that can trigger news consumers' attention is the extent to which the news emphasizes human misfortunes and human suffering. Accidents and disasters are covered extensively in the news and specific attention is often paid to the human suffering it causes, a practice which has been dubbed 'human-impact framing' (Neuman et al., 1992). Human impact frames have been found to be commonly employed in the news (Neuman et al., 1992), leading scholars to surmise that 'sob news' holds great appeal (Fallows, 1996). In line with this, one study found greater reading times for news stories whose leads contained descriptions of individuals' suffering than for news stories with more factual descriptions of the occurred events (Zillmann et al., 2004). As such, we could expect young news consumers to be more likely to select news articles with headlines containing sadness about human loss and suffering than news articles that do not contain sadness (H3). Again, research shows that children do sometimes experience sadness as a result of news exposure (Buijzen et al., 2007), but this study is the first to investigate the effect of sadness on children's news selection choices.

**Positive affect.** Could there also be other processes at work, processes that may lead to a choice of more positive news? Studies have found that people use mass media to repair bad moods and prolong good moods (Knobloch, 2003; Knobloch-Westerwick, 2015; Zillmann, 1988). While previous studies on mood management have mainly focused on music and other forms of entertainment media, it is likely that a similar process may

operate in news. One study found that news consumers tend to select upbeat advertising content to counter negative affect resulting from news stories (Chang, 2006). Another study found that news stories accompanied by a positive picture received more attention than news stories accompanied by a neutral or negative picture (Keib et al., 2018). It seems that, in addition to looking out for threatening events and human misfortune, news consumers sometimes also just want to feel good. This may be especially true for children. In one study, substantial numbers of children indicated a specific desire for entertaining, positive, humorous or otherwise ‘happy’ news (Alon-Tirosh and Lemish, 2014). Therefore, we investigated the expectation that news articles containing information related to positive affect will result in greater chances of selection than news without information related to positive affect (H4).

### *Exemplification*

News consumers may also like to select news that explicitly mentions people just like themselves. Research has shown that journalists make frequent use of ‘popular exemplars’, regular citizens without any specific representative function or expertise who are quoted in news stories (Lefevere et al., 2012). The use of popular exemplars makes sense: they can be seen as individual cases that are used to illustrate the broader phenomena that are detailed in the news story (Zillmann and Brosius, 2000, Zillmann et al., 1996). They also have the specific function of making the story more vivid and attractive to readers (Zillmann et al., 1996).

There is reason to think that the perception of being represented is especially important for children. One study has found that children do not see themselves as being represented in adult news (Kazaj and Van Bauwel, 2017). The results of other studies suggest that adult news coverage portrays children in highly specific circumstances, and does not take their perspectives into consideration (Carter, 2014; Ponte and Aroldi, 2013). In interviews with young news consumers, Alon-Tirosh and Lemish (2014) reported that children want and expect news stories to be about other children or contain children as sources. Therefore, it was expected that the use of exemplars will result in greater selection of an individual news article (H5).

### *The present study’s contribution*

In sum, we expected news articles with headlines containing information related to anxiety, anger, sadness, positive affect and exemplification to be more likely to be selected than news articles without such information in their headlines. The present study is the first to focus on children’s decisions to select news. The data were obtained from the leading source for children’s news in the Netherlands, ensuring ecological validity.

## **Method**

### *Data*

As mentioned, we used a dataset that was provided by the producers of the Dutch children’s news television program ‘Jeugdjournaal’. The program in question is the leading

Dutch source for children's news, targeting an audience between approximately 9 and 13 years old. Newscasts that are specifically targeted at children are an important source of news for children in this age range in several Western countries (see Alon-Tirosh, 2017; Author, YYYYa; Walma Van der Molen et al., 2002). It is generally proposed that encouraging news use among preadolescents can promote civic and political engagement (Carter, 2017; Van Deth et al., 2011) as well as prosocial behaviour (De Leeuw et al., 2015), and that it is thus important to provide children with age-appropriate news.

We used a dataset containing information on 18,786 news articles that were published in the smartphone and tablet application of a Dutch children's news television program in the period of September 2014 to June 2018. Specifically, the dataset contained the headline of each news article that was published in the application and the number of views that the article generated. The dataset also included the date and time of publication for each article. As the number of users of the application grew considerably in the 2014–2018 period, it was necessary to control for the time of publication in our data analyses (see below).

### *Automated content analysis*

The Linguistic Inquiry and Word Count (LIWC) software (Pennebaker et al., 2001) was used to code the headlines for the frequency of words related to anxiety, anger, sadness and positive affect. More specifically, we used the Dutch translation (Boot et al., 2017) of the 2007 LIWC dictionary. LIWC is a software program that was developed to analyze text as a means to understand the thoughts, feelings, personality and motivations of those producing the text. To this end, LIWC counts the occurrence of words that are deemed indicative of psychologically meaningful events. The initial purpose of the software was to analyze narratives written by traumatized patients (Pennebaker and Graybeal, 2001), but it has since been used to analyze language in many domains, among which are addiction, bereavement, deception and online behaviour (for a review see Tausczik and Pennebaker, 2010). Pertinent to the present study is the fact that LIWC includes categories of words that are deemed indicative of anxiety, anger, sadness and positive affect. We used this feature of LIWC to automatically code each headline for the occurrence of words related to these categories. This makes it possible to test H1–H4 respectively.

To code references to exemplars in the headlines, we made use of the fact that the headlines in the dataset often refer to exemplars by mentioning their name followed by their age in parentheses. An example of this would be 'A dream come true for Anna (13)'. Headlines were coded for the occurrence of a number in parentheses between 0 and 18 as an indication of the use of exemplars. As can be seen in Table 1, words related to anxiety, anger, sadness, positive affect and exemplars were present in only small subsets of the entire dataset of headlines, with percentages ranging from 1.6% for anxiety to 14.6% for positive affect.

When interpreting the results, it should be borne in mind that automated content analysis may be fast and efficient, it is also notably less reliable than human coding. The dictionary-based approach is rather crude, as words are counted regardless of context. For instance, LIWC includes the word 'attack' in its 'anger category', and therefore the headlines 'Prime minister is attacked from all sides', 'Girl attacked by shark' and 'The

**Table 1.** Descriptive statistics for the dataset of headlines: mean number and standard deviation for words per headline and number and percentage of headlines containing words from the coded category.

	N	%
Nr of words	(M=5.76)	(SD= 1.59)
Question	941	5.0
Quote	1085	5.8
Anxiety	307	1.6
Anger	923	4.9
Sadness	456	2.4
Positive affect	2747	14.6
Exemplification	751	4.0

Dutch national football team has an attacking problem' will all be coded as including an anger-related word. In effect, of course, the contexts and meanings of the headlines are vastly different, and the importance of the actual emotion of anger is most notable in the first headline, debatable in the second headline and wholly absent in the third headline. As such, we expected substantial measurement error, likely hampering our ability to reject false null hypotheses. To the extent that this measurement error constitutes non-systematic error, however, this problem is attenuated by the large dataset of more than 18,000 news articles. With a dataset this size, we were confident that, if our hypothesized predictors would have substantial effects on selection, these effects would be statistically significant in our data, in spite of measurement error.

### Data analyses

To assess the effects of anxiety, anger, sadness, positive affect and exemplars on young news consumers' selection of news articles, the articles' number of views were regressed on the occurrence of words related to these variables (0=no words present; 1=one or more words present). Because of the application's growing number of users over time, we expected a correlation between the number of views and time. In a first analysis, we therefore used time as a covariate in the analyses. The Unix Time Stamp was to measure time, essentially indicating the number of milliseconds that have passed between 00:00:00 GMT on January 1 1970 and the publication of the news article.

Inspection of the data revealed that the number of views was far from normally distributed, with a relatively large number of headlines being viewed less than 100 times, a median of 2455 and a fairly large number of outliers, the most extreme of these reaching a value of 649,230. For this reason, we decided to trim the data, excluding headlines with less than 100 views and more than 10,000 views. This decision was made for statistical reasons – to eliminate cases with a large influence on the estimated regression line – but also because it was feared that articles with very low and very high number of views would not be representative of the set of articles as a whole. For instance, one reason why articles may reach only a small number of views would be if the article in question was



published for only a short time. This could be the case for news stories that are quickly rendered obsolete because of new developments. Alternatively, articles reaching a large number of views may have been articles that for some reason were active for a long time, for instance because a certain news story would remain relevant for longer than usual. Unfortunately, we did not have data on the time period that articles were available in the application. To make sure that these extreme cases would not unduly influence our results, we omitted them from the data for the linear regression. This resulted in the removal of 3,663 articles with less than 100 views and 59 articles with more than 10,000 views. The remaining variables ( $n = 15,064$ ) still deviated significantly from normality, as indicated by a significant Kolmogorov-Smirnov test of 0.082,  $p < 0.001$ , but was deemed more adequate for a linear regression analysis.<sup>1</sup> Three additional variables were included in the analysis as covariates: the number of words in the title, the use of quotes (coded as the occurrence of a string of text in between quotation marks), and the use of questions (coded as the occurrence of question mark).

To make sure that our results were robust across analytic strategies, we also performed a second analysis, where we calculated the median number of article views for each month and then used this variable to calculate each article's proportion of views relative to the median number of views in the month that the article was published. This variable was then dichotomized using a median split. In effect, we thus created a variable that indicated whether an article reached more or less views than the median for the month in which the article was published. We then used this variable as a dependent variable in a logistic binary regression. By taking into account the median number of views for the month in which the article was published, we did not need to control for time in this analysis, but we did control for the number of words in the title, the use of quotes and the use of questions.

## Results

Table 2 shows the results of two regression analyses: the linear regression analysis performed on the trimmed data and the binary logistic regression performed on the dichotomized variable indicating whether the article reached more or less views than the median number for the month in which the article was published. As can be seen, time significantly predicted the number of views in the first analysis, as expected. In addition, the number of views was significantly predicted by the number of words in the headline, and the occurrence of questions and quotes in the headline.

Turning to our hypotheses, we expected that words related to anxiety (H1), anger (H2), sadness (H3), positive affect (H4), and exemplars (H5) would be predictive of the number of views. As can be seen in Table 2, words related to anxiety and exemplars did predict the number of views, offering support for Hypothesis 1 and Hypothesis 5, but words related to anger, sadness and positive affect did not predict the number of views, suggesting that Hypothesis 2, 3 and 4 should be rejected. In the second analysis, similar effects were found, with significant effects for the number of words in the headline, the occurrence of quotes in the headline, words related to anxiety and the use of exemplars.

**Table 2.** Results of two regression analyses with number of views (Analysis 1) and a dichotomized measure for the proportion of views per month (Analysis 2) as the respective dependent variables.

	Analysis 1			Analysis 2		
	B	p Value	r <sub>semi-partial</sub>	B	p Value	OR
Time	1.887E <sup>-8</sup>	<0.001	0.410			
Nr of words	29.333	<0.001	0.028	0.155	<0.001	1.168
Question	135.114	0.006	0.020	0.035	0.612	1.035
Quote	147.386	0.001	0.023	0.167	0.009	1.182
Anxiety	213.280	0.011	0.018	0.270	0.021	1.309
Anger	5.082	0.919	0.001	0.052	0.445	1.054
Sadness	-105.422	0.129	-0.011	-0.152	0.115	0.859
Positive affect	-47.323	0.120	-0.011	-0.041	0.330	0.960
Exemplification	602.543	<0.001	0.080	0.383	<0.001	1.466
R <sup>2</sup>	0.213			0.025		

## Discussion

Hypothesis 1 predicted that children's news articles with headlines including information related to anxiety, that is, information on (potentially) threatening events, would be more likely to be selected by young news consumers than news articles that do not provide such information. Considering the evolutionary foundation of our reliance on news (Davis and McLeod, 2003, Shoemaker, 1996), it was expected that one of the main functions of news is 'surveillance' of the environment for possible threats (Lasswell, 1960, Shoemaker, 1996). In line with this thinking, the results showed a significant positive effect of anxiety on news selection.

The results also confirmed our hypothesis that exemplification would be a successful strategy in capturing news consumers' attention (H5). Young consumers of Dutch children's news were more likely to select a news article when it mentioned someone just like them, that is, a child. Research among adults has already shown that popular exemplars can make a news story more vivid and attractive to consumers (Zillmann et al., 1996); the results of the present study suggest that this is the case for children as well. As can be seen in Table 2, the effect of exemplification was in fact the strongest effect found in our data: using an exemplar in the title resulted in 602.54 more views on average.

The results did not confirm our hypotheses on anger (H2), sadness (H3) and positive affect (H4). This may reflect the fact that they are simply less relevant than anxiety and exemplification. On the other hand, the literature offers compelling evidence that they are relevant in the context of adult news. With regard to positive affect, previous work has found that mood management is an important driver of news selection (Keib et al., 2018; Knobloch, 2003; Knobloch-Westerwick, 2015; Zillmann, 1988). With regard to anger and sadness, previous work manipulated news articles' leads to be framed in terms of 'conflict' or 'agony' and found that both conflict-framed and agony-framed leads resulted in longer reading times than factual leads without mention of conflict and agony (Zillmann et al., 2004).

The differences between the present study and previous work are myriad, however, the most notable being that the present results were obtained in the context of children's news. In interviews conducted with children about news consumption (Alon-Tirosh and Lemish, 2014), children have sometimes expressed contradictory wishes with regard to children's news. On the one hand, children want to be taken seriously and want to be properly informed, on the other hand they indicate a desire for positive news and funny stories. Perhaps children's motives for engaging with news are less well understood than those of adults. Future research should further investigate the processes involved in selection of children's news.

### *Implications*

The present results can inform children's news outlets when selecting headlines for news stories. When the ultimate goal is to increase children's news consumption, anxiety-related information and exemplars may be helpful in attracting children's attention. However, it is worth noting that this would essentially come down to an increased emphasis on the 'pragmatic function' of headlines. As discussed in the Introduction, in the context of adult news pragmatic headlines are sometimes seen as an indication of poor journalistic quality (Bell, 1991; Dor, 2003). Scholars worry that, in an increasingly competitive news market, producers of adult news rely increasingly on arousing characteristics to attract attention (Hendriks Vettehen et al., 2011), leading to systematic misrepresentations of news stories (Andrew, 2007). In the children's news literature, this debate is echoed by concerns that negative news stories can frighten children, leading to negative emotional and behavioural effects, for instance suffering from nightmares (Buijzen et al., 2007; Riddle et al., 2012; Walma van der Molen et al., 2002). Careful consideration in selecting headlines is therefore necessary.

So is there reason to think that children's news journalistic quality is threatened by the same market forces that threaten journalistic quality in adult news? In the present study, only a very small share of headlines included anxiety-, anger- or sadness-related words. As such, there is not much indication that headlines serving the pragmatic function were dominant in our sample. It should be noted that 'sensationalism' as such was not coded in the present study, so one should be careful drawing conclusions from the present data. Still, the fact that a larger percentage of headlines included words related to positive affect (14.6%) than words related to all negative emotions combined (8.9%) does not suggest a particularly sensationalistic set of headlines.

However, a significant effect of anxiety-related information on selection was found. This means that there is an incentive for children's news outlets to include stories that arouse anxiety, and frame the headlines in an anxiety-arousing ways. The fact that this incentive exists warrants careful attention and consideration from scholars and journalists. The same is true for another effect found in the present study, the effect of exemplification. If exemplification drives selection, then news outlets have an incentive to include exemplars in their stories. In our sample, exemplification was found in only 4% of headlines. But a previous study found that over 50.3% of stories in an Australian children's newspaper were about children or included children as sources (English et al., 2019). While exemplification can be perfectly worthwhile, to the extent that individual

cases act as illustrations of broader phenomena (Zillmann and Brosius, 2000, Zillmann et al., 1996), it has also been noted that individual illustrative stories are often not particularly valid and representative of true events (Daschmann, 2000; Daschmann & Brosius, 1999). As such, an incentive to include exemplars in children's news can have problematic consequences. Future research should further investigate the existence and implications of these, and other, incentives for journalists and editors.

### *Strengths and limitations*

Rather than relying on an experimental setting, or using a mock children's news application or website, the present study was able to make use of a unique database, including over 18,000 headlines of news stories and the number of views each story generated. The data were obtained from the leading source for children's news in the Netherlands, and as such ecological validity was ensured. As in most cases where 'big data' is mined for scientific purposes, however, problems of interpretation arise.

One important limitation of the present study that should be borne in mind was that the number of views most likely did not fully depend on the attractiveness of the headline. Instead, the position of a news story on the list of stories may have affected selection. Or children may have been aware of some news events through other sources, and may have been more (or less) likely to select stories about these events. If such factors also influence the wording of the headline, they may act as confounds. For instance, if editors tend to place anxiety-arousing stories closer to the top of the list, or children are more likely to hear about such stories from other sources, then they are more likely to be selected for that reason. In such a case, our analyses would have overestimated the effect of anxiety-related information in the headline on news selection.

A second limitation is the fact that we have no data on the children that selected and consumed the news stories. As such, we could not include individual characteristics as predictors of news selection, nor could we investigate whether the drivers of news selection differed for different subgroups. More importantly, we could not gauge to what extent the children who were responsible for the article views were representative of children's news consumers more generally. Perhaps the users of the smartphone and tablet application represented a specific group, with specific informational needs and preferences.

A third limitation concerns the use of automated content analysis. As mentioned in the Method section, automated content analysis is fast and efficient, but it is also less reliable than human coding. The dictionary-based approach is rather crude, as words are counted regardless of context. As in most cases of automated content analysis, therefore, substantial measurement error can be expected. Future research on children's news should investigate whether the present results can be replicated with different methods, and whether individual characteristics of children can be used to improve prediction of news selection.

### **Conclusion**

In sum, we investigated predictors of young news consumers' self-selection of individual news articles. We used a dataset containing information on upwards of 18,000 news

articles that were published in the smartphone and tablet application of the Dutch Children's News, which is a well-known television program and the main source of news for children aged 9 to 13 in the Netherlands. The results showed that anxiety-related information and the use of exemplars significantly increased an article's likelihood of being selected by young news consumers. Information related to anger, sadness and positive affect did not significantly predict selection.

As children's news plays a vital role in children's socialisation into engaged citizens (Alon-Tirosh and Lemish, 2014; Carter, 2017; Clark and Marchi, 2017), their actual engagement with news warrants ongoing scholarly attention. By investigating the predictors of selection of children's news articles, the present study aimed to contribute to our understanding of children's engagement with news.

### Declaration of conflicting interest

The authors declare that they have no conflict of interest.

### Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

### ORCID iD

Jonathan van 't Riet  <https://orcid.org/0000-0003-2656-9193>

### Note

1. Employing a loglinear transformation did result in a distribution approaching a normal distribution, but did not change the significance, nor the interpretation of the results, so this analysis is not reported here.

### References

- Alon-Tirosh M (2017) Children and news: Opinions of children's news program creators in Israel. *Journal of Children and Media* 11(2): 132–146.
- Alon-Tirosh M and Lemish D (2014) "If I was making the news": What do children want from news. *Participations: Journal of Audience & Reception Studies* 11(1): 108–129.
- Andrew BC (2007) Media-generated shortcuts: Do newspaper headlines present another roadblock for low information rationality? *International Journal of Press/Politics* 12(2): 24–43.
- Bartholome G, Lecheler S and De Vreese C (2015) Manufacturing conflict? How journalists intervene in the conflict frame building process. *International Journal of Press-Politics* 20(4): 438–457.
- Beckett C and Deuze M (2016) On the role of emotion in the future of journalism. *Social Media + Society* 2(3): 6.
- Bell A (1991) *The Language of News Media*. Oxford: Blackwell.
- Bonyadi A and Samuel M (2013) Headlines in newspaper editorials: A contrastive study. *SAGE Open* 3(2): 1–10.
- Boot P, Zijlstra H and Geenen R (2017) The Dutch translation of the linguistic inquiry and word count (liwc) 2007 dictionary. *Dutch Journal of Applied Linguistics* 6(1): 65–76.
- Buijzen M, Walma van der Molen JH and Sondij P (2007) Parental mediation of children's emotional responses to a violent news event. *Communication Research* 34(2): 212–230.

- Cannon M, Connolly S and Parry R (2020) Media literacy, curriculum and the rights of the child. *Discourse-Studies In The Cultural Politics Of Education*. Epub ahead of print 9 October 2020. DOI: 10.1080/01596306.2020.1829551.
- Cappella JN and Jamieson KH (1997) *Spiral of Cynicism: The Press and the Public Good*. New York, NY: Oxford University Press.
- Carter C (2014) News media and child well-being. In: Ben-Arieh A, Casas F, Frönes I, et al. (eds) *Handbook of Child Well-Being*. New York, NY: Springer.
- Carter C and Allan S (2005) Hearing their voices: Young people, citizenship and online news. In: Williams A and Thurlow C (eds) *Talking Adolescence: Perspectives on Communication in the Teenage Years*. New York, NY: Peter Lang, pp.73–90.
- Chang C (2006) Beating the news blues: Mood repair through exposure to advertising. *Journal of Communication* 56(1): 198–217.
- Clark LS and Marchi R (2017) *Young People and the Future Of news: Social Media and the Rise of Connective Journalism*. Cambridge: Cambridge University Press.
- Coelho CM, Cloete S and Wallis G (2010) The face-in-the-crowd effect: When angry faces are just cross(es). *Journal of Vision* 10(1):14.
- Daschmann G (2000) Vox Pop & polls: The impact of poll results and voter statements in the media on the perception of a climate of opinion. *International Journal of Public Opinion Research* 12: 160–181.
- Daschmann G and Brosius H (1999) Can a single incident create an issue? Exemplars in German television magazine shows. *Journalism and Mass Communication Quarterly* 76(1): 35–51.
- Davis H and McLeod SL (2003) Why humans value sensational news-an evolutionary perspective. *Evolution and Human Behavior* 24(3): 208–216.
- De Leeuw RNH, Kleemans M, Rozendaal E, et al. (2015) The impact of prosocial television news on children’s prosocial behavior: An experimental study in the Netherlands. *Journal of Children and Media* 9(4): 419–434.
- Dor D (2003) On newspaper headlines as relevance optimizers. *Journal of Pragmatics* 35(5): 695–721.
- English P, Barnes R, Fynes-Clinton J, et al. (2019) Children’s news in Australia: Content for young readers in Crinkling News. *Journal of Children and Media* 13(1): 73–88.
- Fallows J (1996) *Breaking the News: How the Media Undermine American Democracy*. New York, NY: Pantheon.
- Grabe ME, Zhou S and Barnett B (2001) Explicating sensationalism in television news: Content and the bells and whistles of form. *Journal of Broadcasting and Electronic Media* 45: 635–655.
- Hansen CH and Hansen RD (1988) Finding the face in the crowd: An anger superiority effect. *Journal of Personality and Social Psychology* 54(6): 917–924.
- Hendriks Vettehen P, Beentjes J, Nuijten K, et al. (2011) Arousing news characteristics in Dutch television news 1990-2004: An exploration of competitive strategies. *Mass Communication and Society* 14(1): 93–112.
- Hendriks Vettehen P and Kleemans M (2018) Proving the obvious? What sensationalism contributes to the time spent on news video. *Electronic News* 12(2): 113–127.
- Iarovici E and Amel R (1989) The strategy of the headline. *Semiotica* 77(4): 441–459.
- Kaess M (2020) Editorial: Social media use in children and adolescents: On the good or the bad side of the force? *Child and Adolescent Mental Health* 25(4): 199–200.
- Kaziaj E (2016) The adult gaze: Exploring the representation of children in television news in Albania. *Journal of Children and Media* 10(4): 426–442.
- Kaziaj E and Van Bauwel S (2017) The ignored audience: A multi-method reception study on children and television news in Albania. *Childhood* 24(2): 230–244.

- Keib K, Espina C, Lee Y-I, et al. (2018) Picture this: The influence of emotionally valenced images, on attention, selection, and sharing of social media news. *Media Psychology* 21(2): 202–221.
- Kleemans M, de Leeuw RNH, Gerritsen J, et al. (2017a) Children's responses to negative news: The effects of constructive reporting in newspaper stories for children. *Journal of Communication* 67(5): 781–802.
- Kleemans M, Schlindwein LF and Dohmen R (2017b) Preadolescents' emotional and prosocial responses to negative TV news: Investigating the beneficial effects of constructive reporting and peer discussion. *Journal of Youth and Adolescence* 46(9): 2060–2072.
- Knobloch S (2003) Mood adjustment via mass communication. *Journal of Communication* 53(2): 233–250.
- Knobloch-Westerwick S (2015) The selective exposure self and affect-management (SESAM) model: Applications in the realms of race, politics, and health. *Communication Research* 42(7): 959–985.
- Knobloch-Westerwick S, Carpentier FD, Blumhoff A, et al. (2005) Selective exposure effects for positive and negative news: Testing the robustness of the informational utility model. *Journalism & Mass Communication Quarterly* 82(1): 181–195.
- Lasswell HD (1960) The structure and function of communication in society. In: Schramm W (ed.) *Mass Communications*. Urbana, IL: University of Illinois Press, pp.117–130.
- Lee NY (2020) Headlines for summarizing news or attracting readers' attention? Comparing news headlines in South Korean newspapers with the New York Times. *Journalism*. Epub ahead of print 22 June 2020. DOI: 10.1177/1464884920929202.
- Lefevre J, De Swert K and Walgrave S (2012) Effects of popular exemplars in television news. *Communication Research* 39(1): 103–119.
- Neuman WR, Just MR and Crigler AN (1992) *Common Knowledge: News and the Construction of Political Meaning*. Chicago, IL: University of Chicago Press.
- Pennebaker JW, Francis ME and Booth RJ (2001) *Linguistic Inquiry and Word Count (liwc): Liwc2001*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Pennebaker JW and Graybeal A (2001) Patterns of natural language use: Disclosure, personality, and social integration. *Current Directions in Psychological Science* 10(3): 90–93.
- Peters C (2011) Emotion aside or emotional side? Crafting an 'experience of involvement' in the news. *Journalism* 12(3): 297–316.
- Pinkham AE, Griffin M, Baron R, et al. (2010). The face in the crowd effect: Anger superiority when using real faces and multiple identities. *Emotion* 10(1): 141–146.
- Ponte C and Aroldi P (2013) Children's cultures and Media cultures. *Communication Management Quarterly* 29: 7–16.
- Richards B and Rees G (2011) The management of emotion in British journalism. *Media Culture & Society* 33(6): 851–867.
- Riddle K, Cantor J, Byrne S, et al. (2012) "People killing people on the news": Young children's descriptions of frightening television news content. *Communication Quarterly* 60(2): 278–294.
- Shasteen JR, Sasson NJ and Pinkham AE (2014) Eye tracking the face in the crowd task: Why are angry faces found more quickly? *PLoS One* 9(4): 8.
- Shoemaker PJ (1996) Hardwired for news: Using biological and cultural evolution to explain the surveillance function. *Journal of Communication* 46(3): 32–47.
- Tausczik YR and Pennebaker JW (2010) The psychological meaning of words: Liwc and computerized text analysis methods. *Journal of Language and Social Psychology* 29(1): 24–54.
- Tuominen S and Kotilainen S (2012) Pedagogies of media and information literacies. <https://iite.unesco.org/publications/3214705/> (Accessed 8 April 2021).

- Van Deth JW, Abendschon S and Vollmar M (2011) Children and politics: An empirical reassessment of early political socialization. *Political Psychology* 32(1): 147–173.
- Van Dijk TA (1988) *News as Discourse*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Walma van der Molen JH and Bushman BJ (2008) Children's direct fright and worry reactions to violence in fiction and news television programs. *Journal of Pediatrics* 153(3): 420–424.
- Walma van Der Molen JH and De Vries M (2003) Violence and consolation: September 11th 2001 covered by the Dutch children's news. *Journal of Educational Media* 28(1): 5–19.
- Walma van Der Molen JH and Van Der Voort TH (2000) Children's and adults' recall of television and print news in children's and adult news formats. *Communication Research* 27(2): 132–160.
- Walma van der Molen JH, Valkenburg PM and Peeters AL (2002) Television news and fear: A child survey. *Communications* 27(3): 303–317.
- Watts RJ, Williams NC and Jagers RJ (2003) Sociopolitical development. *American Journal of Community Psychology* 31(1–2): 185–194.
- Zillmann D (1988) Mood management through communication choices. *American Behavioral Scientist* 31(3): 327–340.
- Zillmann D and Brosius H (2000) *Exemplification in Communication: The Influence of Case Reports on the Perception of Issues*. Mahwah, NJ: Erlbaum.
- Zillmann D, Chen L, Knobloch S, et al. (2004) Effects of lead framing on selective exposure to internet news reports. *Communication Research* 31(1): 58–81.
- Zillmann D, Gibson R, Sundar SS, et al. (1996) Effects of exemplification in news reports on the perception of social issues. *Journalism & Mass Communication Quarterly* 73(2): 427–444.

### Author biographies

Jonathan van't Riet is an Assistant Professor at the Behavioural Science Institute of Radboud University. His work focuses on political psychology and journalism.

Mariska Kleemans is an Assistant Professor at the Behavioural Science Institute of Radboud University. Her work focuses on young consumers and news.