

Blinded by Emotions: The Association between Emotional Reactivity and Trust in Fictitious News Stories on Crime



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We investigated the relation between emotional reactivity measured by Perth Emotional Reactivity Scale – Short Form (PERS-S) and trust in fictitious news stories on crime. In Study 1 we found on a sample of 508 older adults ($M = 70.6$ years) that their general positive and negative emotional reactivity was associated with trust in the presented misinformation, experienced negative emotions elicited by the news stories and willingness to share the news. For young adults in Study 2 ($N = 186$; $M = 21.7$) there was a weaker association between emotional reactivity and trust in misinformation, which involved only negative emotional reactivity. For both samples, trust in fictitious news stories was associated with trust in traditional and new media. There was no association between trust in fictitious news stories and the amount of news consumption and Internet use. Based on our findings, the focus on emotion control and critical reading seems to be important in the fight against misinformation.

Key words: emotional reactivity, trust in misinformation, media literacy, older adults, young adults, Perth Emotional Reactivity Scale – Short Form (PERS-S)

Introduction

The topic of how people evaluate misinformation in the news context has been investigated widely, particularly after the 2016 US presidential election (Nutil, 2018). The stud-

ies have typically focused on conspiracy theories and past news misinformation and thus studied the topic in the context when participants could have known that the information is false based on knowledge from official media and other sources. Factors associated with better media truth discernment were

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All data is available upon request. Supplementary material is available at <https://journals.savba.sk/index.php/studiapsychologica/article/view/214/version/173>

Received August 30, 2020



low scores in the overclaiming technique and in pseudo-profound bullshit receptivity (Pennycook & Rand, 2019b). The credibility of fake news items was increased by repeated exposure, even in cases when participants were unaware of previously seeing the news (Pennycook, Cannon, & Rand, 2018). Ideologically aligned news were trusted more than news opposing one's preexisting attitudes (Allcott & Gentzkow, 2017; Pennycook & Rand, 2019b). Susceptibility to epistemically suspect beliefs was found to be negatively associated with scientific reasoning, over and above thinking dispositions and cognitive ability (Čavojová, Šrol, & Jurkovič, 2020), and positively associated with bullshit receptivity (Čavojová, Secarā, Jurkovič, & Šrol, 2019). Using textual analysis, Bakir and McStay (2017) found that emotions have a central role in the content of fake news, but so far the topic of emotionality of readers has received little research attention.

Not every time one encounters misinformation does one have additional information or knowledge which would contradict it. For instance, during the first exposure to news stories shared on social media one only has the possibility to judge the credibility of the source, without knowing whether the described event happened or not. An example of such news items are news on migrants' crimes, which is a type of news frequently debunked by fact-checkers (ANSA, 2018; France 24, 2018). This type of news cannot be dismissed as fake based on any prior knowledge and cannot be judged as highly unlikely, as real news on migrants' crimes are also frequent. In the current study, we focus on this realistic (yet common) type of misinformation items. As misinformation stories often target emotions, we focus on how participants' emotional reactivity affects perception and evaluation of such news stories. Additionally, we explore whether a misinformation item

describing a crime committed by an immigrant (out-group member) is more credible than when the same crime is described as having a local perpetrator (native Scandinavian = in-group member). Immigrants' crimes are less common than crimes by natives due to immigrants' low prevalence in the population, yet at the same time immigrants' crimes are more newsworthy.

The vast majority of the studies on misinformation recruited participants at universities or used platforms such as Amazon Mechanical Turk, where older adults are virtually nonexistent (Difallah, Filatova, & Ipeirotis, 2018). A study based on such a sample indicated that media truth discernment increases with age (Pennycook & Rand, 2019a). However, a study analyzing actual behavior on Facebook found that older adults (above the age of sixty-five) shared misinformation more frequently than any other age category (Guess, Nagler, & Tucker, 2019). Older adults are generally more trusting of others than younger cohorts and are frequent victims of fraud, including Internet scams (Li & Fung, 2012; Coughlan, 2018). In our study, we investigate this overlooked segment of participants as well. An experiment comparing performance of young and older adults found that older adults experienced latencies in performance in the emotional Stroop task when exposed to words high on arousal, which suggests that older adults' controlled processes can be more easily impacted by emotions (Wurm, Labouvie-Vief, Aycocock, Rebutal, & Koch, 2004).

Another topic we examine is the relation between Internet and news consumption and trust in misinformation items from the Internet. Participants who spend extensive amounts of time on the Internet may exhibit high trust in Internet sources, but on the other hand, they can also be more aware of possibilities of manipulation on the Internet and hence may inspect all news items more

critically in order to identify credible sources. According to Xiao, Borah, and Su (2021), social media use and trust are associated with belief in conspiracy theories, however, little is known about how Internet use affects evaluation of unknown fictitious news stories which lack formal qualities, yet do not contradict established knowledge. Furthermore, we study whether the amount of news consumption is associated with one's susceptibility to fictitious news items which lack formal journalistic attributes (source, author) or whether high news consumption is associated with critical evaluation of news sources. Additionally, we investigate whether trust in traditional media (TV, radio, printed newspapers) is associated with decreased trust in misinformation from the Internet or whether trust in traditional media is associated with general trust in provided information, including dubious Internet sources.

Aims of Current Research

Hypothesis: High emotional reactivity is associated with increased trust in emotionally loaded misinformation stories.

Research questions:

- 1) Does high Internet and news consumption affect perception of misinformation?
- 2) Does trust in traditional and new media affect perception of misinformation?
- 3) Is the pattern of associations between the investigated variables different between young and older adults?
- 4) Is the misinformation story on crime perceived differently when a perpetrator is an out-group member (immigrant) vs. an in-group member (native local)?

Study 1 focused on older adults (postal questionnaire) whereas Study 2 investigated the research questions on the sample of young adults (questionnaire distributed during lectures).

Study 1

Methods

Participants

We first conducted a pilot study at various senior centers and events for pensioners in Oslo. In total, thirteen participants who had experience with Internet use completed the questionnaire and received instant lottery tickets as a reward. Stimulus materials consisted of printouts of modified websites, and at least a minimum amount of experience with Internet use was set as a requirement for meaningful participation in the study (older adults who reported in the questionnaire or in person that they never use Internet were excluded). The pilot study tested whether all questions are understood correctly and do not create ambiguity. One question not reported in the current study had to be further specified as it turned out to be confusing (when asked about receiving forwarded e-mails with political information, health information and requests for financial help, participants did not report only bogus e-mails but also e-mails from organizations which they are members of or which they contribute to, such as political parties and charities). Additionally, the pilot study revealed that a substantial portion of older adults attending senior centers and activities for pensioners are not Internet users. Thus, recruiting the entire sample from these locations was evaluated as not feasible and involving an external company was deemed necessary.

The market-research company Norstat provided us with a list of postal addresses of 571 older adults living in Norway. All of them were registered in Norstat's online panel, hence ensuring that they had experience with using the Internet. In order to ease readability of

the news items for older adults, we distributed the questionnaires on paper, with attached return envelopes. Respondents were randomly allocated to two conditions (immigrant vs. Scandinavian perpetrator). In total 495 participants (age range 65–76) completed the questionnaires, the response rate was 86.7%. The participants received a reward from Norstat of NOK 25 (\approx EUR 2.5) and, in addition, one participant was drawn to win an iPad. Given that the responses from the panel did not significantly differ from the pilot study, the data was pooled. The total sample hence comprised 508 participants ($M = 70.6$ years, 62% male, 38% female).

Measures

Participants received questionnaires which included two news items reporting crimes which never happened. In order to ensure that participants could not have been previously exposed to these news stories, with the use of HTML-programming we created websites containing the stories and made them look like they had been printed from the Internet (the news items were inspired by the stories on migrants' crimes which were debunked by fact-checkers). The news items described crimes (assault, rape) which happened in Scandinavian countries, namely Sweden and Denmark (Norway was not included as we expected that some participants might have an overview of crimes which happened in their home country). In the first story a group of three young Syrian (/Danish) men attacked a middle-age Danish (/Syrian) man and his condition was critical. In the second story a perpetrator of Arabic (/Swedish) origin raped a woman (her ethnicity was not specified) and infected her with HIV. The news items did not look credible as they did not contain names of any website, source or author and in addition, they includ-

ed medical details which are typically unavailable to journalists due to physician–patient privilege. The questionnaire was presented in Norwegian, see the English translation of the stimulus material in the Appendix. One group of participants received both news items with an immigrant perpetrator ($N = 259$), whereas the other group received equivalent news items with a native Scandinavian (namely Swedish and Danish) perpetrator ($N = 249$).

For each of the news items, participants rated to which extent they trust it (1 = *don't trust it at all*, 7 = *completely trust*) and how likely they would be to tell about the news story to somebody they know (1 = *very unlikely*, 7 = *very likely*). For each of these two variables, mean scores were computed for the two news items.

Participants additionally rated on 7-point scales the extent to which each of the news items is associated with surprise (1 = *not at all surprising*, 7 = *very surprising*), worry (1 = *not at all worrisome*, 7 = *very worrisome*) and fear (1 = *not at all frightening*, 7 = *very frightening*). They also reported how much each of the news items evoked anger (1 = *not at all angry*, 7 = *very angry*) and sadness (1 = *not at all sad*, 7 = *very sad*). In further analysis we report a mean of these different negative emotions for both of the news items.

Emotional reactivity was measured by the Perth Emotional Reactivity Scale – Short Form (PERS-S), consisting of eighteen items (Preece, Becerra, & Campitelli, 2018). For both positive and negative emotions, participants rated on 5-point scales (1 = *very unlike me*, 5 = *very like me*) their ease of activation (e.g., “I react to good news very quickly”), intensity (e.g., “My negative feelings feel very intense”) and duration (e.g., “It's hard for me to recover from frustration”). In addition to the separate sum scores for activation, intensity and duration, we also computed the sum scores for general positive and negative emotional reactivity.

Trust in media (TV, radio, printed newspapers, Internet) was measured on 7-point-scales (1 = *don't trust it at all*, 7 = *fully trust it*). For further analyses, the mean was computed for trust in traditional media (TV, radio, printed newspapers). News consumption was measured by the estimated total number of weekly hours spent on following news on all media channels. Participants reported their weekly Internet use on a scale from 1 (*never*) to 7 (*very often*). A set of additional measures were taken, which are beyond the scope of the current study.

Statistical analyses were performed in the IBM SPSS Statistics 26 program.

Results

Using Spearman's correlation coefficient, we investigated the association between variables. We did not expect that one's emotionality would have a different effect on perception of misinformation items depending on the origin of the perpetrator, however, one's exposure to different media sources could have possibly affected the extent to which one trusts news items with an immigrant perpetrator. Immigrant crimes are more newsworthy and hence may be overrepresented in crime news coverage, which could in turn impact credibility of the presented news items based on the perpetrator origin. Therefore, we present in Table 1 associations for the two conditions (immigrant vs. local perpetrator) separately. The results suggest that the correlations follow the same pattern for both experimental conditions. Trust in misinformation items was associated with general positive reactivity (immigrant perpetrator: $r = .24$, $p < .001$; local perpetrator: $r = .20$, $p = .002$) and general negative reactivity in case of the immigrant perpetrator ($r = .24$, $p < .001$). Participants' willingness to share the news items with others was also associated with both

general positive reactivity (immigrant perpetrator: $r = .30$, $p < .001$, local perpetrator: $r = 0.29$, $p < .001$) and general negative reactivity (immigrant perpetrator: $r = .18$, $p = .007$, local perpetrator: $r = .31$, $p < 0.001$). Emotional reactivity was positively correlated with participants' negative emotions experienced after reading the news items (general positive emotional reactivity: a) immigrant perpetrator: $r = .36$, $p < .001$, b) local perpetrator: $r = 0.31$, $p < .001$; general negative emotional reactivity: a) immigrant perpetrator: $r = .31$, $p < .001$, b) local perpetrator: $r = .18$, $p = .005$). There was no significant association between trust in the misinformation items and news consumption (immigrant perpetrator: $r = -.07$, $p = .294$, local perpetrator: $r = .02$, $p = .735$) or the amount of Internet use (immigrant perpetrator: $r = -.07$, $p = .315$, local perpetrator: $r = -.01$, $p = .901$). However, trust in traditional media and partially also in the Internet was associated with trust in the presented misinformation items (trust traditional media: a) immigrant perpetrator: $r = 0.17$, $p = .008$, b) local perpetrator: $r = .30$, $p < .001$; trust Internet: a) immigrant perpetrator: $r = .24$, $p < .001$, b) local perpetrator: $r = .09$, $p = .186$). We observed that trust in information provided by traditional media was positively correlated with trust in information from the Internet (immigrant perpetrator: $r = .43$, $p < .001$; local perpetrator: $r = .31$, $p < .001$).

A comparison between the immigrant-perpetrator and the Scandinavian-perpetrator condition revealed that in the whole sample, news on crimes with a Scandinavian perpetrator were trusted more ($t(471.69) = -3.62$, $p < .001$) and elicited more negative emotions ($t(488.33) = -2.94$, $p = .003$) (see Table 2). Due to the low number of participants who reported being born outside of Scandinavia ($N = 18$), it was not possible to find any significant differences in their evaluation of crimes committed by immigrants vs. native Scandinavians,

Table 1 Associations (Spearman's Rho) between emotional reactivity, perception of misinformation and media consumption: Older adults – immigrant perpetrator / local (Scandinavian) perpetrator

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. General positive reactivity	34.17 (5.02)	-														
2. Positive activation	12.08 (1.82)	.85**	-													
3. Positive intensity	10.89 (2.04)	.83**	.57**	-												
4. Positive duration	11.21 (2.05)	.86**	.63**	.54**	-											
5. General negative reactivity	25.26 (6.34)	.10	.01	.28**	-.04	-										
6. Negative activation	9.01 (2.31)	.17**	.19**	.25**	.01	.82**	-									
7. Negative intensity	8.03 (2.50)	.15*	.02	.37**	>.01	.88**	.63**	-								
8. Negative duration	8.20 (2.51)	-.05	-.14*	.11	-.11	.84**	.51**	.62**	-							
9. Negative emotions	5.93 (1.00)	.36**	.32**	.37**	.25**	.31**	.31**	.26**	.24**	-						
10. Trust misinformation	5.21 (1.27)	.24**	.23**	.22**	.14*	.24**	.21**	.20**	.21**	.54**	-					
11. Tell somebody	4.61 (1.74)	.30**	.27**	.26**	.26**	.18**	.22**	.20**	.07	.57**	.45**	-				
12. Trust traditional media	5.12 (1.09)	.15*	.16*	.10	.12	.12	.05	.09	.17**	.15*	.17**	.14*	-			
13. Trust Internet	3.90 (1.10)	.16*	.14*	.14*	.11	.04	.01	.06	.04	.11	.24**	.11	.43**	-		
14. News consumption	12.64 (7.74)	-.03	-.03	-.06	-.01	.03	-.02	>.01	.11	.01	-.07	-.13*	.12	.11	-	
15. Internet use	6.26 (1.05)	.18**	.10	.20**	.13*	.10	.12	.03	.08	.03	-.04	-.04	.02	-.02	.01	.08

Note. * < .05, ** < .001

Table 2 Perception of corresponding news stories with immigrant vs. Scandinavian perpetrator (between-Ss manipulation) by older adults born in vs. outside of Scandinavia

	Born in Scandinavia (N = 486)			Born outside of Scandinavia (N = 18)			Full sample (N = 508*)		
	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p
Negative emotions	5.82 (1.09)	6.06 (0.89)	.007	5.56 (0.93)	6.18 (0.90)	.181	5.80 (1.08)	6.06 (0.88)	.003
Trust	5.01 (1.41)	5.41 (1.10)	.001	4.91 (1.45)	5.50 (0.82)	.342	5.01 (1.40)	5.42 (1.09)	<.001
Tell somebody	4.49 (1.84)	4.73 (1.61)	.134	4.18 (2.25)	5.29 (1.44)	.222	4.48 (1.85)	4.75 (1.60)	.089

Note. * Four participants did not report their origin

but the differences in the mean evaluation of the news stories had the same direction as for participants born in Scandinavia.

Study 2

Method

Participants

Participants were 186 students of psychology (69.9% female, 29% male, 1.1% did not report gender; $M = 21.7$ years) at the Norwegian University of Science and Technology, who filled out the questionnaire during a break in a lecture.

Measures

Young adult participants filled out a questionnaire with nearly identical measures as presented to older adults in Study 1, which contained the same news stories as the stimulus material. In Study 2 both types of perpetrator (immigrant vs. local Scandinavian) were presented within the same questionnaire and their order was counterbalanced across the two conditions. The order of the news stories was held constant as in Study 1 (= 1. assault, 2. rape). For one group of participants ($N = 104$) the perpetrator in the first news story (assault) was an immigrant and in the second news story (rape) a Scandinavian, whereas for the other group of participants ($N = 82$)

the order of the perpetrators was opposite (i.e., the assault was perpetrated by a Scandinavian and the rape by an immigrant). We introduced this change to investigate whether participants' distrust towards news with an immigrant perpetrator was not caused by repeated exposure to such crime stories within one questionnaire, which could make some participants alert and subsequently overcorrect for a possible discrimination bias. In the student population we expected frequent Internet use and that is why this scale was changed to estimated weekly number of hours on the Internet.

Results

In the young adult sample, the association between emotional reactivity and trust in misinformation applied only to negative reactivity (general negative reactivity: $r = .17$, $p = .028$; negative activation: $r = .19$, $p = .009$, negative intensity: $r = .16$, $p = .031$), the associations with positive reactivity were not significant (see Table 3). Both general negative ($r = .27$, $p < .001$) and general positive reactivity ($r = .20$, $p = .008$) were associated with participants' willingness to tell about the news items to people they know. We again observed a significant association between negative emotions related to the news items and both negative ($r = .28$, $p < .001$) and positive emotional reactivity ($r = .30$, $p < .001$). Trust in the misinformation items was correlated

Table 3 Associations (Spearman's Rho) between emotional reactivity, perception of misinformation and media consumption: young adults

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. General positive reactivity (5.57)	-														
2. Positive activation (2.12)	.76**	-													
3. Positive intensity (2.29)	.75**	.39**	-												
4. Positive duration (2.53)	.85**	.53**	.45**	-											
5. General negative reactivity (7.70)	-.21**	-.18*	.05	-.37**	-										
6. Negative activation (2.80)	-.08	.01	.09	-.26**	.86**	-									
7. Negative intensity (3.18)	-.14	-.12	.16*	-.32**	.90**	.70**	-								
8. Negative duration (2.95)	-.33**	-.34**	-.14	-.36**	.82**	.52**	.61**	-							
9. Negative emotions misinformation (1.21)	.30**	.27**	.23**	.17*	.28**	.30**	.19**	.24**	-						
10. Trust misinformation (1.16)	.10	.03	.09	.10	.17*	.19**	.16*	.10	.35**	-					
11. Tell somebody traditional media (1.55)	.20**	.10	.20**	.12	.27**	.30**	.22**	.17*	.52**	.37**	-				
12. Trust Internet (1.02)	.14	.14	.07	.06	.11	.11	.09	.10	.29**	.27**	.25**	-			
13. Trust News consumption (0.96)	.11	.20**	.03	.07	.06	.11	.03	.04	.25**	.20**	.19**	.39**	-		
14. News consumption (3.93)	>-.01	.05	-.08	-.01	-.11	-.12	-.15*	-.02	.03	-.03	.07	.01	.03	-	
15. Internet use (12.73)	-.09	-.07	-.06	-.11	.09	.10	.06	.10	.05	>-.01	.07	.11	.06	.11	-

Note. * < .05. ** < .001

with both trust in traditional media ($r = .27$, $p < 0.001$) as well as with trust in the Internet ($r = .20$, $p = .006$). Willingness to share the misinformation stories with others was also related to trust in traditional media ($r = .25$, $p < .001$) and the Internet ($r = .19$, $p = .010$). Higher trust in traditional media was positively associated with trust in information from the Internet ($r = .39$, $p < .001$). There were no significant associations between trust in misinformation items and news consumption ($r = -.03$, $p = .706$) and Internet use ($r < -.01$, $p = .981$).

When comparing means between young and older adults, young participants had higher levels of general negative reactivity ($t(271.25) = 6.07$, $p < .001$) whereas there was no significant difference in general positive reactivity between the two age groups ($t(652) = .188$, $p = .851$). As the way of presenting the stimulus material differed between the groups, the comparison of trust in the presented news items and emotions elicited by them is not accurate, however, older adults tended to exhibit higher levels of trust in the news stories ($t(675) = -5.06$, $p < .001$) than young adults, reported more negative emotions ($t(282.34) = -7.64$, $p < .001$) and higher willingness to share the news stories with others ($t(363.08) = -5.77$, $p < .001$). This finding is surprising given that older adults filled out the questionnaire in a home setting and thus had more time to inspect the layout and content of the news articles. It was physically impossible to prevent them from searching

the news stories on the Internet (and hence finding out that they do not exist) or discussing them with other household members. There was no difference in trust in traditional media ($t(687) = -1.19$, $p = .233$) and in the Internet ($t(375.68) = 1.21$, $p = .226$) between young and older adults. Older adults reported significantly higher number of weekly hours of news consumption than young adults ($t(615.35) = -17.78$, $p < .001$). We believe that the measures of PERS-S as well as reported media consumption and trust in different media channels are unlikely to be impacted by the location of filling out the questionnaire (during a break in a lecture vs. at home) and hence can be compared between the samples.

Similarly to Study 1, we found that participants trusted more news stories on crimes committed by Scandinavians ($t(181) = -4.82$, $p < .001$; see Table 4) and this tendency was observed for both participants born in Scandinavia and outside of Scandinavia (however, due to the fact that only seven participants reported being born outside of Scandinavia, this difference was not significant). Participants were also more willing to tell people they know about the news story with a Scandinavian perpetrator than when the same crime was committed by an immigrant perpetrator; $t(184) = -2.24$, $p = .026$. In Study 2, we did not find any significant difference in negative emotions based on who the perpetrator was ($t(184) = -0.79$, $p = .432$).

Table 4 Perception of corresponding news stories with immigrant vs. Scandinavian perpetrator (within-Ss manipulation) by young adults born in vs. outside of Scandinavia

	Born in Scandinavia (N = 177)			Born outside of Scandinavia (N = 7)			Full sample (N = 186*)		
	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p	Immigrant perpetrator M (SD)	Scandinavian perpetrator M (SD)	p
Negative emotions	5.16 (1.24)	5.24 (1.35)	.289	4.39 (1.90)	4.07 (1.37)	.482	5.14 (1.28)	5.20 (1.36)	.432
Trust	4.40 (1.46)	4.90 (1.28)	<.001	4.71 (1.11)	5.00 (1.00)	.522	4.41 (1.44)	4.91 (1.27)	<.001
Tell somebody	3.69 (1.75)	4.03 (1.86)	.017	2.71 (1.60)	2.43 (1.51)	.457	3.66 (1.75)	3.97 (1.86)	.026

Note. * Two participants did not report their origin

Discussion

In both older adults and young adults, we found that general negative emotional reactivity is associated with trust in the presented fictitious news stories on crime. This association was stronger for older adults, for whom also positive emotional reactivity increases susceptibility to misinformation. These results are in line with the study by Wurm et al. (2004), who found that during tasks requiring cognitive effort, older adults experienced greater difficulty to inhibit arousal from emotional stimuli than young participants. Our findings point to possible limitations of the generalizability of the results of a recent study, which found that negative incidental affect (threat of electrical shock) reduced trust during the trust game (Engelmann, Meyer, Ruff, & Fehr, 2019). In an earlier study, negative incidental affect (namely sadness elicited by movie clips) was associated with an increased rejection of unfair offers in the Ultimatum Game (Harlé & Sanfey, 2007). We can hypothesize that the difference between our study and findings by Engelmann et al. (2019) is caused by the fact that our stories had the same valence as the elicited affect (participants in a negative mood trusted that negative events happened), whereas in the trust game the object of evaluation was not negative. Another explanation is that in our study both the source of the affect and the object of evaluation were identical, whereas in the previous studies, participants were not asked about trust whether the electrical shock (experimental source of threat) would occur or whether the sad movie (experimental manipulation of sadness) referred to a real-life event. Damasio (2005) challenged the idea that cognition occurs prior to emotions and from that perspective it is possible that the experience of a negative emotion elicited by a news story pre-

ceded and determined the subsequent credibility appraisal of the story. This would explain why participants with higher emotional reactivity trusted the misinformation more.

Despite the fact that older participants exhibited larger negative emotional reactivity to the stimulus material, in the self-evaluation of their negative emotional reactivity (as measured by PERS-S) they reported lower scores than young adults did. Conflicting findings on emotions and age are prevalent in scientific literature. Whereas some studies suggest better emotion regulation in old age (e.g., Carstensen, Pasupathi, Mayr, & Nesselrode, 2000; Carstensen & Charles, 1994; Vieillard & Bigand, 2014), other studies found no association between old age and better regulation of negative stimuli (Langley et al., 2008; Sklenar & Mienaltowski, 2019). The topic of the intensity of emotions and whether it decreases or increases with age is also disputed (e.g., Carstensen & Charles, 1994).

In future research, the differences in the quality of processing of the text between participants could be investigated for instance by attention tests (e.g., Mettl Attention to Details Test), which may possibly reveal that younger participants' greater attention to details (such as missing source and author) contributes to the age difference in news evaluation.

Older adults trusted the news items more than young adults did, despite the fact that in one condition they received two news items on crimes committed by an immigrant (which could have alerted them of the experimental manipulation), whereas young adults were always presented two news items with perpetrators of different origin.

We expected that high news consumption and Internet use would be negatively associated with trust in misinformation, in relation to participants' better knowledge regarding how a quality website should look (presence of authors, name of a website, URL etc.), how-

ever, we did not find any significant association within the separate age groups. Older adults reported significantly higher news consumption than young adults did (12.6 vs. 4.6 hours per week), however, they trusted the misinformation items more. We investigated whether trust in traditional media is associated with distrust in unofficial news sources, such as the dubious looking websites which served as the stimulus material. However, we found the exact opposite: trust in traditional media was positively associated with trust in the fictitious news stories printed from the Internet. Trust in information provided by traditional media was strongly positively associated also with general trust in information from the Internet for both age groups. These findings suggest that media exposure and trust does not help in cultivating one's ability to distinguish facts from misinformation in the situation of a first exposure to the misinformation item. High media exposure and trust in traditional news sources may possibly still help in situations when official news channels later discredit certain misinformation, however, not every single misinformation item is discovered or deemed significant enough to be discussed in the official news sources.

For both samples, trust in news items about crimes committed by native Scandinavians was higher than when the same crimes were described as having an immigrant perpetrator. This difference was manifested when the origin of the perpetrator was held constant across the presented news items (Study 1) as well as when it varied between different news items (Study 2). This finding could be explained by participants' estimate that there are more misinformation stories on immigrants' crimes than Scandinavians' crimes as well as by the knowledge that most crimes in Scandinavia are committed by Scandinavians (they constitute the majority population and

hence also the majority of perpetrators). It is unlikely that the difference in evaluation was caused by participants guessing that the study is focused on discrimination against immigrants and their subsequent overcorrection of the bias, since the same difference as in Study 1 was also found in Study 2, where the focus on immigrants was less obvious (an immigrant perpetrator appeared only in one of the presented items).

In our sample, trust in the presented misinformation stories was relatively high (on a 7-point scale, older adults rated their credibility on average as 5.2 and young adults 4.7), however, it remains unclear how this would change in a real-life setting. Would participants trust the news story shared by their contacts on social networks more or less than when the same news item is presented in a paper questionnaire by a researcher whom they do not know? We did not indicate any news source in the stimulus material (URL, author, etc.), which might have decreased its credibility. However, in the context of experiments on known and earlier debunked misinformation items, Pennycook and Rand (2019b) found no difference in credibility evaluations of news stories with and without indicated source.

In future studies we plan to investigate whether emotional reactivity also affects trust in misinformation which is emotionally neutral or which is associated with positive emotions. Furthermore, it would be interesting to study whether emotional reactivity has an impact only during the first exposure to a news story or whether it is also associated with adherence to information which is known to contradict the official sources (e.g., conspiracy theories). The importance of inhibiting the "blinding" effect of emotions on critical reading could be incorporated into courses on digital literacy. Raising public awareness about the role of emotions in credibility evaluations

could help to keep up with the quickly developing tactics of misinformation wars.

Acknowledgement

This research was funded by a grant from the Research Council of Norway (project Nr. 272019).

We would like to thank Dr. Jérémie Lavigne for his help with preparing the stimulus material (HTML-programming).

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