# The Relationship between the Framing of Speeding Messages and Changes in Attitude of Generation Z Respondents

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Police communication with the public is a vital process, and it should be considered a key area of research in the digital era. Until the 2000s, police messages reached the community through traditional media channels. Nowadays, there is an opportunity for e-community policing: to identify problems in the online sphere, propose solutions and improve police-community relations through the appropriate use of social networking sites. This study is a pioneering one as no research has yet been carried out that analysed the visual effects of Hungarian police communication on social media. The observed sample was collected by systematic sampling and, using the perspective of emotions as frames, a questionnaire survey was conducted among Generation Z members to investigate the elicited emotions and their persuasive effects. The aim of this empirical research is to demonstrate that visuals created by the police may be of particular importance in crime prevention.

**Keywords:** police communications, social media, e-community policing, visual communication, visual rhetoric, framing images, crime prevention, speeding

### Introduction

According to the analyses of Traffic Safety (Közlekedésbiztonság),<sup>2</sup> based on data of the Hungarian Central Statistical Office (KSH) and police reports, one of the major causes of traffic road accidents is exceeding the speed limits, namely speeding. Vehicle drivers under 25 years cause slightly more accidents with speeding being the leading cause in this age group; however, it becomes less common as they get older. One of the European Union's transport policy objectives is Vision Zero approach,<sup>3</sup> a global initiation that aims to reduce road fatalities to zero, and technological innovation can play a crucial role in this. Speed limiters, now fitted in all new cars, can make

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<sup>&</sup>lt;sup>2</sup> G. I. 2022.

<sup>&</sup>lt;sup>3</sup> Vision Zero Challenge s. a.

road traffic safer. But how can digital police communication add something new to enhance these technologies?

Police communication with the members of the community is a vital process, and the way they communicate with citizens should be considered a key area of research in the digital era. Today, police forces use social media on a regular basis, but often they simply broadcast information. In this study, social media is defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user generated content".

The term *e-community policing* is the own term of the author. It is a set of problem identification and solutions generated by police units through communication activities in the online sphere, aimed at maintaining and improving the relationship between the police and community members, and developing and implementing organisational strategies to improve this relationship in line with the principles of traditional community policing.

This research examines how visual representations of speeding are presented on a digital communication platform, namely on the Instagram profile of the Hungarian Police (police\_hu), and what emotions are triggered by the visual representation of these crime prevention messages, as well as what content respondents find convincing enough to alter their attitude and behaviour. With a mixed-method approach, and by comparing two visual representations of the topic, the study aims to explore the differences between the emotions evoked, which result from the different message framing and the self-awareness required by Generation Z. This age group was deliberately chosen because they follow the profile on Instagram in large numbers. The Hungarian Police was relatively late to appear on social media: police\_hu, the Instagram profile of the Hungarian Police was launched in 2019, and its Facebook page in 2020.7 Due to the short period of online presence, little academic literature can be found on how the police use these platforms. It is useful to know the target audience regarding the verbal and visual content shared. According to statistics,8 the number of Instagram users in Hungary is 2.6 million. Of these, 860,000 users are aged between 18 and 24, and 770,000 are aged between 25 and 34 years. The number of registered users of over 55 years is 139,000. According to the two interviews with former site administrators of the Hungarian Police, 9 70% of the site's followers were aged between 18 and 34 in 2021. Therefore, the Hungarian Police have a huge

<sup>&</sup>lt;sup>4</sup> Lippai–Csaba 2021: 6–7.

<sup>&</sup>lt;sup>5</sup> Bullock 2018: 245–258.

<sup>&</sup>lt;sup>6</sup> Kaplan–Haenlein 2010: 61.

<sup>&</sup>lt;sup>7</sup> Uricska 2021: 1529–1547.

<sup>8</sup> Marketer 2023.

Interviews were carried out with both former administrators of the Instagram profile of the Hungarian Police in 2021.

potential to use these sites for crime prevention as well as for recruiting prospective personnel, building a brand and boosting their reputation. $^{10}$ 

These organisations have a common interest to improve the (digital) communication skills of their social media operators and to encourage them to do their best to ensure safety. Sharing appropriate digital audio-visual content on Instagram or Facebook is of paramount importance to create a safe community environment, in this case by educating Generation Z members. The aim is to prove that, in the long term, digital communication activities must be regular and deliberate on the profiles of law enforcement units.

# Speeding and framing

Speeding is still considered the most common and widespread form of traffic violation amongst drivers worldwide and one of the major causes of road traffic accidents. After the turn of the 20th century, Fleiter and Watson explored factors that reduce speeding, and they listed social, personal, legal as well as situational characteristics in their findings. Factors that significantly predicted the frequency of speeding included: exposure to role models who speed; favourable attitudes to speeding; experiences of punishment avoidance; and the perceived certainty of punishment for speeding. Identifying, analysing and understanding these factors should be considered to be the most effective means of developing more targeted countermeasures to reduce speeding by drivers. In the 21st century, audience-centred (human-centred) strategies and design have become increasingly important and should be developed in the future because of the changing cultural specificities of our digital age. Therefore, digital police communication can also play a vital role to reduce the number of traffic road accidents caused by speeding through those messages that are posted on various social networking sites.

The term *framing* was first used by Bateson who "defined psychological frames as a spatial and temporary bounding of set of interactive messages". Framing does not mean that the communicator portrays a choice or outcome as good or bad but refers to whether a communicated option or possibility can lead to positive or negative consequences. According to Rothman and Salovey, "messages framed to highlight either the benefits of performing a behaviour (i.e., gain framed) or the consequences of not performing a behaviour (i.e., loss framed) lead to different

<sup>&</sup>lt;sup>10</sup> Uricska 2021: 1529–1547.

<sup>&</sup>lt;sup>11</sup> URICSKA - VINCZÉNÉ FEKETE 2022. The original idea was born on a course at the Communication Science Doctoral Program, Corvinus University of Budapest.

<sup>&</sup>lt;sup>12</sup> Touahmia 2018: 2417–2421.

 $<sup>^{13}</sup>$  Fleiter–Watson 2006: 23–30.

<sup>&</sup>lt;sup>14</sup> Fleiter–Watson 2006: 24.

<sup>&</sup>lt;sup>15</sup> Bateson 1972: 197.

<sup>&</sup>lt;sup>16</sup> ROTHMAN-SALOVEY 1997 in SUKA et al. 2018.

decisions", attitudes and types of behaviour. Nabi and co-authors mention four types: "When gain-loss frames combine with kernel states, such as the attainment or avoidance of certain outcomes, there are four possible frames: (1) reaching a positive outcome (gain-framed), (2) avoiding a negative outcome (gain-framed), (3) suffering a negative outcome (loss-framed), and (4) missing out on a positive outcome (loss-framed)."

Visual rhetoric studies visual elements for their communicative and persuasive properties.<sup>18</sup> It uses images as the main tool of persuasion and it is the most widely used approach.<sup>19</sup> Visual images are more than a simple representation of a painting or picture because the viewer transforms the message into a symbol by cognitive processes.<sup>20</sup> However, according to Foss, visual images must meet three criteria to be called rhetoric: "1) symbolic interaction, (2) human intervention, and (3) presence of an audience."<sup>21</sup> In this study, the third criterion bears vital importance, i.e. whether the perception and the coded meaning of a visual image reach the aim, accordingly visual rhetoric is suitable for shaping public relations and dealing with social problems.

Visual content is an important part of media communication, but framing is usually "examined in textual contexts". Visual framing can be defined as the process of choosing certain aspects of a "perceived reality" and emphasising them more than others through the mode of visual communication. According to the Mediation model, which was used in political communication, framing of media content affects emotions about political opinions or perceptions, and therefore, affects attitudes and behaviour as well. The model can also be useful in police communication. Media content transfers the stimulus. Elements that convey news frames can trigger emotions. By measuring emotions, they can be detected. At the same time, emotions play a mediating role and, with the right measurement, changes in opinions and attitudes can be measured.

The predictive power of seeing emotions as frames has been supported in recent research.<sup>25</sup> In addition, there are controversies in the relevant literature on gain-and loss-framed messages as "there seems to be some contexts in which loss-framed messages are equally or more effective than gain-framed messages".<sup>26</sup> Chaurand and colleagues stated that gain-framed messages can be more efficient in promoting safe behaviour in speeding than loss-framed ones.<sup>27</sup> Therefore, it is uncertain which

<sup>&</sup>lt;sup>17</sup> Nabi et al. 2020: 1109.

<sup>&</sup>lt;sup>18</sup> Owens Patton 2020: 124–138.

<sup>&</sup>lt;sup>19</sup> BARNHURST et al. 2004: 616–644.

<sup>&</sup>lt;sup>20</sup> Owens Patton 2020: 124–138.

<sup>&</sup>lt;sup>21</sup> Foss 2004: 144 in Owens Patton 2020: 128.

 $<sup>^{\</sup>rm 22}$  Geise 2017: 1.

 $<sup>^{23}</sup>$  Parveen–Showkat 2020: 7.

 $<sup>^{24}</sup>$  Schuck-Feinholdt 2015: 6.

<sup>&</sup>lt;sup>25</sup> Nabi et al. 2020: 1107–1130.

<sup>&</sup>lt;sup>26</sup> SUKA et al. 2018.

<sup>&</sup>lt;sup>27</sup> Chaurand et al. 2015: 37–44.

message frame motivate people more to avoid speeding or to prevent car accidents by means of digital police communication.

The visual images about different types of crime and crime prevention used by the police as a communication tool on social media have the same potential. Although the literature on the topic of framing is abundant, "little is known about the affective dimension of gain and loss framing and its potential impact on persuasion" in digital police communications.

Given the potential for visual interventions to improve citizens' attitudes and behaviour for crime prevention purposes, digital visual communication is one of the components of policing that can provide the appropriately structured information needed for effective, modern and innovative policing. Therefore, individuals and communities can make better decisions about their own attitudes and behaviour. Effective and goal-oriented digital police communication can lead to positive changes in users' behaviour towards crime prevention and safety.

# **Research questions**

Based on the theoretical background and literature on visual rhetoric and framing, the current study has three main aims:

- 1. to identify the negative messages that can change the speeding behaviour of Generation Z members
- 2. to identify the triggered emotions that participants mentioned, and which they believed worked in relation to preventive messages
- 3. to determine whether there is a need for anti-speeding messages for Generation Z members on digital platforms

# Research design and methodology

### Method

In this preliminary study, an observed visual sample of speeding was selected by systematic sampling and a questionnaire survey was conducted among Generation Z members (N=16), using the emotions-as-frames perspective to examine the triggered emotions and their impact on persuasiveness. The study was embedded within a broader project, and only the variables specific to this report are being described.

<sup>&</sup>lt;sup>28</sup> Abdelhai 2016: 33-42.

<sup>&</sup>lt;sup>29</sup> SUKA et al. 2018.

The current preliminary study aims to examine affective and cognitive responses given to speeding as part of a longer questionnaire,<sup>30</sup> but it is planned that the results regarding drunk driving and drug use will be published in detail in following works.

The aim of this study is twofold: first, to code the titles of visual images and then to measure the emotions evoked by the images presented by the Hungarian Police on Instagram, and second, to observe how visual framing works in police communication in the case of speeding under different outcomes. Respondents' opinions and emotions were observed by using a self-report questionnaire on the perceived emotions and their convincing power (N = 16).

### Measures

Data collection was performed in multiple stages. First, systematic sampling was carried out to search for images on three topics on three police communication platforms: Instagram, Facebook, and the official website of the Hungarian Police. In the first case (Experiment 1), pictures of vehicles involved in an accident, pictures of a speedometer or a police officer at a road check were the most common, so two images were chosen for the *drive carefully* verbal frame.

The aim was to explore the emerging trends using visuals in police social media, and the study used quantitative and qualitative semiotic approaches. Generally, quantitative content analysis focuses on surface-level content, while qualitative approaches aim to examine the hidden meanings in content. As it can be unique how to interpret the meaning of visual images, both approaches can be applied to fully understand a complex issue represented by them. Using a quantitative approach, the complexity of every single image can provide an opportunity to focus on the manifest, surface-level, while the qualitative approach offers an opportunity to see more than a sheer image, and search for latent meaning.

The two images illustrate speeding and its possible consequences: an image about a car crash and a speedometer are presented. The first image presented speeding in an unusual way, which has become known worldwide as the *Tetris challenge*. First posted by a police patrol in New Zealand in November 2018,<sup>33</sup> the campaign became extremely popular on social media from 2019. All over the world, in Hungary as well,<sup>34</sup> service providers such as police officers, fire fighters and ambulance departments lay down next to their patrol car, surrounded by the equipment they use in their work in order to participate in the new project. The main messages of the

<sup>&</sup>lt;sup>30</sup> Uricska 2022.

<sup>&</sup>lt;sup>31</sup> Krippendorff 2013; Neuendorf 2017.

<sup>32</sup> Krippendorff 2013; Neuendorf 2017.

<sup>33</sup> New Zealand Police 2018.

<sup>34</sup> Magyar Rendőrség 2019a; Magyar Rendőrség 2019b.

new campaign are to involve citizens in prevention, to warn them not to exceed the speed limits, and to reduce the number of traffic road accidents.

Even public administration organisations with strict hierarchical structure took part in the initiative, presenting their profession in an innovative and creative way, as traditional authoritarian forms of education and communication are not achieving their goals in the 21<sup>st</sup> century.<sup>35</sup> Generation Z members do not accept authoritarian communication style, they witness that the necessity of human skills are replaced by automation and digitalisation,<sup>36</sup> online education, social media and social networking sites<sup>37</sup> are also integrated into the higher education with the presence of the members of Generation Z.





Image 1: Tetris challenge

Image 2: Speedometer

Source: Magyar Rendőrség 2019a; Magyar Rendőrség 2020.<sup>38</sup>

Following image selection, a questionnaire was completed, in which three main factors were observed:

- · a possible title for both images
- · the first emotion evoked in both images
- their persuasive power in the expected outcome, namely changing attitudes towards speeding

The participants applied voluntarily from the Generation Z acquaintances of the author. They were asked to express their opinion about the visual representation of the type of crime they saw. The respondents were asked to give a short title for each image, and to decide what emotions they evoke and what content might affect attitude and behaviour, which in turn would influence them in preventing or avoiding such incidents. The evoked feelings were measured through self-reported responses, and in the third phase of the research, the responses were analysed and coded in line

<sup>35</sup> Barnucz–Uricska 2020: 53–63; Barnucz–Uricska 2021: 4–48.

<sup>&</sup>lt;sup>36</sup> Valintine 2019: 1–16.

<sup>&</sup>lt;sup>37</sup> Uricska–Suták 2022: 107–119.

<sup>&</sup>lt;sup>38</sup> The hashtag #hogymindenkihazaérjen (approx. #gethomesafely) was removed from this research, but it can be interesting to research further how the results change with the gain-framed verbal message.

with the research questions. In the future, the research will be extended for a larger sample size.

### **Results**

## **Participants**

The questionnaire was administered to members of Generation Z of both genders, mainly from Hungary, however, there were respondents from Germany and Austria as well. There were eight female (n = 8), and eight male (n = 8) respondents with an average age of 17.6 years, as only those born between 1995 and 2008 were asked to participate.

# Speeding

Having provided some background information (age, gender), the respondents were asked to give some titles to the visuals. The consequences and possible outcomes of speeding are also indicated. After looking at Image 1 (*Tetris challenge*), the respondents' answers were coded according to the suggested titles. The first code was 'accident', and six members wrote this word, one member wrote the synonym 'crush' in Hungarian and one in English. The following answers were coded: accident (4 times), 'karambol', 'crush' (with a spelling mistake in the intended meaning in English, when the participant meant *crash*). There were two additional responses that included the word *accident*, but adjectives were also added, these are *fatal accident* and *tragic accident*. Only one title referred to the driving manner of the drivers in the word *nuts*. The other responses expressed complete phrases and opinions referring to the driving style and its consequences. The majority of respondents stated that they had felt sorrow (10 cases). Fear (3 cases), anger (2 cases) and contempt (1 case) were the least common.

The second was a neutral image (Image 2) – a speedometer – as the police are usually criticised when they use speedometers as a tool to prevent speeding. The results suggest that the type of message frame controls "the emotional response elicited in the audience, with gain frames inducing positive emotions and loss frames inducing negative emotions".<sup>39</sup> Participants' answers suggest that negative representations triggered mainly negative emotions. The verbal message *drive carefully* can be seen as gain-framed (see sub-section *Measures*); the participants want to avoid a negative outcome.<sup>40</sup> "Investigating the specific influence of negative

<sup>&</sup>lt;sup>39</sup> Nabi et al. 2020: 1107.

<sup>&</sup>lt;sup>40</sup> Nabi et al. 2020: 1107–1130.

emotions would provide crucial information to better understand how negative emotions can influence risk-seeking behaviors in the framing effect." According to the literature, the two anticipated emotions were anger and fear. However, the majority (62.5%) felt the emotion of sadness when viewing the *drive carefully* framed image. The results indicate that directly delivered educational messages, embedded in shocking content will have a much greater impact.

The results also prove that the type of message frame influences the emotional response caused in the audience: 43 when the police are portrayed as an authority, the messages mostly evoke astonishment (56%); however, when the police are portrayed as a service provider, respondents feel sorrow (62%), and their aim is to avoid a negative outcome. These messages can be considered gain-framed, as Nabi and colleagues highlighted in the second type of framed messages.<sup>44</sup> According to the self-reports, the emotion of sadness can influence attitude and behaviour, and generate a sense of responsibility among Generation Z members. In response to the question about which picture was more convincing, 14 respondents (87.5%) chose Image 1 (Tetris challenge) and only 2 chose (22.5%) Image 2 (Speedometer). When they were asked to justify their choice, this persuasive strength also emerged in the answers: "Seeing what a huge tragedy can be caused just by driving even a little faster, I think I will be more careful to avoid terrible accidents like this one" and "deterrent example" or "it discourages many people from speeding." However, the police are usually attacked because of the application of the speedometer in preventing speeding, the effectiveness of this tool is also demonstrated by responses, e.g.: "Nowadays, I think people are more affected by the sight of a speedometer than by an accident, which they see or hear on the news or radio and they feel nothing but pity and sadness. But with a speedometer, they know it is there, so they slow down [...]."

After coding the responses based on the first image, the most frequent nouns were consequence, deterrent, accident and victim, and the most frequent adjectives were serious, visible and convincing, suggesting that through cognitive processes, the image had a persuasive power on the respondents. Results also suggest that albeit both images were loss-framed messages visually, the first one elicited the avoidance of a negative outcome (gain-frame) by evoking the emotion of sadness, which has the potential to change attitude and behaviour, and create a sense of responsibility among Generation Z members. The possibility that participants may get hurt shows a strong relationship with perceived levels of persuasion to avoid accidents.

<sup>&</sup>lt;sup>41</sup> Habib et al. 2015.

 $<sup>^{\</sup>rm 42}$  Habib et al. 2015; Lewis et al. 2007: 203–222.

<sup>&</sup>lt;sup>43</sup> Nabi et al. 2020: 1107–1130.

<sup>&</sup>lt;sup>44</sup> Nabi et al. 2020: 1107-1130.

### **Ethical considerations**

Because the images and themes are sensitive, traumatic experiences or involvement in them may trigger heightened emotional reactions. Participants should be asked beforehand if they have had any traumatic experiences related to road accidents, speeding or drug use. It is also essential to warn them that the images may disturb their peace of mind.<sup>45</sup>

### Future research and limitations

As more and more citizens will use digital platforms in the future, continuous research is needed on how to present best both visual and verbal information that is not only present-day and relevant but also educational. If digital visual police communication is designed correctly, digital crime prevention messages can present content in a way that can enhance a change in the attitude and behaviour of citizens, therefore they may prevent accidents. While this study might be a pioneer one to promote social networking sites used by police forces for crime prevention purposes, and to analyse the emotional impact of speeding messages on attitude change among Generation Z members, further research is needed. In the future, repeated and extended research would be advantageous, using more images and a larger sample to understand better how the presented content influences the attitudes of Generation Z respondents.

### Conclusion

The present study has aimed to investigate the relationships between emotions and negative road safety messages that often appear in road safety advertising and that govern emotions and behavioural change. The focus was mainly on the visual content of digital police communication and the organisational communication goals of the police, namely how the police use images for crime prevention purposes and how visual speeding messages can influence the followers, in this case Generation Z respondents.

In response to RQ1, both visual and verbal message framing may influence emotional responses to crime prevention messages; however, in connection with Image 2, the original content should be examined in parallel with Image 1 (*Tertis challenge*) and Image 2 (*Speedometer*) but with the gained-framed verbal message. The crime prevention content created by law enforcement agencies may also influence

<sup>&</sup>lt;sup>45</sup> Before sending the questionnaire to Generation Z respondents, the author of the article sent a message about the issues and images of the questionnaire and asked them whether they wanted to participate in the research.

<sup>46</sup> BARNUCZ-URICSKA 2021: 4-48; BARNUCZ 2022: 183-196; DOMINEK-BARNUCZ 2022: 1-7.

the willingness to see further messages, raise awareness and promote attitudinal and behavioural change. The results suggest that an image with a visual hook in crime prevention messages is persuasive among Generation Z members. The main purpose is to capture the attention of the audience by a visual image and maintain their interest.<sup>47</sup> "The visual hook as being a decisive element in framing stories" has a potential to grab the audience's attention, as in the experiment (Image 1).

In response to RQ2, loss-framed images make people think about these problems and leave deeper imprints on memory that are otherwise forgotten in everyday life. Such images have an awareness-raising function and may trigger a change of attitude and behaviour in Generation Z respondents in order to avoid accidents. This has resulted in a stronger preference for risk-avoidance behaviour, and the exercise could therefore provide valuable information for public administration organisations.

In response to RQ3, the study aims to present the emotions that are triggered by police news frames, which use visual representations of crime prevention messages. Preliminary results show that respondents believe that it is necessary to use visual content in crime and accident prevention (81.5%) and that the emotions may play a key role.

These findings confirm that emotional responses can provide a pathway through which gain- and loss-framed messages exert persuasive influence, and police communications is vitally important in crime prevention by applying audience-centric strategies on social media in the future. This study has integrated the results of a preliminary study on digital police communications with the perspective of emotions as frames, and the topic offers a number of explorable avenues for future research.

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<sup>&</sup>lt;sup>47</sup> Dhanesh-Rahman 2021: 1–11.

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# **Appendix:** Some opinions given about the images<sup>49</sup>

Image 1	Image 2
It foreshadows the possible consequences.	Nowadays, I think people are more affected by a speedometer than an accident, because they see one, or hear about it in the news and feel nothing, but pity and sadness. But, when they see a speedometer, they know it is there, so they slow down.
Deterrent example.	
Seeing what a huge tragedy can be caused just by driving even a little faster, I think I will be more careful to avoid terrible accidents like this one.	
It is much more descriptive.	
It discourages many people from speeding.	
It has a much deeper effect on emotions.	
Because the consequence is visible.	

<sup>&</sup>lt;sup>49</sup> As the issue is sensible, and the main aim of the article is to focus on prevention, only those answers are listed that are relatively neutral and might not hurt the feelings of the possible readers of the Journal.