Setting the tone for political views:

How provided information can affect the assessment of current political state of affairs

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Fabian Gebauer

aus

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Contents

Abstract

This dissertation investigates how far the content of provided information can affect people‘s attitudes in the space of current political thinking. Specifically, it examines how opinion formation within political conflicts and state of affairs can be biased through varying visual and narrative representations in times of threat and uncertainty. Instead of using fictional scenarios or post-hoc evaluations, the experimental designs were applied to current political affairs and conducted within time frames where opinion formation was rather unsettled than cast in concrete. In doing so, the possibility was created to gather new insights into the assessments of ongoing political state of affairs and how opinion formation can be biased through the lens of available information.

For example, due to the so-called Ukrainian Crisis a heavily waged dispute emerged in 2014 about how to deal with Russia’s infringement of international law (e.g., annexation of Crimea) ranging from economic sanctions to military action. Although a majority of Germans blamed Russia for this crisis, only a minority favored to provide military aid in this conflict. Empirical evidence was found that one-dimensional and threatening depictions (e.g., in news coverage) can alter people’s military attitudes in this reemerging international conflict (Gebauer, Raab, & Carbon, 2016c). Furthermore, results from two experiments demonstrate how seemingly subtle variations of visualizing the political realities in this conflict can shape the political perception and reinforce stereotypical thinking (Gebauer, Raab, & Carbon, 2016a). Additionally, studies have shown that minimal narrative changes in the context of possible political conspiracies—here, the perceived relations between the US and Russia—can affect the conspiratorial reasoning of conspiracy believers and sceptics (Gebauer, Raab, & Carbon, 2016b). Finally, empirical findings will illustrate that rethinking about political issues beyond current international conflicts might be less suggestible and requires more tangible approaches—like hands-on experience—in order to alter people’s political point of view (Gebauer, Vilimek, Keinath, & Carbon, 2016).

The presented findings, therefore, highlight the susceptibility of opinion formation in (re-)emerging political conflicts and its suggestibility through informational descriptions, but do also point to the contextual limitation of persuasiveness—at least in some areas of political rethinking.

General motivation

On September 9th 2016 at around 6 a.m. (Central European Time; CET) results turned into certainty: Donald Trump was elected as 45th President of the United States of America. The world seemed to remain in a state of shock. Mr. Trump, who attracted attention with populism and radical points of view throughout his campaign, was assessed to be unpredictable and, therefore, a potential and realistic threat to the present and established world orders. Subsequently and as a reaction to the arising threat and uncertainty, the stock prices at Japan's NIKKEI INDEX—one of the few markets being open due to the time shift—dropped down to 16,211.34 points with a loss of nearly 7 %. Germany's DAX INDEX followed suit, opening with a loss of approximately 3% at 9 a.m. CET. Then, something unexpected happened: In the 15 minute victory speech at around 9 a.m. CET Mr. Trump renounced to relay word phrases he used in his campaign. Instead, he found conciliatory words for his opponent, Hillary Clinton, emphasizing that it should be time to come together as one united people independently of race, religion, beliefs or being Republican or Democrat. Subsequently, a remarkable effect ensued shortly after the victory speech was finished: The share markets recovered and the DAX INDEX even closed with a plus of 1.6 %[1].

What does this example tell us about psychology? In my opinion: A lot. As a result of Mr. Trump making it to the top of world politics, people started to foresee major political conflicts around the world. Due to his radical promises and point of views throughout his campaign, people were faced with potential threats and uncertainty about what might happen next. Therefore, and especially in the times of high political uncertainty—like we have seen after Mr. Trump was elected—people rely heavily on information to classify the situation and, most importantly, to adjust their attitudes and next steps of action. In this case, the first reaction to the threat of Mr. Trump becoming president was to switch to a defense mechanism in order to safe capital from a major financial crash. Just because of his relatively calm victory speech, investors readjusted their behavior, maybe believing that he is now turning into a presidential mode that

[1] Note that this example only concentrates on developments in this very moment. The strong market increase afterwards might have had different causes like announced tax cuts, promises of massive investments in the US infrastructure, etc.

will help the American and global economy. However, imagine he would have announced to reject all trade agreements with other countries right away; probably many financial markets would have crashed. But he didn't, and in this very moment, investors took it as a good sign and remained calm.

Phenomena like these represent the main motivation behind this dissertation. In an age of information and communication where platforms like Facebook, Twitter, and online news services can spread information across the world within hours or even minutes, I am deeply interested in how far different content of information might affect people's political thinking in real-time events. Particularly, my interest was drawn to the field where provided information can affect opinion formation in times of new political conflicts. I was impressed by research describing how 9/11 reminders increased the support for the (at that time) current US President George W. Bush as a reaction to deal with the threat of terrorism (Landau, Solomon, Greenberg, Cohen, & Pyszczynski, 2004) and that even seemingly subtle crosshairs—which were used by the conservative Tea Party member Sarah Palin targeting legislators voting for Obama's health care—can in fact induce violent thinking, and probably violent behavior in the end (Schoormans, Carbon, & Gattol, 2011).

This thesis aims to contribute to a better understanding about how opinion formation in ongoing political events and current international conflicts can be affected by the content of provided information nowadays.

1. Theoretical part

1.1 Overview

To create a deeper understanding of the contextual background regarding the empirical part, I will describe the phenomenon of international and political conflicts from a social psychological perspective in paragraph 1.2. On this basis, I will outline a socio-psychological infrastructure of the resurrected East vs. West conflict as a reaction to the so-called Ukrainian Crisis in paragraph 1.3—which is substantially to a context related understanding of this thesis. Next, possible implications such conflicts bring along will be described in paragraph 1.4 focusing on the dimension of intergroup relations under threat and uncertainty. Then, I will illustrate how beliefs and emotions can handle the way of information processing in international conflicts in paragraph 1.5. Vivid examples concerning the role of mass communication and opinion formation in current political state of affairs will display the importance of information representation in international conflicts in paragraph 1.6. As a last step, I will characterize how all these factors might interact with each other in paragraph 1.7.

Building on this work, I will lead over to the empirical part of this thesis in chapter 2. Taking the case of the resurrected East vs. West conflict, the article

> Gebauer, F., Raab, M. H., & Carbon, C. C. (2016c). Imagine all the forces: The impact of threatening news coverage on the willingness to militarily engage in the resurgence of the East vs. West conflict. *Journal of Media Psychology –Theories, Methods and Applications*. doi: 10.1027/1864-1105/a000180

shows that threatening parts of news coverage can increase the willingness of German participants to militarily engage in the conflict, although a majority of Germans remained hesitant to advocate military means. Furthermore, evidence was found in

> Gebauer, F., Raab, M. H., & Carbon, C. C. (2016a). Back to the USSR: How colors might shape the political perception of East vs. West. *i-Perception*. doi: 10.1177/2041669516676823

that solely varying visual depictions on a map where colors referred to the old-established Cold War patterns (*Russia*=red; *NATO*=blue) are able to shape the political perception and reinforce stereotypical thinking.

Focusing on a slightly different approach, I was interested whether minimal alterations of semantic cues presented in (fabricated) news articles might affect conspiratorial reasoning in a political context. Applying this idea to a current political debate, I investigated whether US investigations against FIFA in 2015 were more or less likely to be seen as a conspiracy against Russia to sabotage the football World Cup in 2018. The article

> Gebauer, F., Raab, M. H., & Carbon, C. C. (2016b). Conspiracy formation is in the detail: On the interaction of conspiratorial predispositions and semantic cues. *Applied Cognitive Psychology, 30*(6), 917-924. doi: 10.1002/acp.327

describes that judgments of conspiracy believers and sceptics about the event's 'true nature' were not a priori divided—in fact, conspiracy formation in an ongoing political event was only affected when direct causation (Study 1) or strong purposeful intentions (Study 2) were obvious.

These findings might give the impression that people's attitudes get affected on every layer within the field of political thinking. I will make the case that barely presenting information does not automatically lead to a political rethinking outside the context of political conflicts. To illustrate this idea, I will shift the area of interest from international conflicts to a national political debate, namely: Can electromobility (e-mobility) become the transportation system of the future in Germany? In order to be able to measure this kind of political rethinking, we used the Repeated Evaluation Technique (RET) by Carbon and Leder (2005a). The article

> Harsànyi, G., Gebauer, F., & Carbon, C. C. (2013). Design Evaluation: Zeitliche Dynamik ästhetischer Wertschätzung. In S. Boll, S. Maaß & R. Malaka (Eds.), *Workshopband Mensch & Computer* (pp. 145-153). München: Oldenburg Verlag.

provides an example about the RET's functional principles and shows how this measurement can be applied to different psychological contexts capturing the dynamics of attitude changes over time.

To see whether provided information is also persuasive in national debates outside the context of political conflicts, the RET was applied to measure attitude changes in the field of e-mobility. Since the future prospect of e-mobility in Germany faced controversial political as well as public debates, I wanted to investigate how far people's attitudes might be positively affected by the way new developments in the field of e-mobility were presented to potential users. Findings described in the article

> Gebauer, F., Vilimek, R., Keinath, A., & Carbon, C. C. (2016). Changing attitudes towards e-mobility by actively elaborating fast-charging technology. *Technological Forecasting and Social Change, 106*, 31-36. doi: 10.1016/j.techfore.2016.02.006

show that people's attitudes only changed in a positive way, if they had made hands-on experiences with electric vehicle's fast-charging procedure, but not if participants were only handed out the same information in written forms.

Thus, opinion formation seems to be more susceptible under threat and uncertainty in emerging international and political conflicts than in national debates about its future concepts. In chapter 3, I will discuss possible reasons behind these findings and describe socio-political implications for people's suggestibility through informational descriptions.

1.2 International conflicts and the social psychological perspective

Daniel Bar-Tal's influential work about the origin and continuation of societal conflicts starts with the observation that conflicts might appear whenever people interact with each other. He claims that

> "conflicts are defined as situations in which two or more parties *perceive* that their goals and/or interests are in direct contradiction with one another and *decide* to act on the basis of this perception. […] Conflicts are inseparable and significant part of human life on every level of interaction; there are interpersonal conflicts, intra-group, intergroup, inter-organizational, intra-societal, and interethnic as well as international conflicts and even inter-civilization conflicts." (Bar-Tal, 2011, p. 1)

That means, on a micro level, people can and inevitably will have different opinions about certain issues, whereas this perception of mutual contradictions leads to negotiations about how to proceed. For example, people can simply start to argue where to have dinner (Chinese vs. Italian), how to get to the restaurant (by bus or foot) or even what to drink there (red vs. white wine). Conflicts are, therefore, natural part of everyday life and it remains in the hands of human beings how to deal with them. Continuing with the example, we could either negotiate about whether to have Chinese or Italian food by taking the others perspective into account and trying to find compromises (e.g., tonight Italian and tomorrow Chinese) or we can insist on our demand to have that particular kind of food tonight and ignore the other one's desire. The main difference in this example is: We either have one (or even two) pleasant social evenings with possible limitations in our food choice or we unconditionally impose our food choice with a possible outcome of eating alone or even not at all if we continue arguing all night long. Of course, even this example might have more complex features—like history of past food choices, daily mood of the protagonists or personality traits—that contribute to possible outcomes of the situation. However, it illustrates that conflicts are created and shaped by humans with specific needs and different choices of action that can contribute to a more or less escalating situation.

Taking it from a micro to a macro level perspective, we see similar principals at work when it comes to the occurrence, maintenance and escalation of conflicts on an international level. Instead of having direct interpersonal interaction, international conflicts rely on the fact that people perceive themselves as being part of a society with shared beliefs, values and norms by simultaneously perceiving other societies with a different collective identity (David & Bar-Tal, 2009). As a next step, people within the society have to perceive that the goals of the other society are opposing to their own ones. This fact does not automatically lead to far reaching tension or escalation between societies. It rather needs to exceed a certain limit of threat caused by one society and perceived by the other one to create action of defense. In fact, Bar-Tal distinguishes between two poles describing the intensity of intergroup conflicts: 1) *tractable conflicts* which are viewed as solvable and last a short period of time by resolving them relatively quickly through negotiation 2) *intractable conflicts* which are about perceived important goals, include high animosity, where both sides are not interested in compromising and both sides mobilize society members to participate by focusing on own needs and goals (Bar-Tal, 2011). Reasons and backgrounds of international conflicts can be diverse ranging from territorial, ideological and resources to prestige. In fact, this thesis does not concentrate on the whys and wherefores in the emergence of international conflicts, but rather investigates the maintained belief systems about how people's political views in international conflicts can be shaped through information.

As described above, people need to be mobilized to view the other side as opposing and highly threatening. This implies the decisive difference between interpersonal (micro) and international (macro) conflicts; whereas interpersonal conflicts allow direct and active exchange of opinions and information, within international conflicts people become more or less passive consumers of information to form their opinion. These information representations, therefore, play a key role about how international conflicts are perceived. Based on the importance of information representations, Bar-Tal (2011) summarizes three core elements that further contribute to the perception of escalating and intractable conflicts on an international level: 1) *collective memory*, 2) *ethos of conflict*, and 3) *collective emotional orientation*.

1) *Collective memory of conflict* is defined as representative images of the past remembered, and not necessarily been personally experienced, by society members in the historical context of the conflict (Kansteiner, 2002; Paez & Liu, 2011). Reminders of the conflict's history can reinforce stereotypical thinking by positively depicting the own society (Baumeister & Gastings, 1997), portraying the opponent's action in delegitimizing ways (Oren & Bar-Tal, 2007) and describing the own society as a victim of the rival society's action (Bar-Tal, Chernyak-Hai, Schori, & Gundar, 2009). Therefore, collective memories of the conflict do often produce schematically 'black and white' thinking neglecting differentiated perspectives about how the conflict emerged.
2) *Ethos of conflict* differs from *collective memory of conflict* in so far as it rather focuses on the current shared societal belief and future orientation than on the historical context. It "provides a clear picture of the conflict, its goals, its conditions, requirements, images of the own group and of the rival. It indicates the direction and goals for individual and societal behavior, gives meaning to the societal life, imparts legitimacy to the social system, and explains and justifies leaders' decisions." (Bar-Tal, 2011, p. 21). Therefore, the ethos of conflict describes a major communicative part about how to proceed within the conflict.
3) *Collective emotional orientation* describes the predominant emotional response invoked by the narratives of collective memory and ethos of the conflict. Since the depiction of escalating conflicts most often includes the build-up of mutual violent threats, these scenarios are very likely to induce fear and uncertainty to people who might be involved in it (Buzan, 2008).

Before I will describe the impact of fear, threats and uncertainty on people's psychological processes in international conflicts, I would like to outline the interaction of collective memory, ethos of conflict, and collective emotional orientation using the example of the resurrected East vs. West conflict.

1.3 Reemerging Cold War patterns: The resurrected East vs. West conflict

> "NATO and Russia do not consider each other as adversaries. They share the goal of overcoming the vestiges of earlier confrontation and competition and of strengthening mutual trust and cooperation. The present Act reaffirms the determination of NATO and Russia to give concrete substance to their shared commitment to build a stable, peaceful and undivided Europe, whole and free, to the benefit of all its peoples. Making this commitment at the highest political level marks the beginning of a fundamentally new relationship between NATO and Russia. They intend to develop, on the basis of common interest, reciprocity and transparency a strong, stable and enduring partnership." (NATO-Russia Founding Act, 1997)

Along with the annexation of Crimea by the Russian Federation in 2014, the declaration signed by NATO and Russia in 1997 seemed to be rather abstract words than political reality. Instead of trust, emerging distrust was seeded and political partners turned into political opponents again. Public, political as well as medial debates were filled with different points of views about how to deal with Russia's violation of international law ranging from diplomatic solutions, economic sanctions or preventive military build-ups. While the public opinion was struggling with the current shared societal belief and future orientation in this conflict (*ethos of conflict*), representative images referring to the past (*collective memory of conflict*) seemed to provide the basis of the conflict's reflection, namely; the Cold War era. Although political systems and territorial boundaries have shifted since the fall of the Iron Curtain, actual representations predominately referred to a new Cold War between NATO allies and the Russian Federation (for example see Figure 1). In doing so, people get reminded of an era where ideological beliefs between the superpowers USSR and NATO were worlds apart and mutual assured destruction was part of everyday reality until 1991. I argue that opinion formation through the lens of images referring to the past of one of the most intractable conflicts in human history triggers the

collective memory of the conflict, which induces threat and uncertainty in *collective emotional orientations,* and vice versa affects the *ethos of this conflict*[2].

Due to copyright issues Figure 1 had to be removed.

Figure 1. Cover pages from the German newsmagazines STERN 40/2014 (left) and DER SPIEGEL 48/2014 (right).

In other words, if people get reminded by former Cold War patterns to interpret the new conflict between Russia and NATO allies, they adapt mindsets and emotional schemata from past ages to draw conclusions about the current conflict. In doing so, it undermines analytical strategy of interpretation and gives rise to the risk of an emotionally driven perception of the conflict (Bock, Henneberg, & Plank, 2014).

[2] Note that I strongly believe that these effects hold true for both sides: NATO allies viewing Russia as well as Russia perceiving NATO allies through the lens of the former Cold War era.

1.4 Emergence and effects of threat and uncertainty on perceived intergroup relations

As mentioned earlier, collective identity can be a strong predictor of social behavior in times of political crises and social changes (Polletta & Jasper, 2001). Drawing a line between *us* and *them* defines who shares our beliefs, values and norms and who does not. These lines do not necessarily need to be physical in terms of borders, but rather depend on the perceived perception that someone belongs to a group with a shared social identity (Tajfel & Turner, 1979). For example, Germany, Poland and Russia are independent nations. At the same time Germany and Poland are both members of the same union of states like the European Union or NATO, which Russia does not belong to. Although all three states are distinct to each other, someone from Germany might, therefore, perceive an increased social identity with Poland through their shared union of states than with Russia. So far, so good and although some states share more norms, beliefs and identity with each other than others, everyone could get along peacefully. Things seem to change dramatically when, at least, one party feels that its goals and/or interests are in direct contradiction with one another. If we then, additionally, observe that the other side decides to act on the basis and that this action might have harmful consequences for me or the group I belong to, we perceive a state of threat and uncertainty. As a result, people tend to favor their own group over the other in order to protect and be protected especially during contentious and dangerous times (Branscombe, Ellemers, Spears, & Doosje, 1999). Following the well-established intergroup threat theory by Stephan and Stephan (2000), the different types of threats can mainly be subdivided in *symbolic* and *realistic* threats being potentially harmful for an individual or a group as a whole. In their theory they define *symbolic* threat as a threat to a group's or individuals' religion, values, belief system, ideology, philosophy, morality, or worldview. *Realistic* threat, by contrast, describes threats to a group's power, resources, and general welfare and can imply actual physical or material harm to an individual group member (Stephan, Ybarra, & Morrison, 2009).

The past Cold War conflict between the former USSR and NATO allies illustrates these different types of threat in an appropriate way. For both, realistic threat was omnipresent in terms of a possible nuclear first strike that would have cost millions of people's life in the event of an

escalation. At the same time, symbolic threat was equally present since both opponents presented contrary ideological worldviews with communism on the one and capitalism on the other side. Loosing this Cold War would have automatically meant to lose one's way of life and ideological identification.

Although both symbolic as well as realistic threats do slightly vary in their consequences of affecting people's attitudes in conflicts, they share common features and principles. First, emotional responses are likely to be negative. People react to threats with fear, anxiety and uncertainty (Renfro, Duran, Stephan, & Clason, 2006), which, in turn, reduces empathy for the outgroup leading to derogatory attitudes towards the opponent (Stephan et al., 2009). Second, threats in international conflicts might lead to cognitive biases in the perception of the opponents. Research has shown that people reinforce their stereotypes (Quist & Resendez, 2002) and judge outgroup's behavior more negatively under threat (Costarelli, 2005). As a consequence, whenever people perceive a threat in international conflicts that might be harmful to them or the group they belong to, they do not process new information about the conflict in a neutral way. Instead, they selectively scan the presented information particularly with regard to their actual worldview to be able to classify the situation and to confirm or adjust their attitudes and next steps of action.

1.5 How beliefs and emotions handle the way of information processing

As noticed in the previous paragraph, people react to and process information in the context of threats and uncertainty in particular ways. From an evolutionary psychological perspective, it makes sense that people tend to perceive threats faster than peaceful signs (van der Dennen & Falger, 1990) because processing threats faster helps to avoid possible harm (Riek, Mania, & Gaertner, 2006). Being able to adapt one's behavior in the context of negative information means to be able to adjust reactions to the new situation with the advantage of initiating countermeasures immediately (Gil-White, 2001). At the same time, people seem to be triggered more easily by negative and threatening information than by neutral or positive ones; in many cases, positive information seem to be processed more consciously and need higher cognitive capacities[3] (Jarymowicz & Bar-Tal, 2006). This means that threatening information and information processing under threat tend to be driven by automatic defense reactions with a smaller extant of cognitive reflection. Therefore, information processing in the context of threats seems in particular to be persuasive. Furthermore, people do not only interpret information in the current (threatening) context, but do also evaluate information by referring to past experiences and memories of similar situations (Cacioppo & Berntson, 1994)—a phenomenon that was defined in paragraph 1.1 as *collective memory of conflict*. Therefore, I assume that

1) people are more susceptible of negative information especially under threat,
2) people process information in accordance with their worldview as a result of preexisting opinions related to past events.

As outlined above, international conflicts are not—or only in minor cases—experienced directly by individuals themselves. International conflicts are rather perceived by reflections, portrays and depictions of situations delivered through various channels of communication to inform people about ongoing events. In most cases these information are the only source of how people build their opinion and, therefore, play a decisive role in opinion formation and political developments. This fact points to the importance of information dissemination in political affairs. Moreover,

[3] Note that this is not meant to be seen as general rule, but rather depicts an evolutionary psychological perspective. Research has also shown that people tend to turn to positive affective information in order to be released from the stress of high uncertainty (DeWall & Baumeister, 2007).

within international conflicts "the reaction of leaders and the media to the threatening cues is crucial. When they frame the events in support of the conflict orientation, then peace process has very low chances to evolve." (Bar-Tal, 2011, p. 13)

1.6 *In medias res*: Mass communication and opinion formation in current political state of affairs

Mass communication is defined as "the process by which a person, group of people, or organization creates a message and transmits it through some type of medium to a large, anonymous, heterogeneous audience" (Pearce, 2009, p. 624). In concrete terms, this means newspapers, magazines, TV, radio, but also internet platforms like Facebook, Twitter and YouTube. Earlier research has acknowledged the significant impact of mass communication on people's personal beliefs in political conflicts. In general, it has been shown that media has the ability to affect people's mindsets about political issues (Entman, 1989) and has a dominating influence on public opinion (McCombs & Stroud, 2014). But can channels of mass communication really affect political thinking and influence the course of international conflicts substantially? This example might provide helpful insights.

About one year after the Iraq war started in 2003 the *New York Times* published an editorial statement that opened with the following words:

> *"Over the last year this newspaper has shone the bright light of hindsight on decisions that led the United States into Iraq. We have examined the failings of American and allied intelligence, especially on the issue of Iraq's weapons and possible Iraqi connections to international terrorists. We have studied the allegations of official gullibility and hype. It is past time we turned the same light on ourselves."* (The New York Times, 2004 May 26).

What led the New York Times—among other high ranked newspapers—to reflect about their news coverage that was published before the war in Iraq? The main arguments of the US government to invade Iraq in 2003 were based on supposed information about Saddam Hussein

developing weapons of mass destruction and his connection to the terror organization Al–Qaeda. Simultaneously, a large proportion of the US media landscape reported in favor of military action against Iraq and anti-war perspectives questioning the presented evidence were very low (Hayes & Guardino, 2010). Shortly after the invasion, none of these potential threats to the Western world proofed to be true and the one-dimensional news coverage was accused to have played a key role in setting a pro-war agenda by dismissing differentiated viewpoints to the public (Bennett, Lawrence, & Livingston, 2008). As a consequence, an open debate about media's responsibility in public affairs emerged and newspapers, like The New York Times, found themselves constrained to take a stand. Admittedly, this is an extreme example about how people can be guided into a single direction due to the presentation of specific information; whereas the media was most probably not the only reason why the Bush administration was able to put their plans into practice so easily. Nevertheless, it vividly illustrates how crucial information representations can influence people's attitudes in ongoing political state of affairs.

However, printed newspapers and traditional broadcasts as well as printed media are only one side of the coin. The online shift of news coverage has changed the way people consume their information in the context of politics (Rackaway, 2014). In the moment of political happenings, breaking news are spread via online news services within minutes and can simultaneously be shared on social networks with other people. The minimal time frame of publishing breaking news increases the risk of producing simplified representation of the situation (Papadopoulos, Bontcheva, Jaho, Lupu, & Castillo, 2016), which, in turn, affects the opinion of the consumer receiving this information (Sobkowicz, Kaschesky, & Bouchard, 2012). Research has shown that these effects even occur when people negate their impressionability to political advertising (Arendt, Marquart, & Matthes, 2015), or when the presentation of cues is very subtle (Schoormans et al., 2011). In other words, even seemingly inconspicuous details in news coverage or social media networks can affect people's mindsets under certain constellations. Importantly, it is not the aim of this thesis to simulate the dynamics of social media consumption and its effects on opinion formation, neither do I want to show the distinctiveness between traditional and new media coverage. These examples should only help the reader to be able to draw possible implications of the empirical findings I will describe in chapter 2.

1.7 Blending the (theoretical) ingredients: A summary

As described in paragraph 1.2, the socio-psychological infrastructure of international conflicts is characterized by the *collective memory of conflict, ethos of conflict*, and *collective emotional orientation.* We know that these facets can interact with each other and differ in the level of intensity with respect to each (international) conflict. Furthermore, we know that the potential escalation of the conflict can be threatening and induces, therefore, fear and uncertainty, which vice versa affects the way people process information; people react faster with defense approaches under threat and are more susceptible of information that confirms their current worldview. In addition, news broadcasting—in its various ways—seems to be an important factor to set first triggers guiding the way of attitude and opinion formation.

By applying these thoughts to the resurrected East vs. West conflict, core publication I examines in how far the emotional orientation of threat can alter people's willingness to military engage in this conflict. Core publication II further investigates whether visual reminders of the past of the resurrected East vs. West conflict are able to shape the perception of the current political relation between both opponents. Core publication III tests if minimal narrative changes concerning the ethos of the conflict can affect conspiratorial reasoning in the current political context. Using the Repeated Evaluation Technique's (RET; Carbon & Leder, 2005a) functional principles (described in peripheral publication I), core publication IV describes that attitudes beyond current international conflicts might be less suggestible and require more tangible approaches in order to alter people's political point of view.

To test the effects of news broadcasting in such scenarios in a most ecological valid way, I included potential triggers in (mostly) fabricated news articles and used very short time frames for conducting these studies. In doing so, I tried to create the possibility to gather new insights into the way of construing political thinking under real-time circumstances. The following section 2 of this thesis will describe the motivation, empirical findings and a critical reflection of each publication.

2. Empirical part

2.1 Core publication I: Imagine all the forces

Motivation

The process of the Crimean annexation by Russia (March-August 2014) and the ongoing military conflict in the Donbass region of the Ukraine between pro-Russian and pro-Ukraine forces (March 2014-present) were the cause of a large international crisis between Western allies and Russia (Krotz & Maher, 2016). Since then a heavily waged dispute emerged about how to deal with Russia's infringement of international law ranging from economical sanctions to military action. Although a majority of Germans blamed Russia for this crisis, only a minority favored to provide military aid in this conflict (Pew-Research-Center, 2015). The main motivation behind this article was to see whether threatening depictions between Russia and NATO allies—similar to those we have seen during the Cold War—can alter the willingness to military engage in this conflict.

To keep the experimental design as realistic as possible and to increase ecological validity, we aimed to examine material that was already used in news coverage. The article "Nato-Alarm" (Amann, Blome, Gebauer, Neukirch, & Schult, 2014) published by the weekly German news magazine *DER SPIEGEL* fulfilled in large parts the necessary conditions we thought to be required to test our assumptions. First, the text as well as the visual depiction concentrated on the relationship between the opponents (NATO vs. Russia) and clearly distinguished both societies from each other. Second, most parts contained the description of military threats that originate from Russia in the present and possible future and how the NATO allies could react to it. Third, at least some parts allowed drawing parallels to the style of writing in the Cold War era. The news article "Bedingt abwehrbereit" (SPIEGEL, 1962), for example, described the insufficient defense capabilities of the Federal Republic of Germany in the case of a nuclear pre-emptive strike of the former USSR. Similar patterns could be seen in the article "Nato-Alarm", although it rather concentrated on the defense capabilities of the eastern NATO allies like Latvia, Eastland and Lithuania (see for an exemplary depiction Figure 2).

Due to copyright issues Figure 2 had to be removed.

Figure 2. Maps used in the news article "Bedingt abwehrbereit" (41/1962; left) and in the news article "Nato-Alarm" (14/2014;right)

Again, both news articles from DER SPIEGEL clearly differed in their content, but used, from a physical and psychological perspective, similar threat and defense mechanism to describe the situation. Furthermore, we only used the threatening parts of the article "Nato-Alarm" to test whether threatening descriptions of the resurrected East vs. West conflict can really alter the willingness to militarily participate in the conflict. By preparing a second, non-militant version of the article, we were able to test for the specific effects of military threats in this conflict. In the non-militant article potential military threats were mitigated and specific signs of military force levels removed from the accompanying illustration. Subtle reminders of former Cold War patterns (e.g., differentiation of *NATO*=blue and *Russia*=red), however, remained in the non-militant article. To estimate the impact these news coverages have on the willingness to engage militarily, we additionally used explicit existential threats (mortality salience) as a comparative measure, thus linking the effect size provoked by the news article to typical findings from *Terror Management Theory* (Greenberg, Solomon, & Pyszczynski, 1997). Research about the awareness of existential threats has shown that it amplifies the efforts to defend one's own culture, even by military means. To test our hypothesis in an experimental context, we used a 2×2 factorial design (N=112) with the factors *article* (original-bellicistic *vs.* neutral, non-militant depiction) and *salience condition* (mortality salience *vs.* control). The study was conducted from June-September 2014, thus taking place in a precarious time frame of decision making about how to proceed with Russia. Results and further details will be explained in the publication attached below.

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Imagine all the forces: The impact of threatening news coverage on the willingness to military engage in the resurgence of the East versus West conflict

Fabian Gebauer[1,2], Marius H. Raab[1,2], & Claus-Christian Carbon[1,2,*]

[1] Department of General Psychology and Methodology, University of Bamberg, Bamberg, Germany

[2] Bamberg Graduate School of Affective and Cognitive Sciences (BaGrACS), Bamberg, Germany

* Correspondence should be addressed to Claus-Christian Carbon, University of Bamberg, Department of General Psychology and Methodology, Markusplatz 3, D-96047 Bamberg, Germany; e-mail: ccc@experimental-psychology.com, phone:+49 (951) 863-1860.

Abstract

A world divided into *East vs. West*: The so-called *Ukraine Crisis* has once more summoned outdated patterns of political thinking. Simultaneously, media discourses have flared up debating diplomatic and military solutions as possible policy responses. A majority of Germans, however, have remained hesitant to advocate any escalation of military conflict. We have been interested in how far reputable journalism concerning the *Ukraine Crisis* might activate a disposition towards military engagement. To evaluate the supposed impact of actual news coverage, we used explicit existential threats (mortality salience; MS) as a comparative measure. Typical effects of MS were derived from *Terror Management Theory* (TMT), which predicts that the awareness of existential threats amplifies the efforts to defend one's own culture, even by military means. We used a 2×2 factorial design (N=112) with the factors *article* (original-bellicistic *vs.* neutral, non-militant depiction) and *salience condition* (MS *vs.* control). Results revealed a strong impact of the original, bellicistic article, with increased willingness to deploy German forces at the Russian border, independently of the salience condition. Additional existential threats did not add further effects, as values for willingness were already very high. Classical effects regarding TMT were observed when people had read the non-militant article: here, the willingness to deploy forces only increased after a confrontation with existential threats. We conclude that threatening news coverage on the *Ukraine Crisis* has the ability to alter willingness for first-step military action at the Russian border by inducing effects that are—at least in their outcome—comparable to explicit existential threats.

Keywords: Ukraine Crisis; medial depiction; threat; politics; mortality salience; terror management theory (TMT)

Introduction

With the factual annexation of Crimea by the Russian Federation in 2014, the conflict of *East vs. West* has once again become a political reality. Since then, a heavy dispute has been waged in the media, depicting a critical scenario in which one erroneous action by either NATO or Russia would lead to a massive escalation and, eventually, war. The depiction of such a scenario is likely to induce fear in people who might be involved in or affected by such a conflict, especially when attention is directed towards the build-up of mutual military threats (Buzan, 2008). At the same time, the latest national surveys revealed that only 19% of the German population advocate a German military involvement in the renewed *East vs. West* conflict; namely, the so-called *Ukraine Crisis* (Pew-Research-Center, 2015).

In the present study we investigated the extent to which actual news coverage on the crisis is able to affect willingness to militarily engage in the conflict. We used parts of an article entitled "Nato-Alarm" (Amann, Blome, Gebauer, Neukirch, & Schult, 2014) published by the weekly German news magazine *DER SPIEGEL*. To estimate the impact this actual news coverage has on willingness to engage militarily, we used explicit existential threats (mortality salience) as a comparative measure, thus linking the effect size provoked by the news article to typical findings from *Terror Management Theory* (Greenberg, Solomon, & Pyszczynski, 1997).

For an overview, we first outline recent findings concerning the effects of news coverage on personal and public beliefs. Then, we illustrate typical findings of existential threats derived from Terror Management Theory. Next, we explain how we derived our hypothetical

assumptions, and how these hypotheses are reflected by our study design. We then illustrate the procedure and results and discuss the consequences of our findings with regard to news coverage.

The Effects of News Coverage

Earlier research has acknowledged the significant impact of news coverage on people's personal beliefs. It has been shown that media can affect people's mindsets about political issues by selectively presenting information (Entman, 1989) and has therefore a dominating influence on public opinion (McCombs & Stroud, 2014). These effects even occur when people negate their impressionability to political advertising (Arendt, Marquart, & Matthes, 2015), or when the presentation of cues is very subtle (Schoormans, Carbon, & Gattol, 2011). Given the power media has in shaping public opinion, it has multifariously been emphasized that journalism bears the responsibility of critically reflecting upon backgrounds and consequences concerning precarious conflicts and crises (Arena, 1995). Journalism that fails to provide multi-dimensional coverage, thus setting a one-dimensional public agenda, could lately be observed during the financial crisis concerning Greece and the European Union. Bickes, Otten, and Weymann (2014) showed that the medial depiction in Germany about "*corrupt and lazy Greeks*", in comparison to "*hard-working Germans*", contributed substantially to anti-Greek sentiments among German citizens. Furthermore, the effects of non-counterbalanced journalism were observable—in an even more dramatic way—before the 2003 Iraq War. At that time, the absence of critical journalism was a supporting factor in the invasion of Iraq; the media missed the opportunity to weigh the claims of those arguing for *and* against military action (Hayes & Guardino, 2010).

Offering alternative viewpoints in the media seems to decrease support for additional military engagement in political crises, as ongoing political processes can be reflected on more critically (Balmas, Sheafer, & Wolfsfeld, 2015). On the other hand, journalism might become the transmission of threat which might provoke feelings of existential anxieties in its readers and therewith, as a consequence, might foster defensive reactions (Echebarria Echabe & Perez, 2015; Fischer, Greitemeyer, Kastenmüller, Frey, & Oßwald, 2007). Those defensive reactions induced by existential threats have broadly been studied in the context of TMT (*Terror Management Theory*) (Greenberg, et al., 1997).

Terror Management Theory

The psychological effects of existential threat depictions on the attitude and behavior of people have been extensively investigated in the course of *Terror Management Theory* (TMT) (Greenberg, et al., 1997). It has been demonstrated that people who have been existentially threatened hold up to their cultural worldviews and defend their own in-groups in various ways. By doing so, they buffer existential anxiety by experiencing themselves as a valuable contributor to a meaningful reality (Burke, Martens, & Faucher, 2010). For example, a series of experiments by Landau, Solomon, Greenberg, Cohen, and Pyszczynski (2004) revealed that people being confronted with existential threats showed an increased support for Bush and his counterterrorism policies; these policies were declared to be protecting the USA and upholding the associated cultural worldview after the 9/11 attacks. Regarding conflict situations, it has additionally been shown that existential threats lead to an increased support for military interventions (Motyl, Hart, & Pyszczynski, 2010), as well as to a stronger commitment to military violence (Hirschberger,

Pyszczynski, & Ein-Dor, 2009). In short: When people were confronted with existential threats, the probability of radicalization—in terms of hostility towards a perceived enemy—increased.

Taken together, we were interested in how far reputable journalism focusing on military threat levels concerning the Ukraine Crisis would—despite only a minority of Germans supporting military engagements (Pew-Research-Center, 2015)—contribute to a higher willingness in terms of military action. To estimate the impact actual news coverage has on willingness to militarily engage in that conflict, we compared its effect to that from explicit existential threat. A confrontation with an existential threat is known to evoke high emotional and behavioral effects (Lambert, et al., 2014). Therefore, the hypotheses were established as follows:

> H1) That sections from the original, bellicistic article from DER SPIEGEL increase willingness to militarily engage in conflict.
>
> H2) Participants under explicit existential threat will show an increased willingness for military engagement in the Ukraine Crisis.

To investigate the predicted interaction, we conducted a 2×2 factorial design. Participants were randomly assigned to the existential threat condition or the control condition before reading either parts of an original, bellicistic article or an altered, non-militant version of the same article.

Present Study

To be able to appraise the effect size media depiction has on participant willingness to initiate first-step military action near the Russian border, we chose parts of an article titled “Nato-Alarm” (Amann, et al., 2014) published by the weekly German news magazine *DER SPIEGEL*. This original *Threat of Forces article* (ToF) included statements of politicians from NATO member states, among them German politicians, demanding to show military strength in the borderlands of Russia to dissuade potential invasions, e.g. in the Baltic. The text we used was comprised of 440 words. The article was accompanied by the original illustration visualizing the current military force levels of Russia and the neighboring NATO members (Figure 1, right panel). The article was highly suitable for our investigations, as it addressed the threats of force by the two political powers both in a visual and in a written manner. We also favored using an article by the newsmagazine DER SPIEGEL, as it is one of Europe’s largest and most influential news magazines with a weekly circulation of about one million copies and a reach of over six million readers ("DER SPIEGEL performance data," 2015).

In the neutral, *Non-Militant version* of the article, we had mitigated potential military threats and pointed out that there is a lively and controversial debate among politicians on sending NATO forces (including German forces) to the Russian border. The text comprised of 70 words. Additionally, we had removed all specific signs of military force levels (i.e., icons depicting soldiers, artillery units, warplanes and battle tanks) from the accompanying illustration (Figure 1, left panel). The complete material used in the study can be obtained from the corresponding author.

With the mutual defense clause of NATO's Article 5 in mind, and given the dichotomic, polarizing and confronting depiction in the diagram, we assume that all the NATO states will, in their entirety, be seen as a common cultural background that should be defended against aggressors. This assumption is supported by former research (e.g., Motyl, et al., 2010). We expect this to hold for the ToF as well as for the NM article, as the NATO-Russia-dichotomy was kept in the mitigated version.

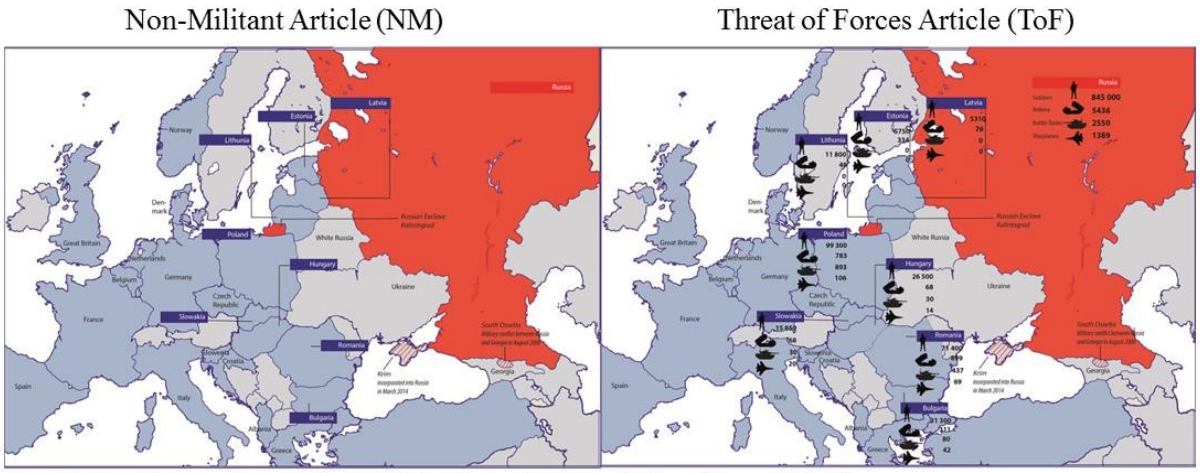

Figure 1. Replicas of the two graphics used in the study (left; Non-Militant = NM Article, right; Threat of Forces = ToF Article).

Participants

One hundred and twenty-four participants took part in this 2×2 factorial study design. Twelve participants had to be removed from further analysis due to premonition of taking part in a Terror Management Theory study, incomplete task fulfilment or interruption during the experimental procedure, yielding 112 participants who were included at the end. Fifty-four participants (30 female; M_{age} = 25.2 years, SD = 6.7) completed the survey online and read the NM article after having been assigned to explicit existential threats or a control topic. 58 different participants (47 female; M_{age} = 22.8 years, SD = 6.4) received the ToF article at the faculty of the University of Bamberg, again being assigned either to explicit existential threats or a control topic. All participants were German students who volunteered and received partial course credit. The number of participants was calculated before conducting the study assuming an effect size of $d \geq 0.6$ as predicted by earlier research on this topic (Burke, et al., 2010). The estimated number of participants was calculated by the G*Power software program (Faul, Erdfelder, Lang, & Buchner, 2007) with the assumptions of two-tailed testing, α=.05, β=.80 and an allocation of $N2/N1$ of 1 yielding an n per group of at least 25.

Procedure

To conceal the main intent of the experiment, participants were invited to take part in a study about personality traits and their connection to attitudes towards international political issues. Therefore, participants first filled out the German short version of the Need for

Cognitive Closure scale (NCC) (Schlink & Walther, 2007), the German adaptation of the Rosenberg Self Esteem Scale (SES) (Ferring & Filipp, 1996) and the State-Trait-Anxiety Depression-Inventory (STADI) (Laux, 2013)[4]. After that, participants were asked to answer two open-ended questions reflecting one of the two conditions:

Mortality salience condition (MS). Existential threats were induced by the commonly used procedure in TMT research (Greenberg, et al., 1997) by asking:

1) Please briefly describe the emotions that the thought of your own death arouses in you.
2) Jot down, as specifically as you can, what you think will happen to you when you physically die.

Dental pain condition (DP). The dental pain condition used the same format as the *MS* condition. Here, participants were asked to reflect about their feelings and thoughts when they have to visit a dentist due to dental pain. We chose this condition as the control topic, because the anticipation of dental pain induces non-existential threats and is suggested by existing and well established research (Burke, et al., 2010; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989).

[4] Since none of the ascertained scales had statistically significant correlations with participants' decision making results, they were not regarded in further analyses.

As TMT research has shown that effects most likely appear when thoughts about death are removed from consciousness (e.g., Pyszczynski, Greenberg, & Solomon, 1999), we employed a delay task after the treatments in which participants were asked to complete a word search for five minutes. Subsequently, participants were given either the NM or the ToF article and were then asked: "How many soldiers / artillery units / warplanes / battle tanks should Germany send to countries like Latvia, Estonia and Lithuania to ensure sufficient protection from a possible Russian military intervention in Europe?" Finally all attendees were debriefed and thanked for their participation. The entire procedure lasted about 30 minutes and was approved by the ethics committee of the University of Bamberg.

Results

To measure the *willingness* to send German forces to the Russian border, we compiled a single indicator: If participants responded to all types of forces with 0, we coded willingness as 0 = *no, not willing to send forces*. If they responded to at least one type of force with >0, we coded willingness as 1 = *yes, willing to send forces.* The interrelatedness regarding the four single types of force was satisfactorily high with Cronbach's α = .94 (M = 0.55, SD = 0.50), to justify this aggregation. The amount was registered for each force type, too, and compiled to the mean of a single indicator (internal consistency: Cronbach's α = .84, M = 7,019.48, SD = 29,043.20).

Regarding the willingness, we firstly calculated chi-square tests finding an overall effect for the 2×2 factorial design, $\chi^2(3) = 11.23$, p=.011, as well as for the main effect *article,* $\chi^2(1)=5.03$, p=.025. No significant effect could be observed for the main effect *salience*

condition, $\chi^2(1)=1.50$, $p=.221$, as the willingness after reading the ToF article was very high in both salience conditions. More recent papers as well as classic papers (e.g., Lunney, 1970) provide evidence that at least for sample sizes above 20 to 30, ANOVAs are an appropriate way to describe interactive effects. To analyze the impact of the specific article in combination with the salience condition, we conducted two univariate Analyses of Variance (ANOVA) for *willingness* and *amount of forces*, respectively, to be deployed at the Russian border. The two between-participants factors were *article* (NM vs. ToF) and *salience condition* (MS vs. DP). To test for simple main effects, we conducted further post-hoc tests via *t*-tests for independent samples.

Willingness[5]. We found a main effect for the factor *article* $F(1,108) = 4.40$, $p = .038$, $\eta_p^2 = .039$, with a higher *willingness* to send forces, when participants were exposed to the ToF article ($M = 0.66$, $SD = 0.48$) rather than to the NM article ($M = 0.44$, $SD = 0.50$), $t(110) = 2.27$, $p = .025$, $d = .43$. No main effect was observed for *salience condition* $F(1,108) = 1.62$, *n.s.,* whereas an interaction effect for *article* by *salience condition* was obtained, $F(1,108) = 5.26$, $p = .024$, $\eta_p^2 = .046$. Testing the simple main effects of *salience condition*, we found that after having read the NM article participants showed a higher willingness in the MS ($M = 0.63$, $SD = 0.49$) compared to the DP condition ($M = 0.30$, $SD = 0.46$), $t(52) = 2.48$, $p = .016$, $d = .70$. No significant difference between the MS ($M = 0.61$, $SD = 0.50$) and the DP ($M = 0.70$, $SD = 0.47$) condition regarding the ToF article was observed, $t(56) < 1$—probably due to the reason that willingness to deploy forces was already considerably high for the ToF article, independent of having been

[5] Since we conducted an ANOVA with dichotomous variables ranging from 0 to 1 the mean of the reported results can concordantly be interpreted as proportions. For example, participants' willingness was $M = 0.70$, which means that on average 70% of the participants were willing to send forces.

exposed to MS or DP. Additionally comparing the DP conditions from the NM article and the ToF article, *t*-tests uncovered a large effect in terms of *willingness*: it rose from 0.30 (NM article) to 0.70 (ToF article), $t(58) = 3.23$, $p = .002$, $d = .83$ (Figure 2).

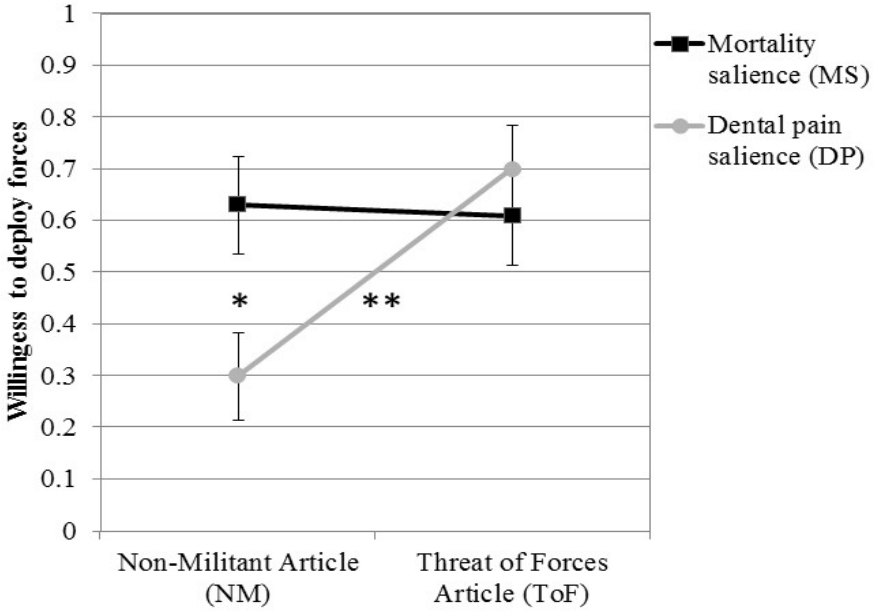

Figure 2. Showing the mean willingness (0 = *no*, 1 = *yes*) to deploy forces (aggregated, single indicator of the four types of forces). Error bars indicate ± 1 standard error of the mean. Asterisks indicate significant differences between the conditions (*$p < .05$, **$p < .01$).

Amount. We found a main effect regarding the factor *article*, $F(1,108) = 4.94$, $p = .028$, $\eta_p^2 = .044$: participants wanted to deploy more forces after having read the ToF article ($M = 12{,}823.33$, $SD = 39{,}473.58$) compared to the NM article ($M = 785.71$, $SD = 3{,}791.33$). Neither a main effect for *salience condition* $F(1,108) < 1$, *n.s.,* nor an interaction effect between *article* and *salience condition*, $F(1,108) < 1$, *n.s.,* could be observed (Figure 3).

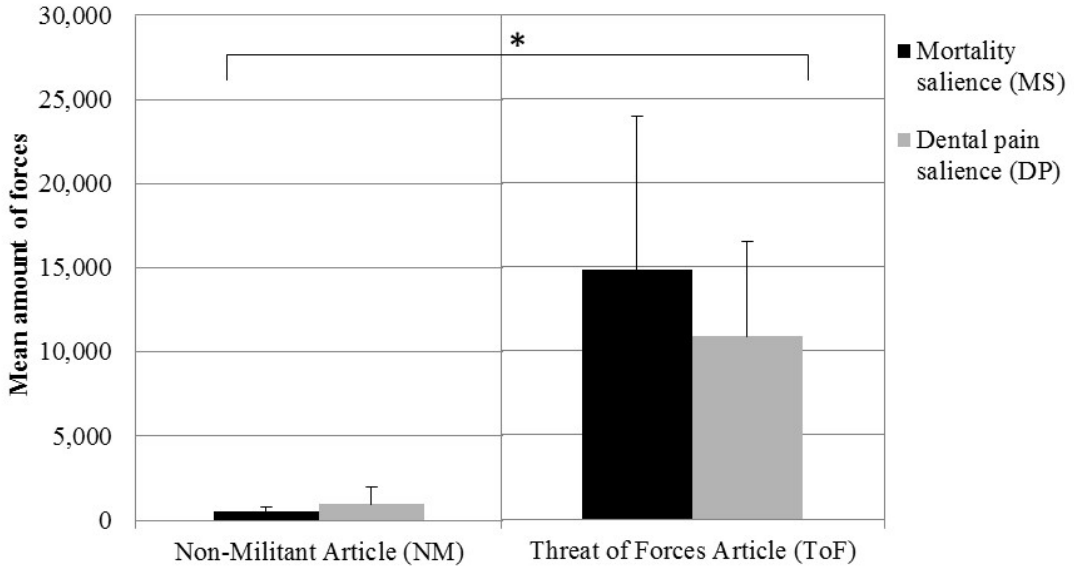

Figure 3. Showing the mean amount of forces to be deployed (aggregated, single indicator of the four types of forces). Error bars indicate + 1 standard error of the mean. Asterisks indicate significant differences between the conditions (*$p < .05$).

Table 1. Means (*M*), standard deviations (*SD*) and subsample size (*n*) for the willingness and the amount of forces to be deployed.

		Salience Condition					
		MS			DP		
	Dependent measures	*M*	*SD*	*n*	*M*	*SD*	*n*
Non-Militant Article	Willingness	.63	.49	24	.30	.46	30
	Amount	515.8	1,131.9		1,001.7	5,014.6	
Threat of Forces Article	Willingness	.61	.50	28	.70	.47	30
	Amount	14,862.1	47,853.7		10,920.4	30,377.6	

Discussion

We were interested in the extent to which threatening news coverage might affect willingness to militarily engage in the current *Ukraine Crisis* in comparison to explicit existential threats. Results revealed a strong impact of the original *Threat of Forces* (ToF) article in accordance with hypothesis 1. Existential threats did not add further effects here, as values for willingness were already high. Classical TMT effects could only be observed when people had read the *Non-Militant* article: Willingness to deploy forces following an *East vs. West* thought pattern increased after a confrontation with existential threats as predicted by hypothesis 2. Explicit existential threats did affect willingness, but not the amount of forces that should be deployed. In contrast, the original ToF article led to overwhelming support for first-step military action towards the Russian border, regardless of the salience condition; and to a significantly higher amount of forces that was deemed appropriate.

General Discussion and Conclusion

"NATO and Russia do not consider each other as adversaries. They share the goal of overcoming the vestiges of earlier confrontation and competition and of strengthening mutual trust and cooperation." (Founding Act NATO-Russia, 1997, p.1) This fundamental idea seems, as of 2015, to have been replaced by a political entrenchment on both sides.

It is not our intention to discuss the political *whys and wherefores* of this crisis, and which political actions would be the wisest. Our focus is the impact reputable journalism has on the re-establishment of threatening *East vs. West* schemata. By comparing media effects and the

outcomes of imagined existential threats in terms of greater enthusiasm for first-step military action, it seems that current respectable media coverage (such as in *DER SPIEGEL*) can attain effects that are—at least in their outcome—comparable to or even far beyond the effects of existential threats. We are aware that we only used parts of an example taken from a single news magazine and that we are a long way from judging the whole media landscape; yet results showed that threatening news coverage is able to strongly influence people's military attitudes in this conflict. Additionally, we did not directly measure *how* participants were affected but only *that* they were affected. Future research has to investigate the cognitive affective process behind these effects.

There is no simple solution or word of advice. The honest depiction of political crises, no matter how threatening, is one of the core duties of journalism. The news magazine DER SPIEGEL, in particular, has been a role model of critical journalism in post-war Germany; for example in the 1950s when the nuclear firepower of the USA and Russia had become more than sufficient to annihilate the whole of mankind.

However, we were surprised by the magnitude of the effect evoked by the original article. The dichotomous viewpoint expressed in the text, as well as by the illustration, has activated a mindset with our participants that is, in its effect, comparable to an acute existential threat. When it comes to the intensity of the military actions in question (that is, the amount of forces to be deployed), the article showed a greater impact than confrontation with one's own mortality did.

Based on the fact that the media affects public opinion (Gunther, 1998), with specific influences on the progression of a crisis (Baum, 2002), we deem it crucial that reputable news coverage includes alternatives to military threat scenarios in their reporting in order to mitigate

the probability of further escalation. News coverage solely foreboding the terror of war, thus following the old-established *East vs. West* schema, might attenuate alternative voices in public debate. In the worst case, it might reduce the probability of peaceful and diplomatic solutions by increasing people's inclination to support military engagement in the conflict.

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Critical reflection

The investigation presented in this publication supported the assumption that the combination of threats and even subtle reminders of former Cold War patterns can increase the likelihood of military thinking. As mentioned earlier, collective identity can be a strong predictor of social behavior in times of political crises and social changes (Polletta & Jasper, 2001). The provided information here was able to draw a line between *us* and *them* by creating two separated groups with seemingly different shared social identities. Furthermore, if participants felt that the action of the other society (in this case Russia) might have harmful consequences for them or the group they belong to, they seemingly perceived a state of threat and uncertainty. Thus, the perception of a society that has threatened the own society in the past with the possibility of doing it again, can create a *collective emotional orientation* (Bar-Tal, 2011) of fear that seems to (automatically) lead to defense mechanism in terms of military action. In other words, the stage is set for a reemerging intractable conflict.

Although other studies have proven similar effects before, it seems remarkable to show these effects in the resurrection of a former conflict that was thought to be overcome with the Cold War era. In addition, these effects are even more strikingly in the light of having used a German sample keeping in mind that German people are usually cautious when it comes to the usage of military means since World Word II. Thus, results vividly illustrate the mechanism of social identity and threats in this conflict and, additionally, point to the crucial role of provided information when it comes to opinion formation in international conflicts.

Besides that and in general, it has to be said that there are different views and needs among the NATO allies (e.g., Baltic States) about how to deal with this conflict in order to create a sense of security (Durkalec & Kroenig, 2016). Some are arguing that sates have to build peace-through-strength while others say that precisely this military build-up will make a serious escalation more likely (for an overview about the arguments see Vasquez, 2009). I agree that there is possibly no easy answer about how to oppose Putin's action, but I believe that we have to learn from the past and to pay attention that history does not repeat itself—a history that was fulfilled with political and military tensions that brought the world to the edge of the abyss. A one-dimensional and threatening depiction of this resurrected conflict—which I aspect to occur

on the Russian side as well—might be a first step to create immovable fronts between the societies again, with (to my opinion) an increased potential for an escalating spiral of conflicts.

As mentioned in the discussion, this publication is far away of judging a single publisher or even the whole media landscape. Our society crucially benefits from diverse and free news coverage. Nevertheless, we have to keep in mind that especially during contentious and dangerous conflicts, people are in particular susceptible to information and the media has a responsibility to report in a multidimensional way. The presented findings underline the persuasiveness through provided information and although we only used parts of the news article, it is hardly possible to simply dismiss the fact that the material being used was rather part of real-time news coverage than purely fictional.

However, some critical notes about the procedure have to be made and further questions still remained open. From a methodological point of view, it can be seen critical that the texts in both articles (original-bellicistic *vs.* neutral, non-militant depiction) were not equal in their length. It remains the possibility that the deeper elaboration of the longer original-bellicistic article may have influenced participants' choice of action. Furthermore, the survey period was relatively long and although statistical tests for time related influences on the presented results showed no effect, there might have been fluctuations concerning the development of the conflict itself. This, in turn, could have influenced participants' perspective about this topic.

A different point concerns the assumption of having used subtle Cold War reminders (*NATO*=blue; *Russia*=red) in the non-militant article, which—in combination with explicit existential threats—have led to similar results as the original-bellicistic article. In fact, results cannot definitely tell what kind influence these reminders might have had, because similar findings could have been made by simply inducing existential threats without these reminders.

Therefore, the next publication tries to address these points and wants to shed light on the question whether subtle variations of visual depictions referring to the former conflict of East vs. West might affect people's way of perceiving their relations nowadays.

2.2 Core publication II: How colors might shape the political perception of East versus West

Motivation

During the middle of the year 2015, Bar-Tal's prognosis concerning the course of intractable conflicts (Bar-Tal, 2011) seemed to turn into reality again; tensions in resurrected East vs. West conflict got intensified. Driven by NATO's fear of a possible Russian invasion of the Baltic and, vice versa, by Russia's fear of a Western military dominance in the Baltic, both sights started to announce new plans of nuclear armament (Durkalec & Kroenig, 2016; Simpson, 2016). By that point it was no longer questioned whether armed forces should be deployed at all, but rather how many of them should be used as a deterrent. In other words, the vicious circle of intractable conflicts' arm race was about to begin (again) including an increased threat of an escalation.

Within this new dimension of debates between the two opponents, I was deeply interested whether subtle reminders of former Cold War patterns—what Bar-Tal defined as *memory of the conflict* (Bar-Tal, 2011)—could affect the way people perceive the relationship between the two political powers. Previous research has shown that colors depicted on a map can increase the perceived polarization between two parties (Rutchick, Smyth, & Konrath, 2009). Furthermore, prior held attitudes seem to influence people's mental representation (e.g., cognitive maps) of political actors (Carbon & Hesslinger, 2013; Carbon & Leder, 2005b), which means that people rely on their worldview to adjust attitudes and process information (Kruglanski, 2004). Yet, it remained unclear whether these ideas could be applied to the resurrection of international conflicts. In other words: Can depictions referring to the past of a conflict that is seemingly more than 25 years ago really influence the way people perceive the resurrection of the conflict nowadays?

Building on these thoughts, an experimental design was prepared that included a fabricated news article describing the new plans of Russia as well as of the NATO states regarding their nuclear armament. The only thing that was manipulated during the experiments was the way of depicting both political powers on a map, which was embedded in in the middle of the news article. Therefore, participants either received a (fabricated) news article in which

both world powers were depicted on a map as *Russia*=red and *NATO*=blue—referring to the Cold War's demarcations (*USSR*=red; *NATO*=blue)—or vice versa; *Russia*=blue and *NATO*=red (see materials used in Study 1 in Figure 3 and Figure 4). In doing so, we could test whether colors affect people's attitude per se or if they need to be in the right context of the conflict's history.

Testing a different sample in Study 2, color assignments were fully removed and replaced by hachured distinctions or no distinctions at all. Here, the idea was to check whether the reversed color depiction (*Russia*=blue; *NATO*=red) might have simply confused people's perception and, therefore, affected their attitudes. Additionally, Study 2 gave the option to test for possible geographical segregation effects (hachured condition) instead of color induced stereotypes in Study 1. To test for these possible effects, participants were asked to make assessment about the relations of NATO allies and Russia after reading the news article.

Der neue Kalte Krieg?

Die Beziehungen zwischen dem Westen und Russland sind angespannt und so schlecht wie noch nie seit dem Ende des Kalten Krieges vor einem Vierteljahrhundert. Doch jetzt droht eine gefährliche atomare Aufrüstungsspirale, in der auch unverhohlen mit nuklearen Drohgebärden eskaliert wird. Die Entwicklung der beiden Konfliktparteien bleibt vorerst offen.

NATO

Die USA wollen nicht nur mehr Kampfpanzer nach Ost-Europa verlegen, sondern überlegen, auch nuklear bestückte Marschflugkörper in Europa zu stationieren.

Nato-Generalsekretär Jens Stoltenberg hat derweil die russische Nuklear-Aufrüstung kritisiert.

Russland

Russland will binnen eines Jahres 40 Interkontinentalraketen für seine Atomstreitkräfte beschaffen.

Die Pläne der USA wiederum seien ein Verstoß gegen die NATO-Russland-Grundakte von 1997, kritisierte der Außenminister Sergei Lawrow in Moskau.

Figure 3. Materials used in Study 1 where Russia is depicted in red and NATO allies in blue.

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Figure 4. Materials used in Study 1 where Russia is depicted in blue and NATO allies in red.

Learning from the critical reflection of the publication "Imagine all the forces", the methodological procedures were also improved. First, the written content remained the same style across all conditions in Study 1 as well as in Study 2. Second, the amount of words describing Russia's and NATO's mode of action were nearly balanced out for both sides. Third, a pretest (N=20; 14 female; M_{age}=28.2 years, SD=9.0) was conducted to examine possible differences between the level of induced threat regarding the written description of Russia (M=3.30, SD=1.56) and the NATO states (M=3.75, SD=1.55), showing no statistical difference $F(1,19)=1.03$, p=.324. Forth, to simulate the effects of information representation as realistic as possible and to increase ecological validity, the time frame of conducting the survey was considerably shortened. We started surveying at the 3rd of August 2015 and finished it at the 5th of August 2015, which corresponds to a time frame of 48 hours. In doing so, we were able to control for external influences and developments concerning the conflict itself by collecting data from 145 participants simultaneously for Study 1 and Study 2. Therefore, we created the possibility to simulate the effects of different information representation in a real-time related context of opinion formation. Results and further details will be explained in the publication attached below.

Short and Sweet

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Back to the USSR: How Colors Might Shape the Political Perception of East versus West

Fabian Gebauer, Marius H. Raab and Claus-Christian Carbon
Department of General Psychology and Methodology, University of Bamberg, Bamberg, Germany; Research group EPÆG (Ergonomics, Psychological Æsthetics, Gestalt), Bamberg, Germany; Bamberg Graduate School of Affective and Cognitive Sciences (BaGrACS), Bamberg, Germany

Abstract
People typically process information to confirm their prior held attitudes and stereotypes. As the political relations between NATO and Russia have distinctively drifted apart in recent years, we were interested in how far old-established color depictions referring to the Cold War's demarcations (USSR = red; NATO = blue) might reinforce people's political perception of an East versus West antagonism nowadays. Participants received a fabricated news article in which both world powers were either depicted on a map as Russia = red and NATO = blue or vice versa (Study 1). Testing a different sample in Study 2, we fully removed color assignments and used hachured distinctions or no distinctions at all. We revealed that perceived political distance between both sides increased particularly for participants with negative attitudes toward Russia, but only when Russia was depicted in red. Thus, colors referring to the old-established Cold War patterns can indeed shape the political perception and reinforce stereotypical East versus West thinking.

Keywords
political perception, colors, Ukraine Crisis, stereotypes, information processing

> From Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the Continent.
>
> —Winston Churchill (1946)

Although political systems and territorial boundaries have shifted since the seminal speech by Winston Churchill, his words seem as topical as ever since the fall of the Iron Curtain

Corresponding author:
Claus-Christian Carbon, Department of General Psychology and Methodology, University of Bamberg, Markusplatz 3, Bamberg D-96047, Germany.
Email: ccc@experimental-psychology.com

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26 years ago. Along with the annexation of Crimea by the Russian Federation, threatening *East versus West* depictions returned in common news coverage, often accompanied by illustrations visualizing old-established Russia versus NATO stereotypes (referring to the former USSR with red and to the NATO member states with blue; Gebauer, Raab, & Carbon, 2016). In fact, research has shown that color can increase the perceived polarization between Democrats and Republicans among the American electorate (Rutchick, Smyth, & Konrath, 2009), and that subtle visual metaphors depicted on a map can affect people's attitudes (Schoormans, Carbon, & Gattol, 2011).

In many real-world contexts, like when reading a newspaper or watching the newscast, people do not process information in a neutral way; instead, they search for information that confirms their prior held attitudes and stereotypes (Kruglanski, 2004), even affecting a mental distance gap between East and West (Carbon & Leder, 2005). Following these ideas, we aimed at investigating how far participants' perception—especially for those holding strong attitudes against Russia—of the political relationship between Russia and the NATO members might be affected by the mere visualization of the territories of both power blocks. In Study 1 ($N = 75$; 39 male; $M_{age} = 23.1$ years, $SD = 2.4$), we implemented a map either visualizing the typical colorization used during the Cold War, that is, Russian territory in red and NATO territory in blue, or showing an inversed and thus atypical color assignment (Figure 1, left column). In Study 2 ($N = 70$; 43 female; $M_{age} = 23.7$ years, $SD = 2.9$), we removed the color classifications and replaced them either with hachured distinctions or no graphical distinction at all (Figure 1, right column). All participants were invited to read and to evaluate a fabricated news article that was the same in both studies and conditions and only differed in the type of map embedded. The text described the armament of Russia as well as of the NATO states in a matter-of-fact style, with an equal amount of text for both sides. A pretest ($N = 20$; 14 female; $M_{age} = 28.2$ years, $SD = 9.0$) showed no significant difference between the level of induced threat regarding the written description of Russia ($M = 3.30$, $SD = 1.56$) and the NATO states ($M = 3.75$, $SD = 1.55$), $F(1,19) = 1.03$, $p = .324$, $\eta_p^2 = .05$. Before reading the fabricated news article, all participants in both studies, which were conducted simultaneously in July 2015 to ensure a maximum of comparability, were asked to rate on a 6-point semantic differential "Who is to blame for the Ukraine Crisis?" (NATO vs. Russia). Blame scores did not differ significantly in any of the conditions used in Study 1 and Study 2, $F(3,141) < 1$, $p = .731$, $\eta_p^2 = .009$. After participants read the article, they were asked to rate the perceived political distance between both power blocks using the following item: "The political distance between the NATO states and Russia seems extremely strong to me" (1 = *strongly disagree*, 7 = *strongly agree*). As a last step, all participants were debriefed in Study 1 as well as in Study 2.

In Study 1, regressing political distance scores onto *map condition* (Russia red vs. Russia blue; dummy coded), *blame assessments* (continuous and centered), and their interaction showed no main effect for *map condition*, $\beta = .12$, $SE = .32$, $t(71) < 1$, $p = .708$, $R^2 = .002$, and none for *blame assessment*, $\beta = .29$, $SE = .20$, $t(71) = 1.43$, $p = .157$, $R^2 = .069$. The two-way interaction, however, turned out to be significant, $\beta = 1.03$, $SE = .34$, $t(71) = 2.59$, $p = .012$, $R^2 = .080$ (Figure 1; bottom of left column). The interactions in Figure 1 are plotted at one standard deviation above and below the centered mean of the blame assessment scores (Aiken & West, 1991). Simple slope analysis revealed that blame assessments (Russia high) significantly and positively predicted political distance scores in the Russia = red condition, $\beta = .81$, $SE = .23$, $t(71) = 3.46$, $p < .001$, but not in the Russia = blue condition, $\beta = -.22$, $SE = .32$, $t(71) < 1$, $p = .492$. Additionally, among participants with high blame assessments toward Russia, political distance scores were higher in the Russia = red condition, $\beta = 1.01$, $SE = .77$, $t(71) = 2.14$, $p = .036$. There was no simple effect of condition, in contrast, among participants with low blame assessments toward Russia, $\beta = -.76$, $SE = .47$, $t(71) = 1.63$, $p = .108$.

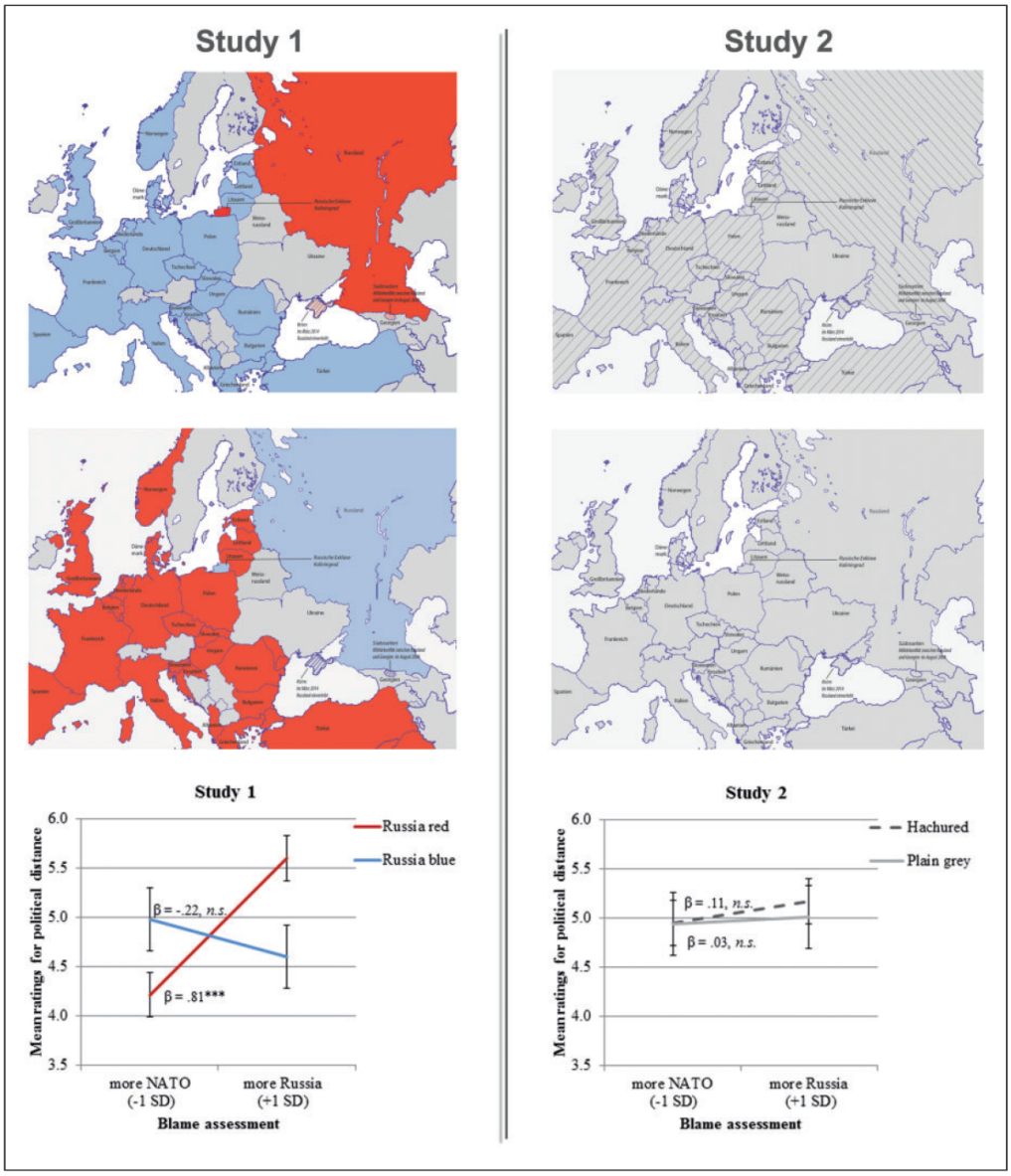

Figure 1. The maps used for Study 1 (left column) and Study 2 (right column). Bottom row showing mean ratings for the perceived political distance between the NATO and Russia by map condition (Study 1; Russia = red vs. Russia = blue and Study 2; hachured vs. plain grey) and prior held blame assessments (continuous and centered variable) for the Ukraine Crisis. Error bars indicate ± 1 standard error of the mean (*** indicates $p < .001$).

Study 2 showed that regressing political distance scores onto *map condition* (hachured vs. plain gray; dummy coded), *blame assessments* (continuous and centered), and their interaction revealed neither a main effect for *map condition*, $\beta = .09$, $SE = .32$, $t(66) < 1$, $p = .792$, $R^2 = .001$, nor for *blame assessments*, $\beta = .07$, $SE = .17$, $t(66) < 1$, $p = .661$, $R^2 = .003$, and additionally no interaction effect, $\beta = .08$, $SE = .33$, $t(66) < 1$, $p = .821$,

$R^2 < .001$. Consequently, simple slope analyses showed no significant effects, all $t_s < 1$ (Figure 1; bottom of right column).

Results indicate that colors depicting the old-established Cold War patterns can indeed affect participants' political perception of an East versus West conflict that has come full circle. Such color schemes can induce a higher perceived political distance, especially for those who strongly blame Russia for this crisis. Thus, these depictions might not affect people per se but can confirm and reinforce prior held attitudes—whether the strong effect of the color red in our study can be attributed to a kind of red-negative-associations or stereotypical red-Soviet Union-associations cannot fully be decided within the scope of the current study; also note that although red = negative stereotypes have been documented so far, other authors also claim positive relations with the color and others fail to find any main effect of red at all (Hesslinger, Goldbach, & Carbon, 2015). To create a better understanding of colors and political thinking, future research might extend these findings to other antagonistic country pairs (e.g., India and Pakistan[1]), where neither is associated with the color red. However, our findings are a first step toward a fairly undiscovered field of psychological research and are in accordance with former findings showing that prior attitudes can bias information processing (Kruglanski, 2004) and mental representations (Carbon & Leder, 2005; Hesslinger et al., 2015). Additionally, findings might help to better understand the power of specific depictions in news coverage by applying these ideas to the domain of color-induced stereotypes.

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Critical reflection

The results described in the publication revealed that even seemingly subtle reminders of the former conflict within information representations can affect people's political perception. Although we visually separated NATO allies and Russia in three out of four conditions within the study designs, only the *Russia*=red and *NATO*=blue condition showed significant effects on participant's political perception. The simple usage of colors referring to the old-established Cold War patterns led people—especially those blaming Russia for the crisis—to perceive an increased political distance between the two political powers.

Again, Bar-Tal's assumption about the socio-psychological infrastructure of intractable conflicts seemed to be confirmed focusing on the important factor of the *memory of the conflict* as an influential predictor of current opinion formation. This means that triggering the memory of the conflict which is more than 25 years ago can still reinforce people's thinking to interpret the new conflict. Proving this effect is highly interesting, because it demonstrates how deeply the memory of the conflict can be rooted in people's mindsets and simultaneously influence the way we perceive the resurrection of the conflict nowadays. Furthermore, results vividly illustrate the power of even subtle variation in news coverages, which can affect the way people process information and build up their attitudes. Since analyses didn't reveal any simple main effects, these depictions might not affect people per se, but can confirm and reinforce prior held attitudes. From a practical perspective, these findings give hints about how media coverage can avoid biased attitude formation by using less historically charged depictions.

On the other hand, one might argue that the color red induces negative attitudes per se. Since statistical analyses didn't show any simple slope effects in the *NATO*=red and *Russia*=blue condition, we didn't find any evidence that it really does. Furthermore, it was tested whether red might provoke any aggression related attribution to either the NATO allies or Russia by asking "I consider the act of NATO/Russia as aggressive". Again, neither main, interaction nor simple slope effects showed any statistical significance indicating that the color red has had a specific political and to the former USSR related effect.

Nevertheless, and although it was also tested for possible aggression inducing effects of the color red—where no effects could be found in both studies—it cannot fully be decided within the scope of the current study whether the strong effect of the color red has a general and stereotypical red-Soviet-Union-association for Russia. Hence, it remains the possibility that these effects might occur for other former USSR states like Belarus, Kazakhstan or Kyrgyzstan.

Further limitations of the studies were that we only used one scenario describing the possible armament of both political powers. Results may vary if the situation is depicted less threatening since people process information under threat differently (see theoretical part of this thesis). Additionally, results cannot tell whether every reminder of the former Cold War will per se affect people's assessment of the new conflict. Further research has to investigate the specific content and the relational effects of visual and written forms of such typical reminders concerning the memory of the conflict. However, these findings are a first step toward a fairly undiscovered field of psychological research and are in accordance with former findings showing that prior attitudes can bias information processing (Kruglanski, 2004) and mental representations (Carbon & Leder, 2005b).

Building on this insight, the next publication tries to deepen the understanding on the interaction of semantical cues and predispositions concerning opinion formation in the emergence of actual political state of affairs, namely: The perception of conspiracies between the US and Russia in a real-time context.

2.3 Core publication III: Conspiracy formation is in the detail

Motivation

On Thursday, 28th of May 2015 at 09:34 PM (Central European Time (CET)) the online platform of Fortune magazine was one of the first titling: "Putin thinks the FIFA scandal is all a US conspiracy" (Smith, 2015). What has been happening up to then?

On Wednesday, 27th seven top officials from the Fédération Internationale de Football Association (FIFA) were arrested due to suspicion of corruption. US federal prosecutors disclosed cases where they accused these FIFA officials to be involved in wire fraud, racketeering and money laundering, which were additionally associated with the allocation of the upcoming football World Cups in Russia (2018) and Qatar (2022). As a result, questions were raised in how far the allocations (including the World Cup in Russia) were based on legal grounds and possible reallocations of the World Cups were not ruled out. Vladimir Putin, however, saw these actions as an obvious campaign by the US against Russia to have the World Cup withdrawn. This reasoning led Putin to see 'multiple actors working together with a clear goal in mind, often unlawfully and in secret' (Swami & Furnham, 2014, p. 220)—a current approach to define the belief in a conspiracy.

At this very moment my colleagues and I saw the unique chance to test several hypotheses that haven't been examined in the emergence of a political state of affair before:

1) Is conspiratorial reasoning of conspiracy believers and sceptics in an ongoing event a priori determined?
2) If not, what kind of information characteristics can be responsible for provoking a polarization?
3) Would the USA and Russia work (again) as opponents on the global stage of conspiracies?

We grasped the opportunity presented by this highly relevant topic to experimentally test these research questions. To be sufficiently able to conduct the experiments under most realistic circumstances, we started surveying only 2 days after the US investigations had been revealed; that is, on Friday, 29 May 2015 at 10:00 AM (CET) and finished on the same day at 04:00 PM (CET). In a six hour time frame we collected data from more than 200 participants in two simultaneously conducted studies and asked them about their conspiratorial reasoning just in time, before the conspiracy theories flooding the newspaper message boards became common knowledge. Thus, the motivational orientation created by the experiment was rather driven by the informational uncertainty about the target issue than by uncertainty caused due threats as in the previous studies. From a practical view, using this uncertainty is highly important, because public events are almost always followed by discussions and debates, often in social media and message boards, about the event's 'true nature'. Thus, results allow drawing ecologically valid conclusions about how provided information might affect people's conspiratorial reasoning under real circumstances.

Looking into the content, Study 1 investigated how depicted causation (direct vs. indirect) might invoke a bias in believers and sceptics regarding conspiratorial reasoning about an ongoing event, namely; whether US investigations against FIFA were more or less likely to be seen as a conspiracy against Russia to sabotage the football World Cup in 2018. Study 2 concentrated on the depicted intention (strong vs. weak purposeful) and its possible effects on people's conspiratorial reasoning.

As in the other publications described before, we used fabricated news article to be evaluated by participants. The text of every condition was unique in one to two sentences appended at the end of the main text. In these sentences, we implemented hints of direct and indirect causation (Study 1) as well as strongly purposeful (MiHoP) and weakly purposeful (LiHoP) intentions (Study 2) indicating that US investigations could be seen as an attempt to harm Russia. Results and further details will, again, be explained in the publication attached below.

Applied Cognitive Psychology, Appl. Cognit. Psychol. (2016)
Published online in Wiley Online Library (wileyonlinelibrary.com) **DOI**: 10.1002/acp.3279

Conspiracy Formation Is in the Detail: On the Interaction of Conspiratorial Predispositions and Semantic Cues

FABIAN GEBAUER[1,2], MARIUS H. RAAB[1,2] and CLAUS-CHRISTIAN CARBON[1,2]*

[1]*Department of General Psychology and Methodology, University of Bamberg, Bamberg, Germany*
[2]*Bamberg Graduate School of Affective and Cognitive Sciences (BaGrACS), Bamberg, Germany*

Summary: Significant events are frequently followed by discussions about the event's 'true nature'. Yet, there is only little evidence whether the conspiratorial reasoning of conspiracy believers and sceptics is a priori determined, or if certain characteristics of information are responsible for provoking a polarization. We investigated how depicted causation (direct vs. indirect; Study 1) and intention (strong vs. weak purposeful; Study 2) might invoke a bias in believers and sceptics regarding conspiratorial reasoning about an ongoing event, namely, whether US investigations against FIFA were more or less likely to be seen as a conspiracy against Russia to sabotage the football World Cup in 2018. We revealed that judgments of conspiracy believers and sceptics about the event's 'true nature' are not a priori divided—in fact, conspiracy formation is only affected when direct causation or strong purposeful intentions were obvious. Results point to the relevance of conspiratorial predispositions and semantic cues in conspiracy formation. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

> Wednesday, 05/27/2015: After US investigations, seven top FIFA officials were arrested on suspicion of corruption.Thursday, 05/28/2015: US prosecutors opened criminal proceedings related to the awarding of the Russian World Cup in 2018.

Would you, based on the information given, accept or reject the idea that the entire investigation against FIFA[1] was a conspiracy by the USA to harm Russia? Or, to put it another way: Were US investigations against FIFA only used as a proxy conflict scenario for the Ukraine Crisis[2] (Costea, 2014) to put the Russian World Cup in 2018 at risk?

The answer will probably be related to a person's world view, as previous research has identified dispositions towards general conspiratorial thinking as predictors for an increased belief in a specific conspiracy (e.g. Swami, Chamorro-Premuzic, & Furnham, 2010; Swami & Furnham, 2014). Indeed, the belief in conspiracies, where people see 'multiple actors working together with a clear goal in mind, often unlawfully and in secret' (Swami & Furnham, 2014, p. 220), is a common phenomenon. Recent national surveys revealed that half of the American public believe in at least one conspiracy theory (Oliver & Wood, 2014); with, for example, a significant number of people doubting that the 9/11 attacks were exclusively initiated by al-Qaeda (Swami et al., 2010). In Germany, we face a similar pattern: Bartoschek (2015) found that 51.7% ($N = 683$) agree with the statement that the official account given by the Bush administration concerning 9/11 is not true. These numbers are highly interesting, as previous research has shown that people who believe in one conspiracy are more likely to believe in others as well (Abalakina-Paap, Stephan, Craig, & Gregory, 1999). Although the contents of conspiracy theories show considerable variety (Oliver & Wood, 2014), the wide circulation of such beliefs illustrates an important psychological issue: Personal beliefs about the 'true nature' of an upcoming political event might be affected by the extent to which someone generally accepts or rejects conspiracy theories.

Individual differences in conspiracy formation

Many studies have confirmed the idea that the interpretation of a new issue is dependent on already existing attitudes (Berinsky, 2012; Kruglanski, 2004; Zaller, 1992), and indeed, people who believe in one conspiracy (i.e. having a high conspiratorial predisposition[3]) tend to believe in others as well (e.g. Abalakina-Paap et al., 1999; Wood, Douglas, & Sutton, 2012), whereas people with a low conspiratorial predisposition are more sceptical towards the occurrence of a conspiracy (Leman & Cinnirella, 2013; Uscinski et al., 2016). This 'conspiracy mentality'—a mindset focusing on antagonism and on the intentions of supposed conspirators (Moscovici, 1987)—seems to be a rather stable individual trait (Imhoff & Bruder, 2014). Miller, Saunders, and Farhart (2015) emphasized that conspiracy formation is a highly motivated process that is related to someone's ideological way of thinking. The likelihood to endorse a conspiracy increases, therefore, if a conspiracy is in line with someone's own worldview; the person has the motivation to protect that worldview; and he or she believes that in this world conspiracies are not only possible but also ubiquitous (also Hartman & Newmark, 2012; Pasek, Stark, Krosnick, & Tompson, 2015). Other authors argue that conspiracy believers—in contrast to conspiracy sceptics—often build their convictions about ongoing events irrationally (Clarke, 2002) and tend to overestimate the likelihood of co-occurring events (Brotherton & French, 2014). Additionally, conspiracy belief

*Correspondence to: Claus-Christian Carbon, Department of General Psychology and Methodology, University of Bamberg, Markusplatz 3, D-96047 Bamberg, Germany.
E-mail: ccc@experimental-psychology.com

[1] *Fédération Internationale de Football Association*.
[2] We refer to the international political crisis that was provoked most recently by the annexation of Crimea by Russia (Costea, 2014).

[3] Relying on previous research, we define *conspiratorial predispositions* as an individual's underlying tendency to view the world in conspiratorial terms (Uscinski, Klofstad, & Atkinson, 2016).

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seems to be associated with a general tendency to attribute agency and intentionality where it is unlikely to be in effect (Douglas, Sutton, Callan, Dawtry, & Harvey, 2016). Taken together, these findings imply a rather stable personality disposition, and consequently, conspiracy beliefs about upcoming major events should inherently differ for people with a high versus low conspiratorial predisposition. This conclusion, however, seems to draw an incomplete picture because people also judge ongoing events with hypotheses regarding the information being presented (Klayman & Ha, 1987) Or, to put it in the words of Zaller (1992), 'Every opinion is a marriage of information and predisposition' (p. 6).

Information characteristics and conspiracy belief

People seem to have a general tendency to interpret information that is in line with their own beliefs and to dismiss alternative possibilities that challenge these beliefs (Zaller, 1992). With respect to conspiracy formation, first insights show that the characteristics of the presented evidence for and against a conspiracy theory influenced participants' attribution of the likelihood of a conspiracy (Leman & Cinnirella, 2013; Raab, Auer, Ortlieb, & Carbon, 2013; Warner & Neville-Shepard, 2014). In this manner, Uscinski et al. (2016) have revealed that information cues need to be met by an individual's predisposition towards a conspiracy in order to become effective. More specifically, Bost and Prunier (2013) found evidence that the distinct perception of a conspirator's motive, in particular, leads additionally to a higher belief in a conspiracy itself. These results are in line with theories about opinion formation in general (e.g. Zaller, 1992) and with regard to conspiracy formation specifically: Informational cues can affect a person's conspiracy belief, but the level of one's conspiratorial predisposition might decide whether the notion of a conspiracy will be accepted or rejected (Uscinski et al., 2016). However, the research area on conspiracy theories is still missing a systematic approach that relates specific properties of information to the emergence of conspiracy beliefs. We assume that the semantics of intent and responsibility—the semantic linkage of information—might interact with conspiratorial predispositions. Accordingly, we aimed to address these issues by investigating how specific semantic cues affect the formation of conspiracy beliefs for those with high versus those with low conspiratorial predispositions.

THE PRESENT RESEARCH

Our research focused on a systematic approach that links manipulated *perceived causation* and an actor's *supposed intention* towards an upcoming event that might reinforce participant's conspiratorial predispositions. We were aiming to find the structure of information needed to accept or reject a conspiracy belief for people with high versus people with low conspiratorial predispositions. More specifically, we were interested in what it takes for participants to make a distinct judgement in the form of an *event-based conspiracy theory* (Barkun, 2003); that is, under what circumstances are some people willing, and at the same time others reluctant, to spot an organization that is systematically and secretly pursuing its goals by manipulating specific important events? We decided to take a very recent topic from the news to (i) attract people to the study and (ii) test our hypotheses under ecologically valid conditions. We took on the opportunity of examining US investigations against FIFA for a number of theoretical reasons:

- The US government frequently features in conspiracy theories.
- The Ukraine Crisis raised public awareness to the fact that NATO (mainly comprising the USA) and Russia were becoming enemies once again.
- The link between US investigators, FIFA and consequences for the Russian World Cup in 2018 was a new one.
- The opacity of the organization 'FIFA' and the complexity of the investigations left room for speculation beyond the official statements.
- As we conducted our studies right after the initial media coverage, our participants did not have time to read about (or elaborate for themselves) a conspiratorial interpretation of this course of events.

In sum, we took the opportunity to investigate a current political topic where participants had a comparably low level of prior knowledge, and where no conspiratorial narratives were already circulating. Our experimental approach was derived from theoretical deliberations that describe causation and an actor's purposeful intention as one of the main aspects of evidence-based judgements about harmful events (Alicke, 2000; Heider, 1958; Schlenker, Britt, Pennington, Murphy, & Doherty, 1994; Weiner, 1995). We adopted those viewpoints with regard to political conspiratorial predispositions and applied it to an ongoing event, namely, to the question of whether US investigations against FIFA were more or less likely to be seen as an action against Russia to prevent the scheduled World Cup in 2018.

Semantic linkage of information influencing judgments

There are at least two main aspects people consider when judging someone's responsibility for the occurrence of an event: causation and intention.

Causation

A direct causation is given when event A leads to result B. The strength of the perceived causal impact is predicted by proximity in the chain of events producing a specific outcome (Alicke, 2000). For example, when event A leads to result B, which in addition results in event C, the causal impact of A being the reason for result C is lower (indirect causation) than for A being the cause of result B (direct causation). Research on causal control is complex and can include and combine desire and foresight (Alicke & Rose, 2012); yet for our purpose, we refer to the dimension of direct and indirect causality only to gather new insights into conspiracy research. In this regard, previous research has already demonstrated that people with distinct conspiratorial predispositions did not differ in their conspiratorial reasoning when informational cues were rather weak and unrelated to a possible conspiracy (Uscinski et al., 2016). Therefore, we hypothesized that conspiratorial predispositions and

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informational cues interact when it comes to the evaluation of a novel conspiracy. A biased reasoning about a possible conspiracy—for people with high versus low conspiratorial predispositions—should only become effective when an actor is clearly depicted as the direct cause of a possible conspiracy: here, US investigations being responsible for a possible reallocation of the Russian World Cup. We suppose that an indirect causal depiction does not induce a conspiratorial conclusion, neither for those with a low conspiratorial predisposition to reject nor for those with a high conspiratorial predisposition to accept a secret plot.

Intention

The action of agent A leading to result B can either be strongly purposeful, which means *make it happen on purpose* (*MiHoP*), or weakly purposeful in terms of *let it happen on purpose* (LiHoP), as proposed by Ganser (2006)—for similar concepts, see Alicke (2000) and Heider (1958). With LiHoP, important changes are side effects of a powerful agent's actions, tacitly approved, but without being the agent's main goal. In Alicke's (2000) terms, this would correspond to moderate volitional control (as the side effects are known and approved of). Under a MiHoP assumption, on the other hand, the agent is attributed with high volitional *and* causal control. These different *intentions* can have a great impact on the assessment of who is responsible. People acting purposefully to produce harmful events are more likely to be blamed than people acting non-purposefully (Schlenker et al., 1994). On the other hand, the weakly purposeful depiction (LiHoP) offers an interesting view; regardless of whether agent A acted volitionally or not in producing result B, there remains a direct causation of result B by agent A (Malle, Guglielmo, & Monroe, 2014). Previous findings on conspiracy formation suggest that the depicted motive of a conspirator might be related to someone's belief in a conspiracy (Bost & Prunier, 2013) and that the justification of an unfamiliar and more novel conspiracy relies predominantly on the perceived motive of a possible conspirator (Bost, Prunier, & Piper, 2010). Building on that work and the finding that informational cues interact with people's conspiratorial predisposition (Uscinski et al., 2016), we hypothesized that conspiratorial predispositions and different intentional cues interact when it comes to people's reasoning about a novel conspiracy. People with high versus low conspiratorial predispositions should only differ in their conspiratorial reasoning when an actor's motive is clearly depicted as a purposeful act to harm someone else. Therefore, we predicted that depicting US investigations as a strongly purposeful act (MiHoP) intended to harm Russia will lead to a biased reasoning about a possible conspiracy with regard to participants' conspiratorial predispositions, whereas the depiction of a weakly purposeful act (LiHoP) should not.

GENERAL METHOD

Procedure and materials

We conducted Studies 1 and 2 simultaneously to ensure maximum comparability, that is, to minimize the effects that might stem from dynamics in the media, from public debate or from new insights into the investigations against FIFA becoming public in the meantime. These factors are known to influence people's opinion about a possible conspiracy (Einstein & Glick, 2015), and we aimed to decrease the impact of such confounding variables. Therefore, we started surveying only 2 days after the US investigations had been revealed; that is, on Friday, 29 May 2015 at 10:00 AM (Central European Time (CET)) and finished on the same day at 04:00 PM (CET). The required sample size was calculated beforehand by the G*POWER software program (Faul, Erdfelder, Lang, & Buchner, 2007) with the assumptions for linear multiple regression of $\alpha = .05$, $1 - \beta = .95$, anticipating a medium effect size of $R^2 = .15$ and two tested predictors yielding an n per condition of at least 47. All participants were randomly assigned to Study 1 or Study 2 and to one of the conditions.

To conceal the intent of the studies, we asked participants to take part in a study concerning opinions about recent media coverage. First, participants gave written sociodemographic information: how much they are into football in general and how much they had followed the current FIFA investigations via the media (both on a 6-point Likert scale). Then, participants were asked to carefully read a short (fabricated) journalistic-style text that summarized the current state of affairs regarding the investigations. The beginning of the text was the same for every condition, in Study 1 as well as Study 2, and incorporated the latest state of affairs (Thursday, 28 May 2015 at 09:00 PM (CET)):

> Zurich/New York (dpa)—US Attorney General Loretta Lynch defended the investigations against world football federation FIFA, and the detention of seven FIFA officials in Zurich, at a press conference in New York. 'This kind of corruption and the bribery in international soccer has been going on for two decades.' US authorities are accusing the seven detained FIFA officials of corruption over a period of at least 24 years. 'They corrupted the worldwide soccer business to enrich themselves', said Ms. Lynch. 'They have done it again and again, year after year, tournament after tournament.'

The text of every condition was unique in one to two sentences appended at the end of the main text (note: 'dpa' stands for 'Deutsche Presse-Agentur GmbH', the largest press agency in Germany). In these sentences, we implemented hints of direct and indirect causation (Study 1) as well as strongly purposeful (MiHoP) and weakly purposeful (LiHoP) intentions (Study 2) indicating that US investigations could be seen as an attempt to harm Russia.

After reading the (fabricated) news article, participants were asked to answer 12 items that were displayed on the same page as the article. The instructions clearly asked to give a personal assessment for each question. All items had to be answered on a 6-point Likert scale (1 = *I do not agree at all*, 6 = *I fully agree*). Four out of the 12 items[4] were *a*

[4] Four of the remaining items were generated for a different research question concerning the political implications of the affair. The other four were filler items asking for participants' judgement about recent media coverage related to our cover story. The full item list is available upon request from the authors.

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priori generated to evaluate whether participants believed that the US investigations were a political conspiracy against Russia, namely,

– 'The investigations are part of a global power game.'
– 'The USA is trying to harm Russia with their investigations.'
– 'The investigations becoming public right now is no coincidence.'
– 'FIFA is just a pawn sacrifice in the USA's striving for global dominance.'

Responses to these four items were averaged to form the single indicator *conspiracy belief* ($M_{grand} = 3.55$, standard deviation (SD) = 0.99; Cronbach's $\alpha = .73$).

Additionally, as the last part of the procedure before debriefing, we asked participants to fill out the subscale *government malfeasance* of the *Generic Conspiracist Beliefs* (GCB) *scale* by Brotherton, French, and Pickering (2013) to test for conspiratorial predispositions. The GCB is a measure of conspiracy ideation that does not refer to any real-world events, but rather, it measures the general endorsements of conspiracies upon content-related subscales. The subscale consisted of three items:[5]

– 'The government is involved in the murder of innocent citizens and/or well-known public figures, and keeps this a secret.'
– 'The government permits or perpetrates acts of terrorism on its own soil, disguising its involvement.'
– 'The government uses people as patsies to hide its involvement in criminal activity.'

Responses to these items were averaged to the single indicator *conspiratorial predispositions* ($M_{grand} = 2.90$, $SD = 0.98$; Cronbach's $\alpha = .76$, accords to an 'acceptable' scale quality) for the assumptions of general conspiracies within governments. Finally, participants were debriefed and thanked for their attendance in the 10-minute procedure.

STUDY 1

Participants and design

In Study 1, we tested whether direct or indirect causation might lead to the activation of a conspiratorial predisposition. The participants were 102 volunteers recruited on the campus of the University of Bamberg, Germany. Five participants had to be removed from further analysis owing to incomplete filling in of the questionnaire (two or more dependent items missing), with 97 participants remaining (51 female; $M_{age} = 24.4$ years, $SD = 5.2$). Our approach followed the implication that an indirect causation between A and C is given when A affects B and B affects C, whereas a direct causation occurs when action A directly affects C (Figure 1). To test this assumption and to ensure the ecological validity of the original studies, we conducted a manipulation check with the same texts but a different sample ($N = 20$; 11 male; $M_{age} = 25.6$ years, $SD = 8.0$). Here, participants had to rate the following item on a semantic differential scale (1 = *indirect*; 7 = *direct*) for both texts: 'To what extend are the US investigations described as a direct or indirect causation that might affect Russia's hosting of the World Cup in 2018?'

Direct causation

To imply a direct connection between the US investigations and Russia, we needed to express that the World Cup in Russia is at risk *because* of the US investigations. Therefore, we added a sentence implying the direct linkage of the investigations and a possibly endangered World Cup. The end of the text read:

> There is the suspicion 'that there have been irregularities in the allocations for the World Cups in 2018 (Russia) and 2022 (Qatar).' This might lead to a reallocation of the upcoming World Cups. Due to the US investigations, the carrying out of the World Cup in Russia in three years is no longer certain.

The direct causation was basically expressed by the last sentence, referring to US investigations as the cause that might affect the Russian World Cup.

Indirect causation

The aim of the condition 'indirect causation' was to draw an indirect connection between US investigations against FIFA and their implications for Russia, namely, the possible withdrawal of the World Cup. The logical implication was that US investigations revealed corruption within FIFA (described in the text that is common to all conditions), which in turn uncovered irregularities in the allocation of the upcoming World Cups (including the one in Russia), thus possibly leading to a reallocation. In other words, while there is still a linkage between investigations and the World Cup, the linkage should be weak and indirect (Figure 1). Therefore, we rephrased the last sentence of the direct causation condition:

> There is the suspicion 'that there have been irregularities in the allocations for the World Cups in 2018 (Russia) and 2022 (Qatar).' This might lead to a reallocation of the upcoming World Cups. The investigations additionally led to political discussions beyond FIFA.

Since the main text described that US investigations uncovered corruption within FIFA, the second sentence gave the hint that this might also affect the upcoming World Cups, which included the one in Russia (but without explicitly referring to it).

Results

Manipulation check

Using a different sample, we tested whether the text in both conditions does in fact indicate a direct rather than an

[5] We asked participants to fill in the *government malfeasance* scale after the treatment, to prevent the content of the GCB from acting as a trigger regarding conspiratorial thinking. As this scale is a trait questionnaire and statistical analysis of the subscale *government malfeasance* showed no significant effects regarding the treatment in Study 1, $F(1, 95) < 1$, $p = .713$, and Study 2, $F(1, 98) < 1$, $p = .672$, we regard it as an independent variable. Additionally, the *government malfeasance* scores did not differ significantly across the four conditions regarding Studies 1 and 2, $F(3, 193) < 1$, $p = .912$.

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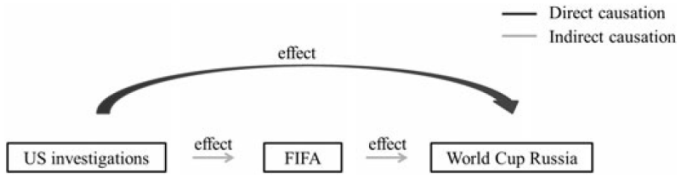

Figure 1. Semantic linkage for direct and indirect causation regarding the effects of US investigations, FIFA and the World Cup in Russia in 2018

indirect causation of US investigations thwarting Russia. As expected, participants perceived a higher direct coherence of US investigations affecting the Russian World Cup in the direct causation condition ($M = 4.30$, $SD = 1.87$) than in the indirect causation condition ($M = 3.15$, $SD = 1.63$), $F(1, 19) = 4.90$, $p = .039$, $\eta_p^2 = 0.205$. Results confirmed our assumption that both conditions indeed induce the predicted semantic linkage of direct versus indirect causation.

Conspiracy belief

To test our prediction that only direct causation will activate a conspiratorial predisposition, we regressed conspiracy belief scores onto *causation condition* (direct vs. indirect; dummy-coded), *conspiratorial predisposition* (continuous and centred), and their interaction.[6] The overall model was significant, $F(3, 93) = 6.41$, $p < .001$, $R^2 = .171$. Regression analysis showed a main effect for *conspiratorial predisposition*, $\beta = .36$, $SE = 0.09$, $t(93) = 3.78$, $p < .001$, $R^2 = .127$, 95% $CI_\beta = [0.17, 0.54]$, but none for *causation condition* $\beta = -.12$, $SE = 0.19$, $t(93) = -0.62$, $p = .535$, $R^2 = .002$, $CI_\beta = [-0.50, 0.26]$. The two-way interaction, however, turned out to be significant, $\beta = .41$, $SE = 0.19$, $t(93) = 2.18$, $p = .032$, $R^2 = .042$, 95% $CI_\beta = [0.04, 0.78]$. The interaction is plotted in Figure 2 at 1 *SD* above and below the centred mean of conspiratorial predispositions (Aiken & West, 1991). A simple slope analysis revealed that conspiratorial predispositions significantly and positively predicted conspiracy belief in the direct causation condition, $\beta = .56$, $SE = 0.13$, $t(93) = 4.22$, $p < .001$, 95% $CI_\beta = [0.30, 0.82]$, but not in the indirect causation condition, $\beta = .15$, $SE = 0.13$, $t(93) = 1.11$, $p = .268$, 95% $CI_\beta = [-0.17, 0.41]$.

Discussion

The results of Study 1 support our hypothesis that a biased reasoning regarding a possible conspiracy for those with high versus those with low conspiratorial predispositions only occurs when participants are confronted with the implication of a direct causation. Confronted with indirect causation, participants' conspiratorial predispositions did not predict their belief in a US conspiracy. We consider this to be the first piece of evidence that a biased belief in conspiracies about ongoing events does not emerge 'out of nowhere'; only the depiction of a direct causation fully reinforced participants' conspiratorial predispositions.

[6] We controlled for participants' previous knowledge about the FIFA investigations ('How much have you been following the current FIFA investigations via the media?' on a 6-point Likert scale) in Studies 1 and 2 to check for prejudice-based judgments. We found no significant influence on our reported effects. Therefore, and to simplify our presentation of results, we do not report this variable in further descriptions.

STUDY 2

Participants and design

In Study 2, we tested whether the depiction of US investigations being a strong or weak purposeful act to harm Russia would provoke a biased conspiracy belief. One hundred and one participants took part in this study. They were recruited on the campus of the University of Bamberg, Germany. One participant did not fill out the *government malfeasance* scale and had to be removed from further analysis, resulting in 100 volunteers being analysed (65 female; $M_{age} = 25.8$ years, $SD = 6.4$). The main text was the same as in Study 1. Again, we conducted a manipulation check with the MiHoP and LiHoP texts using a different sample ($N = 21$; 15 female; $M_{age} = 24.1$ years, $SD = 6.6$). Participants had to rate the following item on a semantic differential scale (1 = *non-purposeful*; 7 = *purposeful*) for both texts: 'To what extend are the US investigations described as a non-purposeful or purposeful act to affect the holding of Russia's World Cup in 2018?' Using the same item as in Study 1, we tested additionally for direct versus indirect causation, as we hypothesized that the weakly purposeful LiHoP condition might also imply a moderate direct causation.

Strong purposeful intention (make it happen on purpose)

To examine whether the description of a strong purposeful plot—that is, a plot where the primary intention was to harm

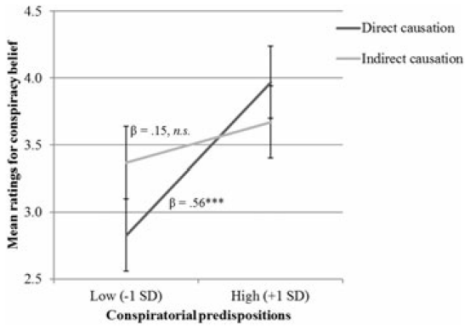

Figure 2. Mean scores for the conspiracy belief that US investigations were a plot against Russia (direct causation vs. indirect causation condition) and prior level of participants' conspiratorial predispositions at 1 *SD* above and below the centred mean.
***$p < .001$

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Russia—would have any effects on participants' conspiracy beliefs, the text had to imply a direct and deliberate link between US investigations and negative consequences for Russia. Therefore, we added:

> There is the suspicion 'that there have been irregularities in the allocations for the World Cups in 2018 (Russia) and 2022 (Qatar).' The Russian president subsequently denounced the act as a plot against Russia to impede the Russian World Cup in three years: 'The USA and the media are trying in an obvious campaign to harm Russia and to have the World Cup withdrawn', said Vladimir Putin.

Thus, US investigations were depicted as if the USA *make it happen on purpose*.

Weak purposeful intention (let it happen on purpose)
To describe US investigations as a weak purposeful act—where harming Russia was not the primary intention, but approved of tacitly—the text read:

> There is the suspicion 'that there have been irregularities in the allocations for the World Cups in 2018 (Russia) and 2022 (Qatar).' This might lead to a reallocation of the upcoming World Cups. Some members of the Russian Duma now accuse the USA of approvingly accepting the consequences of a withdrawal of the Russian World Cup in three years as a result of their actions.

Consequences for the Russian World Cup were thus depicted as a side effect, a *let it happen on purpose* attitude, without assuming an intentional link between investigations and consequences.

Results

Manipulation check
We tested with a different sample whether the text in both conditions does in fact indicate strong purposeful (MiHoP) versus weak purposeful (LiHoP) intention of the US trying to harm the Russian World Cup. As predicted, participants perceived an increased intentional behaviour of the US investigations against the Russian World Cup in the MiHoP condition ($M = 5.62$, $SD = 1.36$) compared with the LiHoP condition ($M = 4.29$, $SD = 1.71$), $F(1, 20) = 9.26$, $p = .006$, $\eta_p^2 = 0.316$. Results confirmed our assumption that both conditions really induce the predicted semantic linkage of strong purposeful versus weak purposeful intention. Additionally, a comparison of causation ratings for the MiHoP versus LiHoP condition to the *direct causation* condition in Study 1 showed no statistical difference, all $ts < 1.63$, $ps > .111$. Therefore, we assume that a direct causal connection is also present in the MiHoP as well as LiHoP condition.

Conspiracy belief
With respect to our hypothesis that only strong purposeful intentions activate conspiratorial predispositions, we will analyse main and interaction effects for *purposeful intention* MiHoP versus LiHoP. To test our prediction, we regressed conspiracy belief scores onto *intention condition* (MiHoP vs. LiHoP; dummy-coded) as well as onto *conspiratorial predisposition* (continuous and centred), also looking at the interaction between these variables. The overall model with the predictors *intention condition* and *conspiratorial predisposition* was significant, $F(3, 96) = 6.18$, $p < .001$, $R^2 = .162$. We found a main effect for *conspiratorial predisposition*, $\beta = .34$, $SE = 0.10$, $t(96) = 3.31$, $p = .001$, $R^2 = .130$, 95% $CI_\beta = [0.13, 0.54]$. There was no main effect for *intention condition*, $\beta = -.10$, $SE = 0.18$, $t(96) = -0.53$, $p = .586$, $R^2 = .003$, 95% $CI_\beta = [-0.46, 0.26]$, whereas the interaction effect was marginally significant, $\beta = .37$, $SE = 0.20$, $t(96) = 1.82$, $p = .073$, $R^2 = .029$, 95% $CI_\beta = [-0.04, 0.77]$. Simple slope analysis showed that conspiratorial predispositions significantly and positively predicted conspiracy belief in the MiHoP condition, $\beta = .52$, $SE = 0.12$, $t(96) = 4.22$, $p < .001$, 95% $CI_\beta = [0.27, 0.77]$, but not in the LiHoP condition, $\beta = .15$, $SE = 0.16$, $t(96) = 0.95$, $p = .346$, 95% $CI_\beta = [-0.17, 0.47]$ (Figure 3).

Discussion

The depiction of US investigations as a strong purposeful act to harm Russia provoked the predicted polarization of the belief in a US conspiracy for those with high versus those with low conspiratorial predispositions. Even more interestingly, the weak purposeful depiction failed to evoke this effect, although a direct connection between US investigations and their effect on Russia could have been inferred. The results support our findings from Study 1: A bias between conspiracy believers and sceptics about novel conspiracies is not effective *a priori*. Instead, specific semantic features of information were needed to trigger conspiratorial predispositions; here, an actor's intention is depicted as strongly purposeful.

GENERAL DISCUSSION

The aim of our work was to investigate whether the conspiratorial reasoning of *conspiracy believers* and *sceptics* about

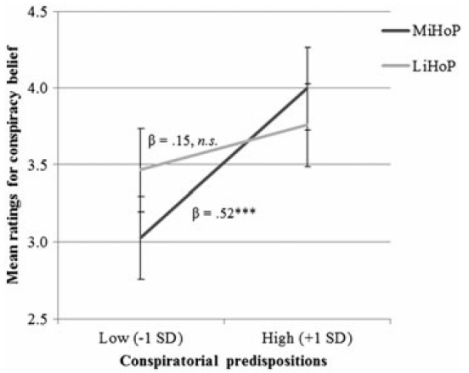

Figure 3. Mean scores for the conspiracy belief that US investigations were a plot against Russia (behavior depicted as weakly vs. strongly purposeful) and prior level of participants' conspiratorial predispositions at 1 *SD* above and below the centred mean.
***$p < .001$

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an ongoing event was *a priori* determined, or if semantic cues like causation and intention might be responsible for provoking such a polarization. In line with earlier research on opinion formation (Zaller, 1992), our results indicate that a polarization regarding a supposed conspiracy in an ongoing political event—for those with high versus those with low conspiratorial predispositions—is not permanently in effect. Instead, this could be interpreted as a bias becoming active only when a direct causation or strong purposeful intentions were depicted, but not for the depiction of indirect causation or weak purposeful intention. Furthermore, the actor's intention seems to play a major role in conspiracy formation because the weak purposeful depiction did not lead to such a polarization, although a direct causation could have been inferred. These findings support the evidence that conspiratorial predispositions are not associated with a biased perception of randomness (Dieguez, Wagner-Egger, & Gauvrit, 2015) but contradict the assumption that conspiracy believers are more likely to attribute intentionality *per se* (Douglas et al., 2016) and tend to connect apparently unrelated events (Wood et al., 2012). One reason might be that most previous studies focused on existing conspiracy theories, which participants have prior knowledge of. For existing theories, people might hold quite firm and elaborated beliefs. In our studies, participants had to actively use information for a new event to draw an inference on whether any conspiracy is going on at all. This is supported by findings from Uscinski et al. (2016) who showed that an effect of conspiracy allegations concerning a supposed media bias was only present when the receivers held a certain predisposition. Our research extends this finding and shows that conspiracy formation interacts with conspiratorial predispositions and the semantic cues of causation and intention.

CONCLUSION

To our knowledge, these studies were the first attempt at empirically exploring the immediate formation of conspiracy beliefs in a real, ongoing world event: We grasped the opportunity presented by a highly relevant topic (FIFA World Cups and the involvement of governments) that had been in the arena of public interest for just a few hours and asked our participants just in time, before the conspiracy theories flooding the newspaper message boards became common knowledge. This is important from a practical perspective because public events are almost always followed by discussions and debates, often in social media and message boards, about the event's 'true nature'. We know from very early psychological research (Bartlett, 1932) that schematization is here a major factor for biasing the perception, the cognitive processing, and the interpretation of any kind of re-narrating process, so people will adapt the story towards their own beliefs and knowledge (see, for a critical view on schematization, Carbon & Albrecht, 2012). We also know that such controversies become even more dynamical when being discussed and shared on the internet (Kata, 2010). Our studies give hints about when and how the opinions of *conspiracy believers* and *conspiracy sceptics* become so divided: It happens when the initial belief about an event is formed, but it depends on someone's conspiratorial predisposition to accept or reject the specific semantic features of available information.

Yet, we see that the strength of our studies might also be their greatest weakness: We tested only one possible conspiracy construct out of many and focused on the allegations of conspiracies within governments. Additionally, we only used the subscale *government malfeasance* of the GCB scale to test for conspiratorial predispositions. Uscinski and Parent (2014) rightly emphasized that specific conspiracy ideas are connected to a person's political orientation; liberals, for example, tend to believe in conspiracy theories about influential corporations of the rich, while conservatives tend to believe in conspiracy theories about governments. This point in particular could be an interesting avenue for further research, and our findings will have to stand the test in a wider field of experiments, using different content or fictional scenarios. Nevertheless, the insight that the conspiratorial reasoning of *conspiracy believers* and *sceptics* about the event's 'true nature' is not *a priori* divided but needed to be triggered differently by the semantic linkage of information can contribute to a deeper understanding about conspiracy belief formation.

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Critical reflection

Taking the opportunity to investigate conspiratorial reasoning under real-time circumstances in an ongoing political event gave profound insights about how opinion formation is, again, guided by the way of provided information. Results indicate that a polarization regarding a supposed conspiracy in an ongoing political event—for those with high versus those with low conspiratorial predispositions—is not permanently in effect. Instead, this could be interpreted as a bias becoming active only when a direct causation or strong purposeful intentions were depicted, but not for the depiction of indirect causation or weak purposeful intention.

From a practical point of view, a polarized opinion about a possible conspiracy between Western allies and Russian is (again) possible to occur, but it has to be triggered by certain kind of information—like the headline "Putin thinks the FIFA scandal is all a US conspiracy"—instead of coming 'out of nowhere'. Although previous research already showed that conspiracy theorists do not necessarily see planned deception behind every event (Dieguez, Wagner-Egger, & Gauvrit, 2015), these findings fill the gap of evidence based insights in an applied socio-political context. Thus, conspiracy ideation seems be driven by predisposition *and* provided information.

Despite the fact that this first-time attempt to experimentally trace the formation of conspiratorial thinking revealed valuable insights, there are still some limitations regarding these findings. First, results do not tell that people with high conspiratorial predispositions get triggered by certain information in particular. Analyses do only show that the gap of interpreting the event as a conspiracy increases between those with high versus those with low conspiratorial predispositions, if certain semantical cues (here; direct causation and strong purposeful intention) were available. Furthermore, both studies only investigated a single event and the measurement of conspiratorial predispositions was aimed to account for political conspiracy beliefs and not all conspiracy beliefs per se (e.g., extraterrestrial cover-up; see also Brotherton, French, & Pickering, 2013). There might be the chance that people with a broader spectrum of conspiracy beliefs do indeed see ad hoc deceptions behind many upcoming events. Further research has to test in how far the different dimensions of conspiratorial predispositions might interact with certainty content of information or specific content-related events.

In a similar vein, specific conspiracy ideas can be connected to a person's political orientation; liberals tend to believe in conspiracy theories about influential corporations of the rich, while conservatives tend to believe in conspiracy theories about governments (Uscinski & Parent, 2014). Conservatives, for example, show an increased skepticism over whether Barack Obama was really born in the United States, whereas liberals do not (Pasek, Stark, Krosnick, & Tompson, 2015). That means, asking someone about his or her attitudes towards a possible conspiracy might also highly depend on the content of the conspiracy as well as people's general political attitudes.

Additionally, the specific semantic differentiation of provided information in experimental designs is challenging. The distinction between causation and intention, for example, will necessarily provoke semantical overlapping. Even if the post-hoc manipulation check revealed that the conditions significantly differed from each other, it does not mean that they are absolutely distinct to each other (Alicke, 2000). Future research should try to avoid semantical overlapping to increase further informative values.

Furthermore, we did not check for the credibility of the sources stating the decisive semantical cues. In Study 1 the sources were rather anonymous whereas in Study 2 one statement came from Vladimir Putin. Since source credibility seems to be a highly persuasive factor (Pornpitakpan, 2004), seemingly having impact on perceiving the Ukraine Crisis as well (Gebauer & Carbon, 2015), future research has to show in how far it might interact with conspiratorial predispositions.

Taken together, this publication vividly underlines the interaction between information representation and conspiratorial predispositions. It shows that people heavily rely, but also differently interpret, the way information is presented in the course of new political state of affairs. Nevertheless, the critical reflection shows that there is still a long road to take until scientific insights will be able to explain whether, why and how people start to believe or reject a specific conspiracy. The contribution of the presented article is that predisposition and the content of provided information might play a decisive role.

2.4 International conflicts, provided information and opinion formation: A résumé

Up until now, I have presented empirical evidence that people's willingness to militarily engage in the resurrected East vs. West conflict can alter under threat and that these threatening depictions can be part of our everyday information-communication process, thus influencing people's opinion formation (core publication I). Furthermore, it was shown that—especially under circumstances of possible further escalation—subtle reminders concerning the seemingly past of an intractable conflict can reinforce people's stereotypical thinking by interpreting the new conflict through the prism of the past (core publication II). The recently presented publication described that the polarization of conspiratorial reasoning about an ongoing political event—namely, whether US investigations against FIFA in 2015 were more or less likely to be seen as a conspiracy against Russia to sabotage the football World Cup in 2018—is rather triggered by certain semantical cues than being preexistent a priori (core publication III).

The reported publications do all share some common features: They describe how opinion formation can be influenced through provided information in the light of a (resurrected) international conflict. Due to the fact of conducting experiments in very short and sensitive time frames, results can be interpreted as a valid and reliable source about the susceptibility of opinion formation in international conflicts. On the other hand, one might say that people are per se susceptible to information when it comes to relatively new political issues. I will try to make the case that rethinking about ongoing political issues based on different contents of information *but* beyond current international conflicts is less suggestible. This hypothesis is derived from the fact that national debates do not necessarily include threatening or uncertain scenarios of two seemingly opposing societies—a situation under which people are especially suggestible to be affected by the content of information (for detailed description see paragraph 1.2-1.4 of this thesis).

To illustrate this idea, I will shift the area of interest from international conflicts to a national political debate, namely: Can electromobility (e-mobility) become the transportation system of the future in Germany? This issue has been discussed controversially in Germany and public polls, additionally, revealed a large skepticism among Germans about the practicability of e-mobility (Schwedes, Kettner, & Tiedtke, 2013; Steinhilber, Wells, & Thankappan, 2013). Within this political debate, I was interested what kind of information or experiences needed to be met to affect potential users' attitudes towards e-mobility and their assessment on the prospect of electric vehicles.

Before I will lead over to the topic of e-mobility, I will introduce the Repeated Evaluation Technique (Carbon & Leder, 2005a) which was used to measure participant's political rethinking in the area of e-mobility and is, therefore, a crucial part to understand the method being used in core publication IV.

2.5 Peripheral publication I: Simulating experiences: The Repeated Evaluation Technique (RET)

Originally developed to capture the dynamic effects of innovativeness and attractiveness, the Repeated Evaluation Technique (RET) by Carbon and Leder (2005a) represents a methodological tool to measure attitude changes over time. The idea behind this concept is, that people's liking of objects does not automatically increase by simply being exposed to them as proposed by the mere exposure theory (Zajonc, 1968). Instead, only innovative and really useful designs seem to gain acceptance in reality, which are, however, often unattractive at first sight (Leder & Carbon, 2005). To be able to detect these dynamical effects, the authors propose a procedure where people's attitudes are measured before (t_1) and after (t_2) having elaborated the presented objects or designs. In doing so, analyses can reveal whether the presented information were sufficiently able to change people's attitude over time or not. This methodological approach has already been employed by a series of experimental (Faerber, Leder, Gerger, & Carbon, 2010) as well as psycho-physiological procedures (Carbon, Michael, & Leder, 2008). The attached publication below describes the detailed mechanism and methodological construction of the RET, which has also been applied to measure political rethinking about e-mobility based on different information representations (see core publication IV).

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Design Evaluation: Zeitliche Dynamik ästhetischer Wertschätzung

Géza Harsányi, Fabian Gebauer, Peter Kraemer, Claus-Christian Carbon

Lehrstuhl für Allgemeine Psychologie und Methodenlehre, Universität Bamberg
Forschungsgruppe EPÆG, Ergonomie – Psychologische Æsthetik – Gestaltung, Bamberg

Zusammenfassung

Dieser Beitrag liefert einen Methodenbeitrag zum Zusammenhang zwischen Nutzererleben und den ästhetischen Bewertungen eines Produktdesigns. Vor allem zwei Eigenheiten solcher Bewertungen sind dabei zu berücksichtigen: (1) Um differenzierte Ableitungen für den Produktgestaltungs- und Marketingbereich zu erhalten, benötigt man multidimensionale Erfassungsinstrumentarien; (2) Ästhetische Wertschätzung ist geprägt von starker Dynamik, die durch statische Abfragemethoden per se nicht adäquat erfasst werden kann. Um beiden Anforderungen gerecht zu werden, stellen wir sowohl ein implizites Maß zur Erfassung multidimensionaler impliziter Assoziationen (md-IAT) (Gattol, Sääksjärvi, & Carbon, 2011) als auch eine Methode zur Erfassung dynamischer Effekte ästhetischer
Werturteile (Repeated Evaluation Technique, RET) (Carbon & Leder, 2005) vor. Im Sinne des ContinUE Modells (Pohlmeyer, Hecht, & Blessing, 2009) kann somit Nutzererleben unter Berücksichtigung von Erwartungen und fortlaufenden Neubewertungen („repetitive experience“) laborexperimentell simuliert werden.

Einführung

Produktdesign ist ein wesentlicher Faktor für den Markterfolg auf stark von Wettbewerb geprägten Märkten für Produkte mit austauschbaren technischen Komponenten, wie z. B. HiFi-Komponenten, Haushaltsgeräten, Mobiltelefonen etc. (Kreuzbauer & Malter, 2005). Erfolgreiche Produkte erfordern eine Passung zwischen Nutzerinteresse, -wünschen und Bedürfnissen und dem Design des Produkts. Für funktionale und technische Designaspekte existiert eine Fülle von Verfahren zur Testung der Usability (Jordan, 1998), human factors (Green & Jordan, 1998) und der Ergonomie (Salvendy, 2006). Diese Verfahren werden regelmäßig von Herstellern bei der Entwicklung von Konsumprodukten eingesetzt. Im Bereich der ästhetischen Beurteilung von Produkten existieren jedoch keine standardisierten Verfahren und können somit auch nicht systematisch in der Design-Evaluation eingesetzt werden (Hekkert, 2006; Jordan, 2000). Häufig werden ästhetische Dimensionen überhaupt gar nicht in der Produktevaluation berücksichtigt (Liu, 2003), obwohl ästhetische Dimensionen aus der Nutzerperspektive eine so bedeutende Rolle spielen, dass der Ergonomieexperte Patrick W. Jordan sogar von „new human factors“ spricht. Ein prominentes Beispiel für die Bedeutsamkeit ästhetischer Designaspekte ist ganz bestimmt der Apple iPod oder das jeweils neue iPhone. Solche Produkte sind bezüglich ihrer technischen Ausführung und Funktionalität relativ austauschbar mit Produkten anderer Firmen. Darüber hinaus sind Konkurrenzprodukte häufig sogar preisökonomischer. Dennoch schwang sich bspw. der iPod zum weltweit meistverkauften Mediaplayer auf. Diese Popularität verdankt der iPod seine hohen ästhetischen Werten, modischen Eigenschaften und seiner innovativen Philosophie. Der iPod wurde somit nicht nur zur ökonomischen Standsäule der Apple Inc., sondern auch zum Werbeträger für weitere Apple-Produkte.

Eine steigende Zahl von Unternehmen richtet zunehmend die Aufmerksamkeit auf ästhetische Designaspekte, allerdings häufig ohne zu bedenken, wie ästhetische Qualität durch standardisierte Verfahren erfasst werden sollen. Bei der Produktentwicklung werden häufig recht aufwendige und kostspielige Tests mit typischen Nutzern in verschiedenen Settings eingesetzt. Darunter zählen Fragebögen, Fokusgruppendiskussionen, verbale Protokolle, aber auch *car clinics* im Falle des Automobilsektors (siehe, Jordan, 2000). Alle diese Methoden haben gemeinsam, dass Bewertungen durch Konsumenten nur zu *einem einzigen Zeitpunkt* erhoben werden. Darüber hinaus sind die Produkte für den Nutzer häufig recht unbekannt. Solche Evaluationsmethoden führen zu verzerrtem Antwortverhalten, welche nicht unbedingt die Bewertungen von Produktdesigns durch Nutzer im alltäglichen Leben widerspiegelt. Beispielsweise konnten Leder und Carbon (2005) anhand von Materialen mit unterschiedlichen Innovativitätsgraden zeigen, dass Nutzer ihnen bekannte Produkte mit recht konservativen Designs bevorzugen, während sie neue und hoch innovative Produkte ablehnten. Erfolgreiche

Produkte wie der Apple iPod zeigen jedoch, dass hoch innovative Designs im alltäglichen Nutzerverhalten durchaus stark präferiert werden.

Simulation alltäglichen Erlebens: Die Repeated Evaluation Technique (RET)

Wie können wir nun aber erklären, dass Nutzer recht konservative Produktdesigns in experimentellen Studien bevorzugen, jedoch häufig dazu neigen innovative Designs im alltäglichen Leben zu präferieren? Carbon und Leder (2005) argumentieren, dass die alltägliche Erfahrung mit einem Produktdesign *vor* der Messung von Präferenzen oder Gefallensurteilen in experimentellen Studien simuliert werden muss. Wenn die Erfahrung mit einem Design nicht berücksichtig wird, erhält man invalide und irreführende Vorhersagen für zukünftige ästhetische Urteile. Eine Folge davon ist, dass sich Produktenwicklungen an solchen limitierten Evaluationsmethoden ausrichten, die Nutzerurteile nur zu einem einzigen Zeitpunkt erfassen, ohne dass sich Nutzer mit dem Produkt vertraut machen können. Ohne die zeitlichen Dynamiken ästhetischer Urteile zu berücksichtigen, kann die Produktentwicklung in eine fatal falsche Richtung gesteuert werden. Neue Produktdesigns haben mit diesen limitierten Evaluationsmethoden eine höhere Wahrscheinlichkeit einer kurzen Marktdauer, ohne dass längerfristige Entwicklungen berücksichtig werden und können leicht ökonomisch scheitern.

Die Repeated Evaluation Technique (RET, Carbon & Leder, 2005) bietet eine Antwort auf die oben skizzierten Probleme der a) fehlenden Vertrautheit mit neuen Designs und b) der Validitätsprobleme durch Messung zu nur einem Zeitpunkt, und integriert diese in eine zusammenhängende Prozedur. Die integrierte RET-Prozedur (siehe Abbildung 1) umfasst zwei identische Testphasen (t1 und t2) zu unterschiedlichen Zeitpunkten, bei denen zentrale ästhetische Variablen wie Gefallen, Innovativität, Valenz, etc. gemessen werden. Zwischen diesen zwei Messungen liegt eine Elaborationsphase (RET-Phase), in der das gesamte Material wiederholt von den Teilnehmern elaboriert wird. Typischerweise werden in der RET-Phase die Materialien anhand von Aspekten wie „angenehm“, „funktional“, „elegant“, etc. bewertet. Die Anzahl der Aspekte in der RET-Phase sollte mindestens 25 solcher Adjektive enthalten, um eine tiefe Elaboration zu gewährleisten. Die Auswahl der Adjektive hängt vom jeweiligen Produkt ab, dessen Design evaluiert wird.

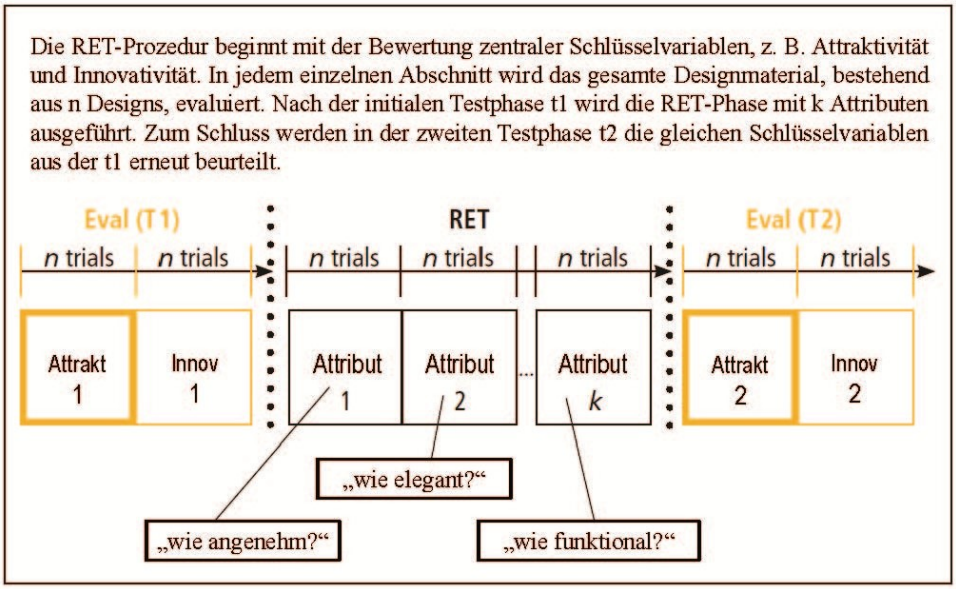

Abbildung 1: Illustration des Verlaufs der RET-Prozedur zur Evaluation von Produktdesigns.Quelle: Carbon & Leder (2007)

Mit dem Einsatz der RET anhand von Autointeriors, die sich in Innovativität und Kurvigkeit unterschieden, konnte gezeigt werden, dass Nutzer nur anfänglich unbekannte und innovative Designs ablehnten und bekannte und konservative Designs bevorzugten (Carbon & Leder, 2005; Zajonc & Markus, 1982). Nachdem Nutzer das Material wiederholt bewertet und elaboriert haben, präferierten sie die innovativen Designs und wiesen das konservative Material zurück. Dieser Sachverhalt steht im Einklang mit der einflussreichen Theorie von D. E. Berlyne, die annimmt, dass Interesse, Neuartigkeit und Neugier Prädiktoren für exploratives Verhalten sind, welches wiederum direkt Präferenzen beeinflusst (Berlyne, 1970). Ebenso steht der Befund im Einklang mit Erkenntnissen aus der Marktforschung (Zandstra, Weegels, Van Spronsen, & Klerk, 2004). Abbildung 2 illustriert die Dynamik des Gefallens, die durch Elaboration bewirkt wird: Innovative Designs werden zu Beginn als relativ unattraktiv bewertet. Das entspricht den Standardmethoden mit nur einer Messung und führt zu irreführenden Schlussfolgerungen. Dagegen werden konservative Designs als eher attraktiv gewertet. Im Gegensatz dazu kann durch den Einsatz der RET zum zweiten Messzeitpunkt ein ganz anderes Antwortverhalten beobachtet werden: Nachdem die Materialen tief elaboriert und verstanden worden sind, vertauschen sich die Bewertungen von innovativen und konservativen geradezu in das Gegenteil. Hoch innovative Designs gefallen nun sehr viel mehr, während konservative Designs an Attraktivität verlieren. Die dritte Kurve in Abbildung 2 zeigt einen Verlauf während der Elaboration für „optimale“ Designs. Solche Designs sind gekennzeichnet durch eine optimale Kombination von sowohl Vertrautheit als auch Innovativität (entsprechend dem MAYA-Prinzip, Hekkert, Snelders, & van Wieringen, 2003). Sind Vertrautheit und Innovativität ausgewogen, dann werden Designs von

Beginn an als relativ positiv bewertet, gewinnen aber durch Elaboration mit der Zeit an Attraktivität. Ein zentrales Element der RET besteht demnach darin, eine Dynamik des Gefallens über die Zeit beschreiben und vorhersagen zu können.

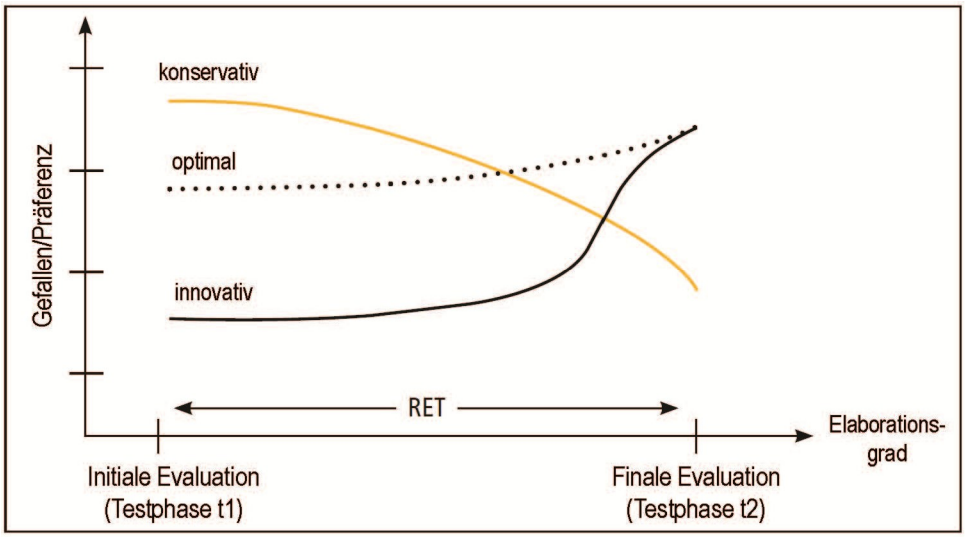

Abbildung 2: Idealisierte Verlaufsdynamik ästhetischer Qualitäten von Produktdesigns. Quelle: Carbon & Leder (2007)

Mehrdimensionale ästhetische Wertschätzung

Wie bereits durch die Beschreibung der RET angedeutet, ist die Beschränkung auf eine einzelne Variable bei der Erfassung ästhetischer Urteile nicht unbedingt zielführend. Häufig werden nur Gefallensurteile oder Präferenzurteile von Nutzern abverlangt. Zeitliche Dynamiken ästhetischer Urteile, wie sie mit der RET beobachtet werden können, zeigen bereits, dass solche Dynamiken nicht allein auf die Attraktivität wirken. Langeweile ist ein möglicher Faktor, der auf die Abwertung von Designs Einfluss nimmt. Ebenso kann plausibel angenommen werden, dass zuerst als innovativ beurteilte Designs im wiederholten Umgang mit diesen an (wahrgenommener) Innovativität verlieren. So lassen sich zyklische Dynamiken des Gefallens anhand von Automobildesigns beobachten (Carbon, 2010), was damit erklärt werden kann, dass sich Grundformen langsam ändern und alleine die Expositionshäufigkeit solcher Formen via höher-kognitiver Adaptationseffekte Gefallensbeurteilungen systematisch verändern (Carbon, 2011; Carbon, 2012). Vormals innovative Designs entsprechen nicht mehr dem Zeitgeist und

werden ästhetisch abgewertet. Die gleichen Designmerkmale werden dann wiederum nach einiger Zeit wieder modern und attraktiv. Eine Analyse zentraler ästhetischer Bewertungskriterien (Faerber, Leder, Gerger, & Carbon, 2010) ergab, dass ästhetische Bewertungen mindestens an sechs wesentlichen Variablen valide erfassbar sind. Diese Variablen ergeben gemeinsam ein Konstrukt der ästhetischen Wertschätzung und bestehen aus: Gefallen, Innovativität, Interessantheit, Valenz, Langeweile, und Anregungsgehalt. Je nach Fragestellung können mehr oder weniger als diese sechs Variablen sinnvollerweise erfasst werden, ebenso auch weitere Variablen, die sich auf erwünschte oder auch unerwünschte Eigenschaften eines Produktes beziehen.

Typischerweise werden direkte („explizite“) Maße für die Evaluation von Produktdesigns verwendet, wie z. B. verbale Protokolle oder Ratingskalen. Direkte Maße können aber prinzipiell von Nutzern kognitiv durchdrungen werden und somit zu verzerrten Antwortmustern führen. Ebenso können schwer verbalisierbare Eigenschaften nicht direkt gemessen werden. Einen Ausweg daraus bietet der multidimensionale Implizite Assoziationstest (md-IAT) (Gattol, Sääksjärvi, & Carbon, 2011). Der md-IAT ist eine Erweiterung des Impliziten Assoziationstests (IAT) (Greenwald, McGhee, & Schwartz, 1998). Der IAT misst indirekt Assoziationen von dichotom negativ und positiv ausgeprägten Attributen (z. B. „sicher“ vs. „unsicher“) mit visuellen oder semantischen Konzepten (z. B. „BMW“ vs. „Audi“) (Abbildung 3). Ein IAT besteht aus fünf aufeinanderfolgenden Phasen. Die Aufgabe ist, einen zentral prästentierten Stimulus so schnell wie möglich einer von zwei Kategorien per Tastendruck zu zuordnen. Die ersten zwei Phasen sind lediglich Übungsphasen, in denen Stimulus-Response-Assoziationen gelernt werden. Am Beispiel der Abbildung 3 wird in der ersten Phase, der *target-concept discrimination task*, die Assoziation des Konzepts „BMW“ mit dem linken Tastendruck gelernt, und die Assoziation des Konzepts „Audi“ mit dem rechten Tastendruck. Entsprechend werden in der zweiten Phase, der *attribute discrimination task*, linker und rechter Tastendruck mit den Attributen „sicher“ und „unsicher“ assoziiert. Danach folgt die erste Testphase (Phase 3: *initial combined task*), in denen beide Aufgaben aus den vorherigen Phasen kombiniert im Wechsel von einem Durchgang zum nächsten durchgeführt werden. Die vierte Phase ist die *reversed target-concept discrimination task*. Sie ist erneut eine Übungsphase und der ersten Phase identisch, mit der Ausnahme, dass die räumlichen Zuordnungen der Konzepte zu den Tasten vertauscht werden. Die letzte Phase des IAT ist die zweite Testphase (Phase 5: *reversed combined task*), und ist identisch mit der ersten Testphase, mit der Ausnahme, dass die Vertauschung der Konzepte aus der vierten Phase beibehalten wird. Wenn nun in der mentalen Repräsentation „sicher“ und „BMW“ (Phase 3) stärker miteinander assoziiert sind als „sicher“ und „Audi“ (Phase 5), werden die Antworten in Phase 3 im Durchschnitt schneller sein, als in der Phase 5 (bzw. umgekehrt, wenn „sicher“ und „Audi“ stärker assoziiert sind als „sicher“ und „BMW“). Entsprechend besteht der IATö-Effekt aus den Differenzen der mittleren Reaktionszeiten der *reversed combined task* (Phase 5) und der der *initial combined task* (Phase 3).

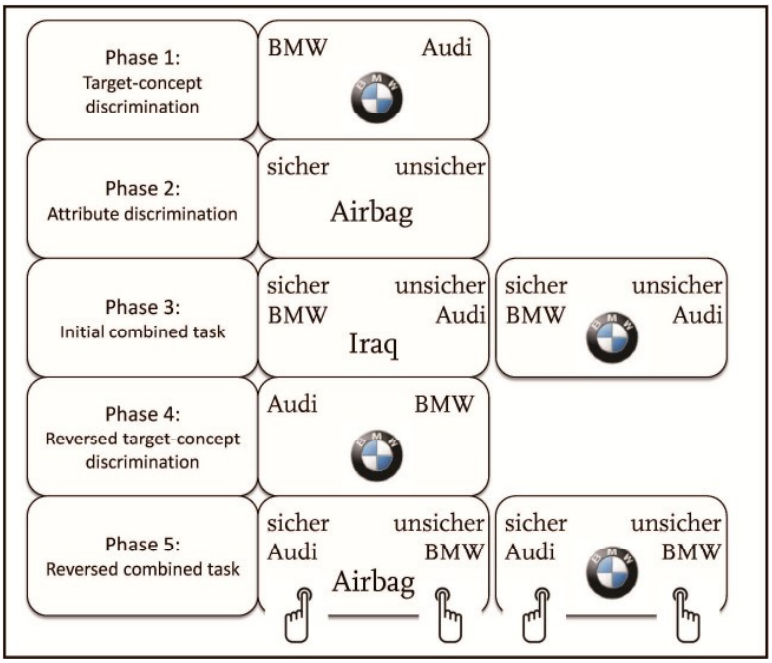

Abbildung 3: Illustration eines einzelnen IAT. Der IAT misst Assoziationsstärken von Attributen („sicher"-„unsicher") mit visuellen oder semantischen Konzepten („BMW"/"Audi"). Der multidimensionale Implizite Assoziationstest (md-IAT) erweitert das Prinzip auf mehrere Attribute („sicher"-„unsicher","umweltfreundlich"-„nicht umweltfreundlich„aggressiv"-„friedlich", etc.)

Durch Reihung einzelner IATs hinter einander, kann eine multidimensionale Beurteilung über verschiedene Attribute hinaus gewährleistet werden. Das Ergebnis ist ein Profil impliziter Einstellungen gegenüber einem Produktdesign. Gattol et al. (2011) illustrierten den mdIAT mit der Erstellung von impliziten Markenpersönlichkeiten zweier deutscher Automobilhersteller. Die Teilnehmer evaluierten die Marken mittels des md-IATs anhand von sechs für das Image von Automobilmarken relevanten Dimensionen: Sicherheit, Alter, Zuverlässigkeit, Aggressivität, Umweltfreundlichkeit und Innovativät. Das dadurch erhaltene implizite Einstellungsprofil gibt eine differenzierte Auskunft über die Nutzerwahrnehmung dieser Marken (Abbildung 4).

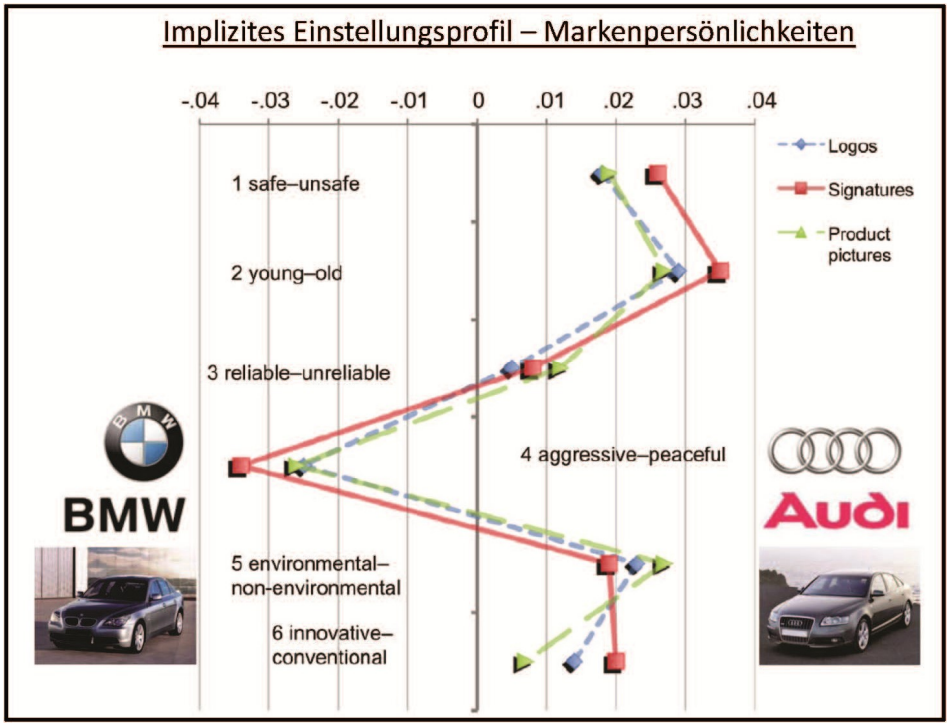

Abbildung 4: Markenprofile zweier deutscher Automobilmarken. Die Darstellung zeigt ein implizites Einstellungsprofil, dass durch den md-IAT erstellt wurde. Interpretiert werden kann das Profil folgendermaßen: Die Marke Audi wird als „sicher", „jung", „zuverlässig", „friedlich", „umweltfreundlich" und „innovativ" angesehen. Die Marke BMW hingegen als „unsicher", „alt", „unzuverlässig", „aggressiv", „nicht umweltfreundlich" und „konventionell". Quelle: Gattol, Sääksjärvi, & Carbon (2011).

Ausblick

Wesentliche Aspekte des Nutzererlebens und der ästhetischen Wertschätzung sind a) ihr multidimensionaler Charakter und b) ihre dynamische Veränderungen über die Zeit. Die hier vorgestellten Methoden adressieren beide Aspekte. Der md-IAT wurde konstruiert, um multidimensionale implizite Einstellungsprofile zu erstellen. Die RET erfasst dagegen Dynamiken des Gefallens und ästhetischer Wertschätzung über die Zeit. Beide Instrumente erfassen somit je einen der beiden zentralen Aspekte des Nutzererlebens. Zukünftige Weiterentwicklungen dieser Methoden werden auf einen integrativen Ansatz beider Aspekte abzielen: Die explizite und implizite Erfassung mehrdimensionaler ästhetischer Bewertungen über die Zeit.

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2.6 Core publication IV: When information is not enough: Changing attitudes towards e-mobility

Motivation

Around the year 2009 a political sentence set new standards in Germany's (ecological) transportation system: "It is our aim to have one million electric vehicles (EV) on German roads by 2020" said Chancellor Angela Merkel. Announcing an aim like this seems quite ambitious, especially, when following polls revealed that German people were still skeptical about using electric vehicles in their everyday life (Schwedes et al., 2013; Steinhilber et al., 2013). Most of the reservations about e-mobility were caused by the limited range of EVs (Franke, Neumann, Buhler, Cocron, & Krems, 2012), high costs and (infrastructural) charging complications (Bayram, Michailidis, & Devetsikiotis, 2013; Kampker, Burggraf, & Nee, 2012; Lin & Greene, 2011). All these factors taken together bear the possibility of discouraging potential users from seeing EVs as a positive future prospect and ,thus, from interpreting EVs as a valuable alternative to conventional mobility concepts. What could be done to positively influence opinions about e-mobility?

The latest development in charging technology offered the possibility of charging EVs very quickly. This new fast-charging-technologies enable the charging of an EV with a nearly empty battery to a capacity of 80% in less than 30 minutes—much faster than conventional AC charging technology which needs several hours for the same gain of battery energy (Botsford & Szczepanek, 2009). It offers, therefore, an interesting opportunity to reply to typical concerns about the limited range and long-standing recharge cycles of EVs. However, several questions still remained open, namely: 'Would these fast-charging-technologies really alter potential user's attitudes towards e-mobility in a positive way? If yes, what would be a proper way of promoting e-mobility's improvement?'

One might argue that announcing this innovation in newspaper advertisements would help to convince people of seeing EVs becoming a major mobility concept in the future, while others say that people have to experience e-mobility to positively increase their attitudes towards it (Franke, Cocron, Bühler, Neumann, & Krems, 2012). Since the adoption of innovations directly

influences the productivity as well as the profit of countries and companies (Mairesse & Mohnen, 2002), it seems important to be able to predict those progressions for the future of e-mobility.

With the Repeated Evaluation Technique (RET)—introduced in paragraph 2.5—we are able to examine the dynamic effects fast-charging might have on the attitudes of potential users. The main research question was whether simple information representation or active hands-on experience would be most effective to affect people's attitudes about e-mobility. Using the methodological background of the RET, we conducted two experiments in which participants either actively experienced the charging technologies or only passively received pure information about these technologies. In doing so, we were able to create insights about the impact of fast-charging on potential users' attitudes. Furthermore, it helps clarifying what kind of information representation might be most convincing; pure information or hands-on experience? Experiments were conducted between July and August 2013, which was a crucial period for e-mobility with a large market launch of EV serial models (i.e., BMW i3 in November 2013) being just around the corner. Thus, results might help to understand how attitudes towards e-mobility can be improved to face the challenges for an ecologically valid transportation system. Detailed descriptions, analyses of the results and further discussions are provided in the publication below.

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Changing attitudes towards e-mobility by actively elaborating fast-charging technology

Fabian Gebauer [a,b,c], Roman Vilimek [d], Andreas Keinath [d], &, Claus-Christian Carbon [a,b,c,*]

[a] Department of General Psychology and Methodology, University of Bamberg, Bamberg, Germany
[b] Bamberg Graduate School of Affective and Cognitive Sciences (BaGrACS), Bamberg, Germany
[c] Forschungsgruppe EPÆG (Ergonomie, Psychologische Ästhetik, Gestaltung), Germany
[d] BMW Group, Concept Quality, Munich, Germany

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ABSTRACT

Since electromobility (e-mobility) is a large field of innovation, it is crucial to examine new developments with potential users in mind. Therefore, we investigated the impact that new fast-charging technologies for electric vehicles (EV) have on ordinary people's assessment about the future prospects of e-mobility—which is an important prerequisite for increased attitudes towards e-mobility in general. First we let participants perform a typical charging process, where they were either introduced to the slower-operating, alternating current (AC) system or the fast-operating direct current (DC) system. In a second experiment we used the same procedure but instead of letting participants actively perform the charging process, they were only given written information about these charging technologies. Results show that participants' future estimation about EVs only rises when they actively charge an EV in the fast DC condition but not in the AC condition. General attitudes towards EVs increase independently of the AC or DC condition. None of these effects could be seen without active hands-on experience (second experiment). These indications imply the value of investing in fast-charging systems to induce more favorable judgments regarding the future prospect of EVs. The importance of letting people actively take part in the way e-mobility works will be discussed regarding the potentially improvement of participants' attitudes towards e-mobility.

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1. Introduction and theoretical background

Germany's transportation sector was set to be revolutionized recently, according to the German chancellor Angela Merkel, by having one million electric vehicles (EVs) on Germany's roads by 2020. Given that the number of electric cars is only 18,948 in Germany as of January 1st, 2015 (Kraftfahrt-Bundesamt, 2015), it is obviously an ambitious aim of the German government; but considering the potential of these vehicles to reduce carbon dioxide emissions, they do present a promising ecological-sustainable transportation system solution (Holdway et al., 2010). A major reason for this low number of EVs is commonly seen in the hitherto low number of EV models on sale. Considering the prognosis in the market development roadmap proposed by experts from the German National Platform for Electromobility, the strongly-increasing number of EV sales required is expected to occur during the market ramp-up phase of 2014–2017 with 15 new EV models becoming available at the beginning of the phase through German automobile manufactures alone (Nationale Plattform Elektromobilität (NPE), 2012). EVs only have a chance of succeeding in the mass market if they meet customer expectations (Vilimek and Keinath, 2014); however a recent poll has revealed that public opinion on electromobility is still quite skeptical in Germany (e-mobility; Schwedes et al., 2013; Steinhilber et al., 2013). Most of the reservations about e-mobility were caused by the limited range of EVs (Franke et al., 2012b), high costs and (infrastructural) charging complications (Bayram et al., 2013; Jin et al., 2013; Kampker et al., 2012). All these factors taken together bear the possibility of discouraging potential users from seeing EVs as a positive future prospect and thus from interpreting EVs as a valuable alternative to conventional mobility concepts, which seems to be the ultimate psychological prerequisite for heating up the EV market. Several studies attest to the everyday requirements of EVs (Bunce et al., 2014; Vilimek et al., 2012), using a longer-term study design to demonstrate an increase in the acceptance of EVs (Labeye et al., 2013; Neumann et al., 2010). Therefore it seems rather difficult to assess potentials of changing ordinary people's attitudes towards EVs in a short period of time. The German National Platform for Electromobility advocates four key areas for increasing public awareness and improving public opinion (NPE, 2012): (1) communicate advantages and the everyday suitability of e-mobility, (2) emphasize the positive ecological impact of electric driving, (3) reduce operating costs and, finally, (4) improve the charging processes. The latest development in charging technology offers the possibility of charging EVs very quickly (see Table 1), which

* Corresponding author at: University of Bamberg, Department of General Psychology and Methodology, Markusplatz 3, D-96047 Bamberg, Germany.
E-mail address: ccc@experimental-psychology.com (C.-C. Carbon).

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Table 1
Different charging modalities of EVs, the corresponding charging power in kW and typical approximate charging duration from a nearly empty up to a fully loaded battery (dependent on local electricity infrastructure and charging equipment).

Charging modality	Charging power	Duration
Standard AC charging (e.g. household socket)	3.7 kW	6–8 h
Wallbox AC charging	4.6 kW–7.4 kW	3–6 h
Fast DC charging	Up to 50 kW	0.5–1 h

may now permit the evaluation of proposed improvement caused by fast-charging technologies—one of the four key areas announced by the NPE (2012) to increase public awareness and improving public opinion. It is based on DC (direct current) supply with a high current strength of up to 50 kW, which enables the charging of an EV with a nearly empty battery to a capacity of 80% in less than 30 min—much faster than conventional AC charging technology which needs several hours for the same gain of battery energy (Botsford and Szczepanek, 2009). Additionally, the Technology Acceptance Model (Davis, 1989) as well as its extensions (Venkatesh and Davis, 2000) predict that the perceived usefulness of a new technology is one of the most important factors for technology acceptance (Legris et al., 2003). Therefore, we were interested whether the present 50 kW DC fast-charging stations are able to increase the perceived usefulness of e-mobility and might affect potential users' attitudes towards e-mobility and their assessment on the prospect of EVs.

Since the International Society of Automotive Engineers (SAE) and the European Automobile Manufacturers Association (ACEA) determined the combined charging system (CCS) as a standard for fast-charging facilities, an important impulse was set for the compatibility of EVs with public charging systems. It offers, therefore, an interesting opportunity to reply to typical concerns about the limited range and long-standing recharge cycles of EVs. As the adoption of innovations directly influences the productivity as well as the profit of countries and companies (Mairesse and Mohnen, 2002) it seems important to be able to predict those progressions for the future of e-mobility. With the Repeated Evaluation Technique (RET) introduced by Carbon and Leder (2005) – a method to capture the dynamic effects of innovations – we are able to examine the dynamic effects fast-charging has on the attitudes of potential users. Using the RET we conducted two experiments in which participants either actively experienced the charging technologies or only passively received pure information about these technologies. We predict that experiencing fast-charging will positively impact the perception towards e-mobility.

2. Experiment 1

In the first experiment we were interested in the impact that actively using the new DC-system would have on people's attitudes towards e-mobility and their assessment on the prospect of EVs becoming a major mobility concept in the future.

For a valid ecological design we simulated a typical charging process and designed a specific method that enables us to track changes in user attitude and assessments on e-mobility while interacting with the vehicle. The method we used was inspired by the Repeated Evaluation Technique (RET) by Carbon and Leder (2005) which enables the capturing of dynamic effects concerning innovative aspects of e.g. e-mobility, already employed by a series of experimental (Faerber et al., 2010) as well as psycho-physiological procedures (Carbon et al., 2008). By selectively familiarizing participants with either the conventional, slow-charging AC-system or the advanced, fast-charging DC-system, we were able to compare the different effects these two charging systems have on people's attitudes towards, and assessments on, e-mobility. In order to additionally have the ability to observe changes over time, participants were asked to fulfill a questionnaire before (t1) and after (t2) the charging process. Between these questionnaires, participants were interviewed in the car while the charging was in progress to a) let them experience the fast DC- or slow AC-charging process, b) get information about the spare time activities they would favor during a charging process and c) ask them about usability and safety perception with regard to the charging procedure.

2.1. Method

2.1.1. Participants

Forty-six men and sixteen women (total $n = 62$), ranging in age from 18 to 75 years ($M = 43.6$ years SD $= 14.8$), agreed to participate in our study. All participants were randomly chosen German visitors from the "BMW Welt" (Engl.: "BMW World"—a multi-functional customer experience and exhibition facility of the BMW Group, located in Munich, Germany). After the experiment, participants received a gift coupon valued at € 7.— in compensation to be redeemed at the nearby BMW Welt.

2.1.2. Apparatus and stimuli

The charging station we used in this experiment was from the Asea Brown Boveri (ABB) group laid out for the combined charging system (CCS). The BMW Group provided a BMW ActiveE conversion electric vehicle assembled with a 28 kWh battery and a range of approximately 160 km that was compatible with the CCS standard. To gain optimal experimental control we decided to use a simulation app on a white SONY Xperia Z Tablet that was mounted on the original charging station screen. This app was able to simulate a time-synchronized typical charging procedure for the AC as well as the DC condition. The tablet-PC as well as the implemented app was adjusted to the charging station in such a way that it was hardly distinguishable from the original, unmodified charging station in order to keep the scenario as realistic as possible—in fact, none of the participants noticed the mock-up quality of the employed setting.

2.1.3. Setting and procedure

The field experiment took place in front of the main gate of BMW Welt in Munich, Germany over 2 weeks in summer 2013 (from the end of July until the beginning of August) when a charging station from ABB group equipped with the CCS standard was installed.

Participants were accompanied to the testing site where they first read and signed their written consent. As shown in Fig. 1, participants then filled in the t1 questionnaire. In this questionnaire, participants answered questions concerning their socio-demographic details, attitudes towards EVs, assessment of the future prospects of EVs, innovativeness, environmental attitude and existing experience. All quantitative data were measured on a seven-point rating scale from 1 to 7 (1 = do not agree at all; 7 = do absolutely agree). The exact wording of the items we report here is listed under Appendix A.

In the elaboration phase, participants were first introduced to the set-up for charging the electric vehicle. Afterwards they were given additional information about the charging station and the duration of the charging process depending on whether they were in the slow (AC) or in the fast (DC) condition. In the AC condition participants were told it would take up to 6–8 h to fully charge the car, while in the DC condition people were told it would only take approximately 20 min to charge the almost empty battery up to 80% (see Table 1). Subsequently, participants were asked to start the charging procedure without further instruction from the experimenter. Participants connected the plug with the vehicle and started the process on the display. As described before, participants were made to think that the charging was proceeding for real. To make sure the scenario was trustworthy, participants were informed after the experiment about the simulation in a debriefing session and asked if they had noticed the modification at any time or had had doubts about whether this was a real charging procedure. None of the participants said they had noticed at any time that the procedure was only a simulation instead of a real charging process.

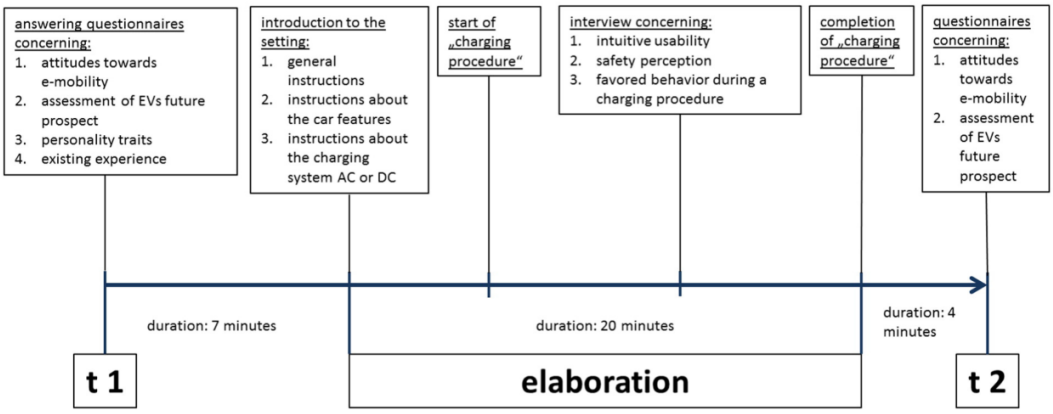

Fig. 1. Procedure and time course for both charging simulations.

The app was basically programmed the same way as the original in the charging station. Depicted were a start/stop button and a bar showing the actual battery status added by the percentage specification. Calculations for the charging progress were based on the battery capacity of the BMW ActiveE and the charging power of the standard AC and fast DC charger respectively (see Table 1). After starting the charging procedure, the participant and the interviewer entered the BMW ActiveE where the interview was completed (Fig. 2). During the interview, information concerning usability, safety and favored behavior during a charging procedure was obtained. Subsequently, the participant and the interviewer left the car in order to terminate the charging and unplug the car.

As a last step, participants completed the t2 questionnaire as part of the method. Again we obtained information concerning attitudes towards EVs and assessment on the future prospect of EVs. Finally, participants were debriefed about the aims of the study.

2.2. Results

In Experiment 1 we focused on whether the advanced, fast-charging DC-system has an impact on people's attitude towards EVs and the way they see the future prospects of EVs compared to the conventional, slow-charging AC-System in separate groups.

To measure the progression over time we calculated the difference between the given data after (t2) and before (t1) the charging procedure took place. For the first analysis we used a one-sample *t*-test to test each difference value in each condition against 0. In the second analyses we used an independent sample *t*-test to compare the differences between the slow AC condition and the fast DC condition. As we proposed that the fast DC charging would improve people's attitudes towards EVs, we tested $p < .05$ one sided. Participants' attitudes towards EVs increased in the AC condition [$t(31) = 2.03$, $p = .0255$, $d = .38$] as well as in the DC condition [$t(29) = 2.07$, $p = .0235$, $d = .36$] significantly. This indicates that by merely experiencing e-mobility, the concept of EVs and their charging system especially leads to better rating in terms of their attitudes towards EVs. The difference between the AC and DC condition concerning these judgments was not significant [$t(60) < 1$, n.s.] (see Fig. 3).

Regarding assessment on the future prospect of EVs, only ratings in the DC condition rose significantly [$t(29) = 2.29$, $p = .0175$, $d = .46$] documented via a medium-large effect—we did not obtain any change in the AC condition [$t(31) < 1$, n.s.]. Furthermore, the difference between DC and AC condition regarding the assessment on the future prospect of EVs showed a significant outcome with a medium-large effect [$t(60) = 1.94$, $p = .0285$, $d = .50$] (see Fig. 3).

3. Experiment 2

In Experiment 2 we aimed to investigate the role of experiencing fast-charging, i.e. whether it is necessary to let participants actively experience e-mobility in terms of the charging procedure, or whether the same effects can be attained purely by giving them written information.

Therefore, we used the same design as in Experiment 1, but instead of conducting the charging procedure and taking part in an interview on the information about the BMW ActiveE, the charging technology and questions concerning their favored behavior during a charging procedure were presented in written forms and participants had to fill in their answers – in exactly the same chronological order as in Experiment 1 – with a pen.

3.1. Method

3.1.1. Participants

Fifty-one women and eleven men (total $n = 62$), ranging in age from 17 to 29 years ($M = 20.2$ years; SD = 2.04) participated in this study. All participants were students from the University of Bamberg and were given € 7.—in compensation.

3.1.2. Apparatus and stimuli

Instead of using the real ABB charging station and the BMW ActiveE, we illustrated the new DC fast-charging technology by presenting photographs of the whole setting which we had used in Experiment 1 (e.g. Fig. 2) to get a typical impression of the scenario and the linked technology usually presented in press material. Since there was no app that simulated a time-synchronized typical charging procedure, we used written information about the relationship between time and battery status during a charging procedure adjusted to the AC or DC condition.

3.1.3. Setting and procedure

The experiment took place in the facilities of the University of Bamberg in January 2014.

As mentioned previously, the process of Experiment 2 was exactly the same as in Experiment 1 except that participants did not actively take part in the charging procedure, but were given the identical information and questionnaires in written form. Questions about the usability of the charging station were removed because they were meaningless in the given context.

3.2. Results

In order to test each different value in each condition against null we again used a one-sample *t*-test; and in order to compare the differences

Fig. 2. Showing a typical test scenario in the study.

in the slow AC condition with the fast DC condition an independent sample *t*-test was used. Participants' attitudes towards EVs in Experiment 2 did not significantly increase in either the AC condition [$t(31) < 1$, n.s.] or the DC condition [$t(29) < 1$, n.s.] (see Fig. 4). Additionally, the difference between the AC and DC condition showed no significant effect [$t(60) < 1$, n.s.]. No effects in the assessment of the future prospect of EVs could be seen, whether in the AC condition [$t(31) < 1$, n.s.], the DC condition [$t(29) = 1.07$, $p = .293$, n.s.] or in the difference between the AC and DC condition [$t(60) < 1$, n.s.] (see Fig. 4).

4. Conclusions and discussion

Due to the development of fast DC-charging in public, a new opportunity is presented to make EVs seem more attractive. Results in Experiment 1 have shown that people's opinion about the future prospect of EVs increased significantly in the DC condition compared to the AC condition. Interestingly, attitudes towards EVs increased in the AC and in the DC condition. However, none of these effects could be revealed in Experiment 2 where participants were only handed out the same information in written form instead of being allowed to actively experience the different charging technologies. In the following section we will outline possible explanations for our findings.

Although EVs are still a controversial topic of discussion among some researchers (Doring and Aigner, 2011; Mohseni and Stevie, 2010), previous studies have shown that hands-on experience with EVs in everyday driving scenarios is crucial for the acceptance of this new transport technology in general (NPE, 2012; Turrentine et al., 2011; Vilimek and Keinath, 2014) and in order to reduce psychological barriers concerning EV's limited range (Franke et al., 2012b). The experiments reported here give hints for increasing EV acceptance by positively affecting people's perception of e-mobility when experiencing DC fast-charging. In Experiment 1, we obtained an important effect for people's assessment of EVs being the future which only rose when the participants used an active fast-charging procedure taking about 30 min. Attitudes towards EVs were positively affected by the slow AC and fast DC condition in Experiment 1, which might indicate that the AC system will also be regarded as a useful option for recharging by the majority of potential customers but in a different context—e.g. at home, overnight or during work (Robinson et al., 2013). A different explanation is that mere exposure to a product increases the fluency of processing and is known to increase the appreciation for it as documented in the visual (Zajonc, 1968) as well as the haptic domain (Jakesch and Carbon, 2012). Mere exposure can also encourage a consumer to have a more favorable attitude towards a brand (Janiszewski, 1993). Possibly, the assessment of EV's future prospect feels less related to the self, whereas the attitude towards EV is more related to the self, and so mere exposure influenced participants' attitudes but not their possible assessment of EV's future prospect.

Nevertheless, none of these effects could be achieved in Experiment 2 by just handing out the same information, so letting experience

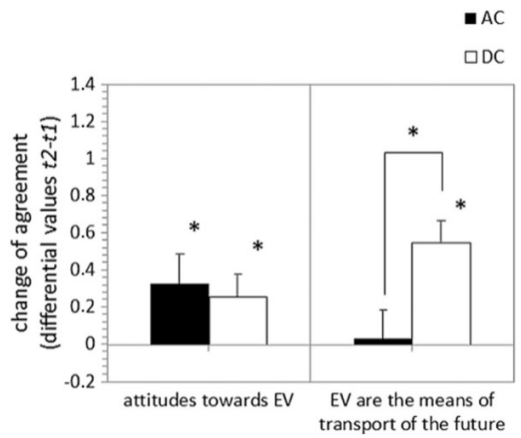

Fig. 3. Change of agreement for slow AC and fast DC charging condition concerning attitudes towards EV and assessment of the future prospect of EVs. $^{*}p < .05$ (one sided).

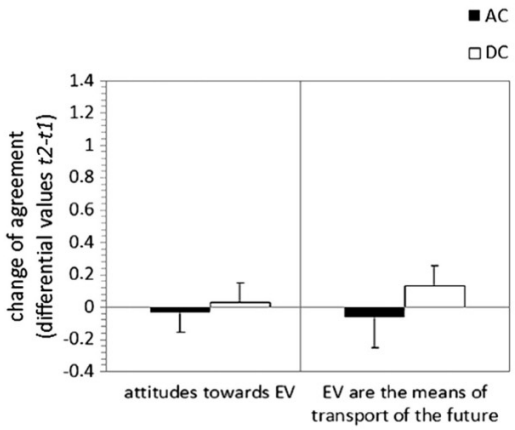

Fig. 4. Change of agreement for slow AC- and fast DC-charging condition regarding attitudes towards EVs and assessment of the future prospect of EVs in the passive elaboration (Experiment 2).

e-mobility quite passively instead of getting familiar with DC fast-charging technology through an active charging procedure. Therefore, another approach is that letting people actively take part in e-mobility issues might generally increase the attitude towards this technology by typical familiarization effects often found in the literature (e.g., via increased fluency, see Albrecht and Carbon, 2014; Reber et al., 1998) when innovative products are to be evaluated (Carbon et al., 2008)—in other words: you need to be familiar with something innovative to be able to appreciate it, and the likelihood of such familiarization seems to be better guaranteed by active than by passive elaboration. Obviously, to qualify the future of e-mobility people must experience it rather than read about it. Really convincing and also fit for the future only seems to be a technology which is charging sufficiently fast—but such an insight could not be documented when people only read about the facts on fast-charging; they mandatorily had to experience it. Like the Aesthetic-Aha! effect revealed by Muth and Carbon (2013), participants may need such an Aha effect when familiarizing with e-mobility charging technologies. When they experienced fast charging not only in theory but in practice when doing so on their own, this might have induced the evaluation that the car is now really ready for a longer trip just after some minutes of charging—this evaluation was effectively supported by showing a quickly advancing progress bar on the screen. Therefore, we assume that participants perceived an increase in the usefulness of e-mobility initiated by the experience of the fast-charging system, which is in line with former findings regarding the Technology Acceptance Model (e.g., Legris et al., 2003; Venkatesh and Davis, 2000). This idea was reflected by typical comments of participants taking part in the active DC fast-charging condition of Experiment 1 by pointing out that they "didn't expect the charging to be so fast" or "always thought to have to wait for six hours before continuing the journey." These findings fit to previous research about e-mobility where it has been shown that actively exploring the range of EVs was linked to a more successful adaptation (Franke et al., 2012a, 2012b). However, we explicitly do not conclude that the passive engagement with EVs has no influence on the favorability of EVs at all, since we used a different sampling population and conducted Experiment 2 in a different setting. Thus, another possible reason might be that undergraduates (in Experiment 2) are simply generally less inclined to care about EVs than adults who were self-selected into visiting the BMW exhibition facility. Additionally, we cannot judge whether only interacting with the car instead of charging it would have greater or lesser effects on people's acceptance of e-mobility. Thus, we can only assume that the likelihood for raising attitudes towards EVs increases when people actively take part in the way e-mobility works.

In facing the challenges for an ecologically valid transportation system, it is important to improve the perception towards EVs with regard to public authorities and especially public opinion as a whole (Spickermann et al., 2014). Therefore, fast charging opportunities seem to be another step in the right direction of fulfilling potential consumer expectations.

Additionally these experiments demonstrated possible implications of how e-mobility could be brought closer to a wide range of people. Merely by letting people engage with the concept of e-mobility and giving them the chance to actively explore the facilities of EVs, especially the method of charging, their attitudes towards EVs improved significantly. Although other studies have shown pre-post effects before, it was mostly during a long trial period (Cocron et al., 2011; Jensen et al., 2013). The possible insights derived from our studies can now help to transfer this adaptation process to the active exploration of fast-charging systems leading to an increase of the assessment of the future prospect of EVs. Taken together, e-mobility may become more attractive when potential customers have the chance to actively take part in the way e-mobility works, bearing in mind that fast DC charging is capable of improving assessments of the future prospect of EVs.

Appendix A

Table 2
Wording of the items used in Experiment 1 and Experiment 2 concerning the variable attitudes (Cronbach's $\alpha = .86$) and assessment of the future prospect of EV's.

Attitudes
In my opinion, electric vehicles would make a good impression on other people. [German: Meines Erachtens machen Elektrofahrzeuge bei anderen einen guten Eindruck.]
Electric vehicles please me. [German: Elektrofahrzeuge gefallen mir.]
I would like to use electric vehicles. [German: Ich wtirde Elektrofahrzeuge geme fahren.]
Electric vehicles would give me pleasure. [German: Elektrofahrzeuge wiirden mir Freude machen.]
Assessment of the future prospect of EVs
Electric vehicles are the means of transportation of the future. [German: Elektrofahrzeuge sind das Verkehrsmittel der Zukunft.]

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Fabian Gebauer is a PhD student at the Department of General Psychology and Methodology at the University of Bamberg, Germany. In his research he combines methodology and innovativeness research from a psychological perspective to study the role of different charging opportunities in the field of e-mobility. He is a graduateof Master of Science at the University of Bamberg in Psychology.

Claus-Christian Carbon is a professor of cognitive psychology and methodology. He has worked at the University of Vienna, the University of Warsaw, Delft University of Technology, and the University of Bamberg, where he currently holds a full professorship leading the Department of General Psychology and Methodology and the "Forschungsgruppe EPÆG"—a research group devoted to enhancing knowledge, methodology and enthusiasm in the fields of cognitive ergonomics, psychological esthetics and design evaluation. He is an editor and member of the editorial board of several international scientific journals. In 2013 he founded the Graduate School of Affective and Cognitive Sciences (BaGrACS) in Bamberg, Germany.

Roman Vilimek works in the BMW Group Concept Quality and Usability department. He is responsible for user research and scientific coordination in the international electromobility pilot projects conducted by the BMW Group with public, private and academic research partners. He graduated with a degree in psychology from University of Regensburg and received his doctorate with highest distinctions for research on innovative in-vehicle interaction concepts. Before his current engagement he worked for several years on various human–machine interaction topics like the user-centered design of advanced interaction technologies, multimodal in-vehicle systems, health care systems and intranet applications at Siemens' Corporate Technology.

Andreas Keinath graduated with a degree in psychology from University of Regensburg in 1997. He received his doctorate from University of Technology in Chemnitz in 2003. After his PhD he started working at BMW Group Research and Technology and worked intensively on driver distraction and HMI design und evaluation. Since 2009 he is Head of Concept Quality and Usability of the BMW Group. In this position he was responsible for the coordination of the scientific research of the international MINI E and BMW Active E projects. His research interests include field trials of innovative systems, distraction research and HMI evaluation.

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Critical reflection

Taking the opportunity to examine in how far the presentation of innovations concerning e-mobility might affect people's attitudes towards the concept of EVs produced valuable insights, in general for the field of e-mobility and, in particular, for this thesis.

First, experiments demonstrated possible implications of how e-mobility could be brought closer to a wide range of people. Merely by letting people engage with the concept of e-mobility and giving them the chance to actively explore the facilities of EVs—especially the method of fast-charging—improved their attitudes towards EVs significantly. Thus, e-mobility may become more attractive when potential customers have the chance to actively take part in the way e-mobility works, bearing in mind that fast-charging is capable of improving assessments of the future prospect of EVs—an important factor to achieve the political aims announced by Chancellor Angela Merkel.

On the other hand, results do also demonstrate that purely providing information is not persuasive per se. Here, the written description of either fast or slow charging had no influence on participants' attitudes towards e-mobility. Unlike the effects presented in the other core publications, people's attitudes in national political debates seem less susceptible through provided information. I will get back to possible explanations and theoretical implications for this thesis in the discussion part of section 3.

Nevertheless, some limitations of the presented findings have to be made. Taking into account that participants' average age in both experiments slightly differed, the associated driving experience with conventional cars might be an influential factor. People with more experience (as in experiment 1) might be better in estimating their everyday usage and, therefore, realize that fast-charging might fit to their everyday driving behavior. Younger people, however, are rather unexperienced and might overestimate their imagined driving behavior, thus not being impressed by 'still' needing 30 minutes to recharge. Additionally, we cannot judge whether only interacting with the car instead of charging it would have greater or lesser effects on people's acceptance of e-mobility.

The methodological approach being used in these experiments was different to those presented in the previous core publication in this thesis. Here, we calculated a measure of differences (before and after the presentation of information), whereas the other publications only measured attitudes after the presentation of information. This methodological difference does not make comparisons between these publications impossible, but the reader has to bear in mind that this publication rather depicts a (political) rethinking than simply querying attitudes after the presentation of information.

These findings, however, are another important piece of the puzzle to reconstruct how and why different information representations affect people's opinion formation in the field of political thinking. In the following sections I will discuss and outline possible explanation for the presented findings of this thesis and guide through practical implication these results might have.

3. General discussion

> „We have a state of affairs that may be called the *essential dilemma of modern democracy*. On the one hand, we, as a society, value persuasion; our government is based on the belief that free speech and discussion and exchange of ideas can lead to fairer and better decision making. On the other hand, as cognitive misers we often do not participate fully in the discussion, instead relying not on careful thought and scrutiny of a massage but on simplistic persuasion devices and limited reasoning.“ Pratkanis and Aronson (2001, p. 31)

Pratkanis' and Aronson's description of the *essential dilemma of modern democracy* puts the general insight of this thesis into a nutshell: Providing information is crucial for an enlightened society, but neither are most information neutral nor is the human mind processing them in a neural way. In an age of communication where increasingly complex scenarios are aggregated into simplistic information depictions simultaneously flooding our cognitive processing system, people seem less likely to relay on careful thoughts than on rapid decision making. This is not an accusation levelled at any individuals, but rather an observation that the fast-moving nature of socio-political events does not often allow for a differentiated point of view.

This conclusion seems especially to be true in times of international crises and conflicts, where thoughts were penetrated by threat and uncertainty about possible outcomes. Whenever we feel vulnerable or perceive threats, we have a desire for knowledge that is clear, stable and unambiguous (Thorisdottir & Jost, 2011) and favorably corresponding to our current worldview in order to avoid further uncertainty (Kruglanski, 2004). Thus, people do not only heavily rely on information by accident, but do also have psychological needs to find this information to form and confirm their opinions and attitudes.

Applying the experimental designs of this thesis to current international conflicts and political state of affairs and, additionally, conducting them within time frames where opinion formation was rather unsettled, made it possible to follow up characteristics that can shape the assessment of current political state of affairs.

First, it has been shown that threats can play a decisive role. When people were threatened by either military means or implemented existential threats, their military thinking was altered. This effect even occurred in a sample where only a minority of the population favored to provide military aid in this conflict (Pew-Research-Center, 2015). Thus, if the *collective emotional orientation* is guided by predominant emotional responses of fear, people seem to be more likely to support future military usage as part of *the ethos of the conflict* (future orientation of the conflict) leading to a potential escalation of the conflict. Although previous research has also shown that political and existential threats can increase the likelihood of society's extreme defense mechanism (e.g., Landau et al., 2004), it was new to show this effects in a European context concerning a conflict that seemed to be overcome more than 25 years ago. Since threats in international relations are part of everyday political life, one might argue that threats should foster conflict escalation whenever we perceive them. This is very unlikely, because we would then see military build-ups in every conflict around the world. Research has proven that the perception of threats does not inevitably lead to intergroup hostility. Perceiving the members of the opposing society as individuals with similar fears, providing information about peaceful solutions, or making common and shared identities salient are just a few options to reduce the likelihood of favoring military strategies (for an overview see Jonas & Fritsche, 2013). Thus, breaking through possible escalating characters of vicious circles in international conflicts is in the hand of those who spread information, but also relies on people who act upon this basis not critically reflecting about other solutions or gathering further information.

Second, we have seen that information containing reminders of the past of a former intractable conflict can reinforce the political perception of the current conflict. It seems remarkable that merely varying the colors on a map referring to the *collective memory of the former conflict* can still affect people's way of political thinking. It confirms findings that representative images of the conflict's past can affect peoples' political thinking (Paez & Liu, 2011), but it extends insights that these effects can still occur after more than 25 years of relatively peaceful relations. Furthermore, it might additionally show that people get triggered whenever references were made to former Cold War patterns reinforcing their previous held attitudes and I expect this effect to occur on both sides: NATO allies as well as Russia. From a practical point of view, medial broadcasting on both sides should be aware of the implications such comparisons bring along: A low probability of a non-biasing perception and assessment of the new conflict.

Third, the way of promoting *the ethos of the conflict* by the involved protagonists might additionally lead to a polarized view of further implications of the current conflict. We have seen that the polarized reasoning about specific political conspiracies does not come out of nowhere (core publication III). Instead, people were triggered by small narrative variations including direct causation and purposeful intention. Since conspiracies have been common in the Cold War era (e.g., Whitfield, 1996) people can get biased by the content of information to apply the same principles to the current conflict. Furthermore, once people are biased about the occurrence of such political conspiracies, they might also be guided by this motivational reasoning to judge about similar situations in the future (Miller, Saunders, & Farhart, 2016), thus influencing current shared societal belief and future orientation of the conflict.

We have seen that various threats, visual depictions and narratives within information representation can affect the way people perceive the relationship between seemingly opposing societies in times of ongoing international conflicts. Since some variations of presented information appeared to be quite subtle, the question remains whether there is any chance to resist against this kind of persuasion? The answer is yes—but only if you are willing to.

Pratkanis and Aronson (2001) present several strategies to counteract on rash decision making based on the available information. First, people have the tendency to think that (possible persuasive) messages have more impact on others than on themselves. But believing to be immune to persuasion does not mean that you really are immune. Research has shown that people who even negated to be affect by right-wing populism were influenced by their political advertising (Arendt et al., 2015). On the other hand, if people got warned of forthcoming persuasive messages and accepted possible factors influencing their attitudes, they were less suggestible (Freedman & Sears, 1965). Thus, the first step to open the door for counteracting rash and biased decision making is to admit to be impressionable by messages and the style of information representation. Based on this, there are several ways to examine whether and how one's own attitudes may have been influenced. I will briefly outline the most relevant ones with respect to the content of this thesis (for a detailed description see Pratkanis & Aronson, 2001, pp. 329-356):

- Monitoring one's own emotion. What kind of emotional responses does the content provoke in you? Are you happy or anxious? Do you perceive an increased thinking of us vs. them? Research has vividly proven the important role of emotions on decision making (Weber & Johnson, 2009)—and so did this thesis. If you feel strong emotional responses, the authors propose to step outside the situation and try to analyze what is going on.
- Try to think rationally about the issues by asking thinks like: "What kinds of labels are used?" "What arguments are used to describe the advocate's position as well as those from the opposing position?" Rationalizing the pros and cons of available information reduces stigmatizing, especially under threat (Jonas & Fritsche, 2013)
- Try to understand the full range of options available before making decision by asking: "Are their other options available?" "What might happen if I chose other options than the first one that pops in my mind?" Conscious thoughts about competing options seems important to adjust overhasty behaviors (Baumeister, Masicampo, & Vohs, 2011)

Pratkanis and Aronson (2001) describe some useful tools that might pretend people from rash decision making in precarious situations. Nevertheless, they admit that we neither have the time nor the cognitive capacity to go through their presented checklist in our everyday decision making process. Furthermore, they explicitly emphasize that not every message or information has to be persuasive and that certain circumstance foster how and why people are affected by specific information. We have learned about several factors affecting people's attitudes in the context of the resurrected East vs. West conflict within core publications I-III of this thesis (e.g. seemingly opposing societies, threats, uncertainty, visual reminder of the past of the conflict and semantical cues in narratives).

On the other hand, core publication IV decisively illustrates that information is not persuasive per se. Although the presented studies were also conducted within sensitive time frames, purely presenting information did not alter people's political view in the context of e-mobility. This might have several reasons that possibly interacted with each other:

1) Instead of an international conflict where the action of an opposing side could have had harmful consequences, the political debate about e-mobility was conducted on a national level, namely in Germany. Thus, participants were not driven by predominant emotional responses (i.e. fear) and less likely to be influenced.

2) E-mobility had difficult times being promoted in in a positive way in 2013, with German people still being skeptical about using electric vehicles in their everyday life (Schwedes et al., 2013; Steinhilber et al., 2013).

3) People seem generally less committed to change their everyday lifestyle (Ohm & Thompson, 2004) and, thus, positive innovations in the field of e-mobility might be less convincing, if they were only presented in written forms instead of experiencing them in real-life contexts.

Taken together, the presented publications highlight the susceptibility of opinion formation in (re-)emerging political affairs under threat and uncertainty and its suggestibility through informational content. At the same time, we see the contextual limitation of persuasiveness in our everyday life and political rethinking.

4. Conclusion

The findings reported within this thesis reveal the decisive role of provided information in the field of political thinking in a couple of different political arenas. It outlines the circumstances under which specific types of information can crucially affect people's assessment of current political state of affairs. Conducting investigations under highly ecological valid settings also pave the way to a better understanding of opinion formation in ongoing political debates. Thus, results allow following up about how attitudes and interpretations concerning international conflicts and national debates can be construed und reinforced through provided information. On the other hand, it just wouldn't be right to tempt that people are only passive consumers and helpless victims of mass communication. Instead, this thesis also tries to emphasize conscious ways of decision making based upon information being presented to them. Nevertheless, it illustrates that politicians, authors, publishers and everyone else having public responsibility should carefully chose how to depict political conflicts in order to try avoiding biased perception among their audience.

Taken together, this thesis aims to contribute to a better understanding about how opinion formation in real world contexts might be construed. Furthermore, it underlines the importance of basic and applied research methods that comprehensibly outline psychological processes in current political state of affairs in order to increase the understanding of social process in the field of political thinking.

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6. Exhaustive publication list and list of contributions to scientific conferences

Peer-Reviewed Publications

Gebauer, F., Raab, M. H., & Carbon, C. C. (2016a). Back to the USSR: How colors might shape the political perception of East vs. West. *i-Perception*. doi: 10.1177/2041669516676823

Gebauer, F., Raab, M. H., & Carbon, C. C. (2016b). Conspiracy formation is in the detail: On the interaction of conspiratorial predispositions and semantic cues. *Applied Cognitive Psychology, 30*(6), 917-924. doi: 10.1002/acp.327

Gebauer, F., Raab, M. H., & Carbon, C. C. (2016c). Imagine all the forces: The impact of threatening news coverage on the willingness to militarily engage in the resurgence of the East vs. West conflict. *Journal of Media Psychology -Theories Methods and Applications*. doi: 10.1027/1864-1105/a000180

Gebauer, F., Vilimek, R., Keinath, A., & Carbon, C. C. (2016). Changing attitudes towards e-mobility by actively elaborating fast-charging technology. *Technological Forecasting and Social Change, 106*, 31-36. doi: 10.1016/j.techfore.2016.02.006

Harsànyi, G., **Gebauer, F.**, & Carbon, C. C. (2013). Design Evaluation - Zeitliche Dynamik ästhetischer Wertschätzung. In S. Boll, S. Maaß & R. Malaka (Eds.), *Workshopband Mensch & Computer* (pp. 145-153). München: Oldenburg Verlag.

Conference Contributions

Gebauer, F., Raab, M. H., & Carbon, C. C. (2016). *Red alert again: How colors can reinforce political East vs. West thinking*. Poster presented at the 50. Kongress der Deutschen Gesellschaft für Psychologie, Leipzig, Germany (18.-22.09.2016).

Gebauer, F., & Carbon, C. C. (2016). *Folgen polarisierender Ost-gegen-West-Darstellungen während der Ukraine-Krise: Experimentelle Untersuchungen aktueller Medien*. Talk presented at the „Politische Ideologien im Wandel der Zeit" – Interdisziplinäre Fachtagung der Sektion Politische Psychologie (02-03.09.2016), Berlin, Germany.

Ortlieb, S., **Gebauer, F.**, & Carbon, C. C. (2016). *Mors certa, kitsch incerta: How does mortality salience affect kitsch judgments?* Poster presented at the Visual Science of Art Conference, Barcelona, Spain (26.-27.08.2016).

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Declaration/Erklärung

Erklärung gemäß §9 (3) der Promotionsordnung der Fakultäten Humanwissenschaften und Geistes- und Kulturwissenschaften

Ich erkläre, dass ich die vorgelegte Dissertation selbständig angefertigt, dabei keine anderen Hilfsmittel als die im Quelle und Literaturverzeichnis genannten benutzt, alle aus Quellen und Literatur, einschließlich des Internets, wörtlich oder sinngemäß entnommenen Stellen als solche kenntlich gemacht und auch die Fundstellen einzeln nachgewiesen habe.

Bamberg, 11. April 2017 Fabian Gebauer