

PROCEEDINGS OF THE

9<sup>TH</sup> CONFERENCE OF THE DGPs  
MEDIA PSYCHOLOGY DIVISION

SEPTEMBER 9<sup>TH</sup> – 11<sup>TH</sup> | 2015



Eberhard Karls Universität Tübingen &  
Knowledge Media Research Center, Tübingen

**SPECIAL EVENTS**

- **Open Science Session**  
September 11<sup>th</sup>  
featuring: **Neuroskeptic**,  
Martin Voracek, Nicole Krämer,  
Kai Sassenberg, Malte Elson
- **Science Slam**  
September 10<sup>th</sup>

**ORGANIZERS**

- Sonja Utz, Markus Huff

EBERHARD KARLS  
UNIVERSITÄT  
TÜBINGEN



Leibniz-Institut für  
Wissensmedien

<http://mediapsychology2015.iwm-kmrc.de>

## Contents

General information	3
Information for presenters	5
Special Events	6
Maps	7
Session overview	9
Presentations	11
Index of authors	23

## General information

### Organizers

#### *Hosts*

Markus Huff  
Juniorprofessur Allgemeine Psychologie  
Eberhard Karls Universität Tübingen  
Schleichstr. 4  
72076 Tübingen

Sonja Utz  
Leibniz-Institut für Wissensmedien  
Schleichstr. 6  
72076 Tübingen

#### *Conference venue*

The registration desk as well as the room for the poster session is located in the Knowledge Media Research Center (Schleichstr. 6). The oral sessions take place in the Psychology Department (Schleichstr. 4). The opening session, the open science session, as well as the science slam are held in the Neue Aula, Audimax (Geschwister-Scholl-Platz). Please refer to pages 7ff for detailed maps.

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### *Prices and tips*

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Emergency number 112

Police 110

### *Pharmacy*

The nearest pharmacy is located on Keltternstr. 2 (+49 7071 22422, open: Mon-Fri 07:30 - 20:00; Sat 08:00 – 14:00). For telephone information about the 24-hour pharmacy standby service call 0800 0022833 from a landline or 22833 from a cell phone.

### *Smoking*

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Please make sure to transfer your presentation files to the respective computer in the lecture room at least 10 minutes before the start of your session, using a USB memory stick. Preferably, you should do this in the morning or in the break before the session. Ask the technical assistants in the lecture rooms for help. They will be present 30 minutes before each session and during the session.

The respective time slots are as follows:

- **Research papers:** 10 minutes for the talk + 5 minutes discussion
- **Review papers:** 20 minutes for the talk + 10 minutes discussion
- **Position papers:** 30 minutes for the talk + 15 minutes discussion

### Poster presentations

Poster presenters are asked to prepare their posters in DIN A0 portrait format (900 mm x 1200 mm maximum). There will be three poster sessions, one on each day of the conference. The sessions take place in the main hall of the Knowledge Media Research Center (Schleichstr. 6) from 14.00 to 15.00 on Thursday. The number of each poster can be found in the program. Please put your posters up in the morning, thus making it possible for interested colleagues to view them all day. Pins are available in the main hall. During the actual poster sessions, the first author is expected to be available for requests and discussions. We also recommend preparation of handouts (miniature versions of the poster) for interested colleagues.

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The open science session will take place in the Audimax lecture hall 025 in the Neue Aula (Hölderlinstr. 19) on Friday, September 11<sup>th</sup>, starting at 11.00. Please keep in mind that you will need about 10 min to walk from the Psychology building to the Neue Aula.

### **Pre-conference welcome evening**

The welcome evening will take place in the “Gasthausbrauerei Neckarmüller” (Gartenstraße 4, 72074 Tübingen, very close to city center) on Wednesday from 19:00. The restaurant with brewery serves a wide variety of affordable German dishes. Do not miss this opportunity to meet colleagues in this relaxed atmosphere.

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The restaurant can easily be reached from the University. Students will guide conference participants to the Kongresshalle in groups leaving at 19.00 and 19.15 from the front entrance of the Psychology building.

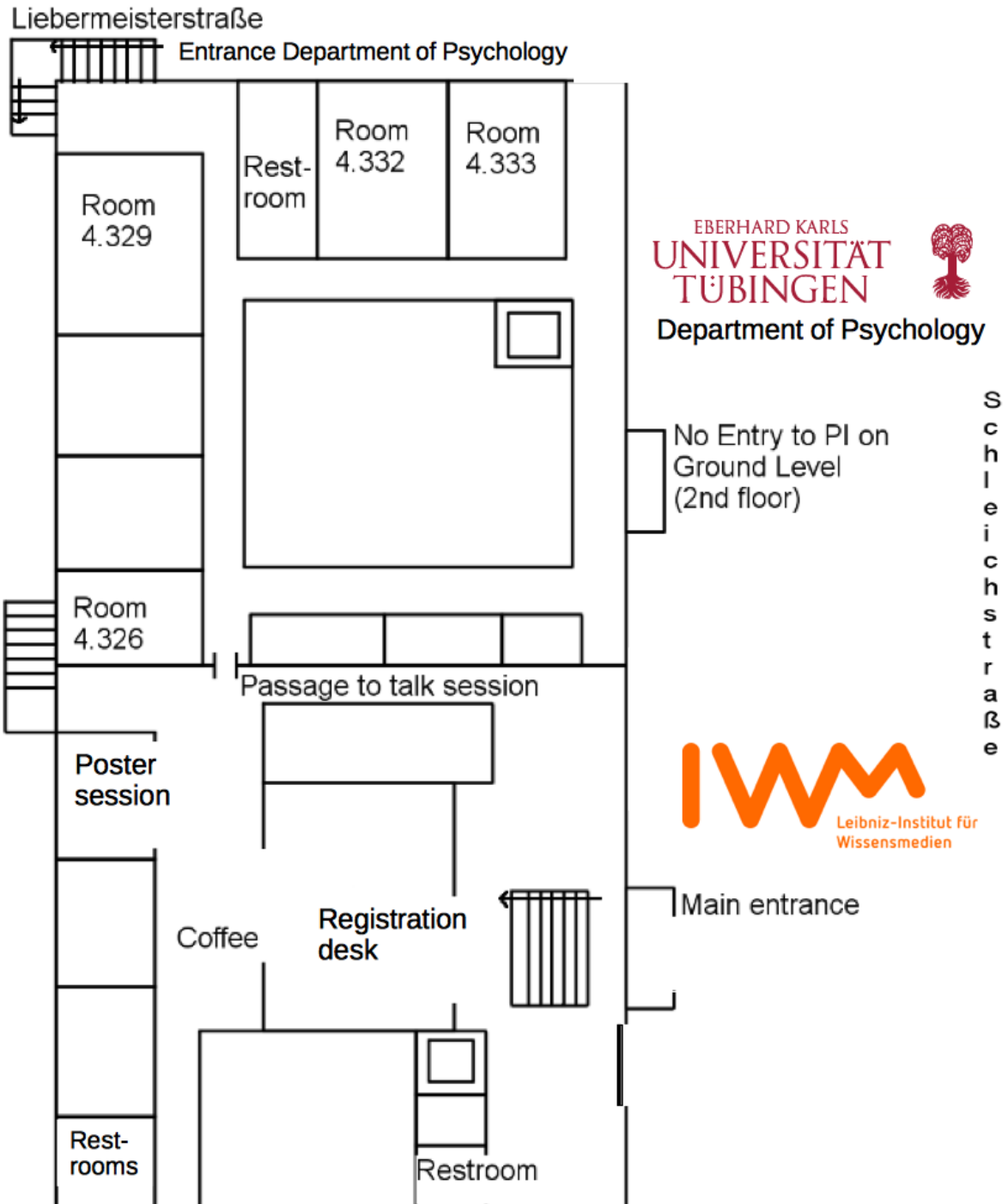
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# Maps







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## Session overview

**Date: Thursday, 10/Sep/2015**

8:30am	<b>Opening: Opening</b>			
-	Location: <a href="#">Neue Aula: Audimax</a>			
9:00am				
9:15am	<b>Research Paper 1: Social Media 1: Privacy and Self Disclosure</b>	<b>Research Paper 2: Design and Function of Robots</b>	<b>Research Paper 3: Media Exposure</b>	<b>Research Paper 4: Political Communication</b>
-	Location: <a href="#">Room 4329</a>	Location: <a href="#">Room 4326</a>	Location: <a href="#">Room 4332</a>	Location: <a href="#">Room 4333</a>
10:15am	Chair: <b>Andrew K. Przybylski</b>	Chair: <b>Astrid Marieke Rosenthal-von der Pütten</b>	Chair: <b>Erich Weichselgartner</b>	Chair: <b>Frank M. Schneider</b>
10:15am	<b>Coffee break: Coffee break</b>			
-	Location: <a href="#">IWM</a>			
10:40am				
10:40am	<b>Research Paper 5: Social Media 2: Emotion and Social Support</b>	<b>Research Paper 6: Peer / Media Influence</b>	<b>Symposium 1: How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media</b>	<b>Research Paper 7: Video Games: Effects and Perceptions</b>
-	Location: <a href="#">Room 4329</a>	Location: <a href="#">Room 4326</a>	Location: <a href="#">Room 4332</a>	Location: <a href="#">Room 4333</a>
11:40am	Chair: <b>Sonja Utz</b>	Chair: <b>Rohangis Mohseni</b>	Chair: <b>Friederike Hendriks</b>	Chair: <b>Malte Elson</b>
11:40am	<b>Lunch Break Thursday: Lunch Break</b>			
-	Location: <a href="#">Mensa/City/...</a>			
1:00pm				
1:00pm	<b>Research Paper 8: Social Media 3: Negative Effects</b>	<b>Research Paper 9: Evolutionary Media Psychology</b>	<b>Research Paper 10: Learning with Media</b>	<b>Research Paper 11: Evaluation of Brands</b>
-	Location: <a href="#">Room 4329</a>	Location: <a href="#">Room 4326</a>	Location: <a href="#">Room 4332</a>	Location: <a href="#">Room 4333</a>
2:00pm	Chair: <b>Nicole Krämer</b>	Chair: <b>Johannes Breuer</b>	Chair: <b>Anne Schüler</b>	Chair: <b>Frank Schwab</b>
2:00pm	<b>Poster Session + Coffee Break</b>			
-	Location: <a href="#">IWM</a>			
3:00pm				
3:15pm	<b>Position Paper 1: Does trust matter? A cognitive approach to the role of trust for online self-disclosures</b>	<b>Position Paper 2: Expanding and enforcing the Pottery Barn rule in media psychology</b>	<b>Position Paper 3: Best Practices for Advancing Internet Gaming Addiction Research</b>	
-	Location: <a href="#">Room 4329</a>	Location: <a href="#">Room 4326</a>	Location: <a href="#">Room 4332</a>	
4:00pm	Chair: <b>Sandra Pöschl</b>	Chair: <b>Elly A. Konijn</b>	Chair: <b>Markus Appel</b>	
4:15pm	<b>Business Meeting: Business Meeting</b>			
-	Location: <a href="#">Room 4329</a>			
5:30pm				
5:30pm	<b>Science Slam: Science Slam</b>			
-	Location: <a href="#">Neue Aula: Audimax</a>			
7:00pm				
7:30pm	<b>Dinner: Conference Dinner</b>			
-	Location: <a href="#">Restaurant Kelter</a>			
11:00pm				

**Date: Friday, 11/Sep/2015**

9:00am -	<b>Review Paper 1: The (a)social net? A meta-analytical review of 15 years of research on the relationship between Internet use and perceived social capital/social support</b> Location: <a href="#">Room 4329</a> Chair: <b>Leonard Reinecke</b>	<b>Review Paper 2: In the eye of the observer: What actually guides visual attention on webpages? State of research and prospects for the future</b> Location: <a href="#">Room 4326</a> Chair: <b>Frank Papenmeier</b>	<b>Review Paper 3: Revisiting culture - a neglected dimension in U&amp;G research and media psychology</b> Location: <a href="#">Room 4332</a> Chair: <b>Caleb T. Carr</b>
9:30am -	<b>Research Paper 12: Social Media 4: Impression Formation</b> Location: <a href="#">Room 4329</a> Chair: <b>Emese Domahidi</b>	<b>Research Paper 13: Narratives: Content and Processing</b> Location: <a href="#">Room 4326</a> Chair: <b>Anneke de Graaf</b>	<b>Research Paper 14: Propaganda and Memes</b> Location: <a href="#">Room 4332</a> Chair: <b>Özen Odag</b>
10:30am -	<b>Research Paper 15: Perception and Cognition</b> Location: <a href="#">Room 4333</a> Chair: <b>Markus Huff</b>		
10:30am -	<b>Coffee break 2: Coffee break</b> Location: <a href="#">IWM</a>		
11:00am -	<b>Open Science: Open Science</b> Location: <a href="#">Neue Aula: Audimax</a>		
1:00pm -	<b>Lunch Break Friday: Lunch Break</b> Location: <a href="#">Mensa/City/...</a>		
2:00pm -	<b>Research Paper 16: Parasocial Interaction</b> Location: <a href="#">Room 4329</a> Chair: <b>André Melzer</b>	<b>Research Paper 17: Film/TV</b> Location: <a href="#">Room 4326</a> Chair: <b>Hauke S. Meyerhoff</b>	<b>Symposium 2: Research on Learning and Instruction Meets Media Psychology</b> Location: <a href="#">Room 4332</a> Chair: <b>Katharina Scheiter</b>
3:00pm			

## Presentations

### Research Paper 1: Social Media 1: Privacy and Self Disclosure

Time: Thursday, 10/Sep/2015: 9:15am - 10:15am · Location: Room 4329

Session Chair: Andrew K. Przybylski

#### I am concerned about my privacy, but can I protect it? The moderating role of online privacy literacy

**Philipp K. Masur, Doris Teutsch, Sabine Trepte**

University of Hohenheim, Germany; [philipp.masur@uni-hohenheim.de](mailto:philipp.masur@uni-hohenheim.de)

Current data mining and profiling practices by institutions and online service providers have raised many concerns among internet users and privacy advocates alike. Consequently, current debates on data protection often circulate around the question what the individual can do in order to protect online privacy. Yet, although privacy protection tools are available, most people rarely use them (Morrison, 2012). Studies have shown that users' privacy concerns do not necessarily translate to their privacy behaviors. Besides other explanations, it has been argued that a lack of privacy literacy may account for this seeming paradox. We hence assumed that online privacy literacy moderates the influence of privacy concerns on self-data protection.

To test this hypothesis, we conducted an online-survey with a representative sample of German internet users (N = 1,932). Online privacy literacy was measured by testing users' knowledge about (1) institutional data collection and usage practices, (2) technical aspects of data protection, (3) data protection laws, and (4) specific privacy protection strategies. Our findings show that privacy literacy moderates the effect of privacy concerns on self-data protection ( $r = .01$ ,  $p < .01$ ). In other words, there is only a significant and positive effect of privacy concerns on self-data protection for people who have a certain level of privacy literacy.

These results show that online privacy literacy is a precondition for self-data protection. If users are concerned and have higher online privacy literacy, they are more likely to use protective measures to safeguard their privacy in online environments.

#### References

Morrison, B. (2012). Do we know what we think we know? An exploration of online social network users' privacy literacy. In Proceedings of the 42nd Atlantic Schools of Business conference (pp. 419–438). Dalhousie University.

#### Privacy by noise? The impact of information density onto users' audience expectations

**Stephanie Pieschl, Ricarda Moll, Rainer Bromme**

Westfälische Wilhelms-Universität Münster, Germany; [pieschl@uni-muenster.de](mailto:pieschl@uni-muenster.de)

In order to regulate their privacy, users of Online Social Networks need to know who accesses their online information. In the absence of specific knowledge about actual audiences and their behaviors, users might nonetheless build subjective audience beliefs and expectations. Specifically, their own experiences of information overload (noise) might lead to collective privacy expectations: Under conditions of high information density and large audiences users might assume that their own contents will vanish in the noise of all available data.

To test these assumptions, we conducted a 3 x 4 experiment (N = 124) varying the noise cues information density (within-subject: no information, low, medium, high) and audience size (between-subject: small, medium, large) in a Facebook group context. We hypothesized that with increasing noise users with such collective privacy expectations should give decreasing estimates regarding the probability of an audience member reading a specific post. Results show a significant main effect of information density,  $F(2.50, 302.10) = 46.54$ ,  $p < .001$ ,  $\eta^2 = .28$ , but no significant effect of audience size and no significant interaction. Planned contrasts (method: repeated) revealed significant differences between the conditions no information and low density, low and medium density, and medium and high density. Mean probability estimates were highest for the low density condition (39.6 %), followed by the medium density condition (23.7 %), and the high density condition (13.4 %).

We replicated these findings in a second experiment (N = 121) in a Twitter context and with a different dependent variable. Against the backdrop of these results, we will more generally discuss the role of subjective beliefs for the perception of privacy in online communication.

## Talking about private matters online and offline – Insights from a qualitative interview study

**Doris Teutsch, Sabine Trepte**

University of Hohenheim, Germany; [doris.teutsch@uni-hohenheim.de](mailto:doris.teutsch@uni-hohenheim.de)

Social network sites (e.g., Facebook) and messenger apps (e.g., WhatsApp) are two of several channels people use to communicate with family, friends, and colleagues. Thus, communication on social media includes conversations between closely related individuals who tend to share private aspects of their self and life with each other. In our study, we explored whether users have different expectations concerning privacy regulation in social media compared to face-to-face communication.

We conducted 33 semi-structured interviews. As we wanted the participants to describe their perception of privacy in different social contexts, we used the critical incidents technique: We asked for specific situations in which they talked about private issues.

Interviewees reported to share feelings and thoughts concerning private aspects of their lives with friends, partners, family and acquaintances when talking face-to-face. However, most of them hesitated to bring up private issues when communicating with the same person via social media. Social network sites and messenger apps were not considered appropriate to discuss private information for several reasons: (1) Respondents are aware of the persistence and copyability of digital communication and do not want private communication to be recorded. (2) They perceive a social norm of not sharing truly private matters within their peer group online and behave accordingly. (3) Discussing intimate and private aspects of life usually involves detailed statements, but exchanging long messages does not seem appropriate in social media. (4) Social media communication lacks direct feedback inferred from nonverbal cues which is especially important when talking about private issues. This lack leads to ambiguous communication that prevents mutual understanding.

We conclude that sharing private information face-to-face is an essential element of close relationships and people consciously decide not to extend private conversations to social media.

## Offline time is quality time. Comparing within-group self-disclosure in mobile messaging applications and Face-to-Face Interactions.

**Katharina Knop, Julian Öncü, Jana Penzel, Theresa Abele, Tobias Brunner**

University of Mannheim, Germany; [kknop@mail.uni-mannheim.de](mailto:kknop@mail.uni-mannheim.de)

So far, research on self-disclosure in both face-to-face (F2F) interactions and computer-mediated communication has primarily examined dyads and focused on individual dispositions to disclose. However, “situational knowledge of context” (Stutzman, Capra, & Thompson, 2011, p. 591), such as audience and medium (Bazarova & Choi, 2014), has a considerable impact on self-disclosure. Taking this into account, the present study explores within-group self-disclosure, i.e. the revelation of personal information “including thoughts, feelings and experiences” (Derlega, Metts, Petronio, & Margulis, 1993, p. 1) by a member of a social group to the group as a whole. It examines how within-group self-disclosure differs between F2F-interactions and communication via mobile messaging apps (MMAs). Additionally, the influence of group-specific context factors (such as group size) is examined by integrating them as covariates. An online-survey (N = 357) was conducted to test for differences of within-group self-disclosure online and offline across four dimensions (amount, depth, breadth, valence; Hollenbaugh & Ferris, 2014; Wheeless & Grotz, 1976). Intercorrelations between the dimensions of amount, breadth, and depth suggest that they form a mutual dimension: the intensity of within-group self-disclosure. Results demonstrate that first, there is a significant difference in the general frequency of communication online versus frequency offline: Groups communicate more often via MMAs than in F2F situations. Results further revealed that F2F communication is characterized by a significantly higher level of intensity of within-group self-disclosure, whereas the mere frequency of communication is higher in an MMA environment. Moreover, within-group self-disclosure via MMAs is more positively valenced than offline communication. This shows that personal information are still best shared in an offline environment: it appears that offline time is quality time. The results are discussed in terms of these implications.



## Research Paper 2: Design and Function of Robots

Time: Thursday, 10/Sep/2015: 9:15am - 10:15am · Location: Room 4326

Session Chair: Astrid Marieke Rosenthal-von der Pütten

### Look into my blinking red eye! The effects of humanlike nonverbal behavior in robots and roboticspecific nonverbal behavior on users' self-disclosure and emotion

**Jonathan Herrmann, Astrid Rosenthal-von der Pütten, Nicole Krämer**

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Being one of the most dominant influential factors in human-human interactions (HHI) nonverbal behavior is considered to have the same impact in human-robot interactions (HRI). Indeed, there is evidence that robots are rated more positively and liked better when they display humanlike nonverbal behavior (e.g. Salem et al., 2011). However, robots are different from humans in one pivotal aspect that is they offer additional possibilities for nonverbal signals such as differently colored LED lights. It has been shown that this robot-specific behavior can convey the robot's emotional state when combined with humanlike nonverbal behavior (Häring et al., 2011), but it is unknown whether robot-specific behavior alone can trigger the same evaluations. To test the influence of humanlike nonverbal behavior in robots (HNB) and innately robotic nonverbal behavior (RNB) on users' perception of the robot and their emotional experience and self-disclosure during the interaction users (n=70) interacted with either a) a robot displaying no nonverbal behavior, b) a robot displaying HNB, c) a robot displaying RNB, or d) a robot displaying HNB and RNB. Results show a significant effect of nonverbal behavior on levels of self-disclosure,  $F(1,69)=3.92$ ,  $p=.012$ . There was a linear trend,  $F(1,69)=10.82$ ,  $p=.002$ , indicating that self-disclosure increased proportionally with the addition of nonverbal behaviors (control < RNB < HNB < HNB+RNB). Planned contrasts revealed having any type of nonverbal behavior significantly increased self-disclosure compared to having no nonverbal behavior,  $t(66)=2.34$ ,  $p=.022$ , but displaying the robot with HNB in contrast to RNB did not significantly increase self-disclosure,  $t(66)=1.93$ ,  $p=.058$ , nor did the combination of HNB and RNB compared to only HNB,  $t(66)=.58$ ,  $p=.561$ . The display of nonverbal behavior in robots affects participants' self-disclosure. Especially, the linear trend suggests that HNB is more effective in transporting the robot's communicative message than RNB, however, RNB can add to the effectiveness of HNB.

### Perceiving Realism in Robot Embodiments: Implications for Design

**Robert A. Paauwe<sup>1</sup>, Johan F. Hoorn<sup>1</sup>, Elly A. Konijn<sup>1</sup>, David V. Keyson<sup>2</sup>**

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In the near future, human-like social robots will become indispensable for providing support in various social tasks, in particular for healthcare (e.g., assistance, coaching, therapy). To prevent dehumanization of these healthcare services, the perception of realism, in particular human-like features, can help facilitate mediated social interaction. The current study investigated the effects of form realism on engagement with and use intentions of social robot embodiments. We have defined (perceived) form realism as the result of the appraisal of features that are perceived as realistic contrasted with those appraised as unrealistic. To test the effects of form realism, we applied the model of Interactively Perceiving and Experiencing Fictional Characters (I-PEFiC). I-PEFiC explains how users respond to interactive, fictional, humanoid characters, on social robots.

In a within-subjects design, participants (N = 29; Mage = 28.8 years, age range: 18-56 years) interacted with three different robots built from LEGO Mindstorms, which differed in their degree of designed form realism. Each robot presented itself as a physiotherapy assistant and requested the participant to do several exercises. Results of a structured questionnaire indicated that form realism only played a modest role in the perception of electro-mechanical robots. Instead, the perception of affordances appeared to be crucial for determining engagement and intentions to use social robots.

To conclude, this study provided empirical evidence that the I-PEFiC model is an appropriate framework to apply in the domain of social robots to predict engagement and use intentions. Designed form realism does not necessarily affect perceived realism, which may serve as an advice to social robots designers. It is what the robot doctor (or nurse) affords, as well as their aesthetic appearance that makes them lovable and usable.

### Perceptions of a Social Healthcare Robot as a Function of Emotional Coping

**Marloes L.C. Spekman, Elly A. Konijn, Johan F. Hoorn**

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The increasing pressure on healthcare increases the need for technological advances such as (social) robots. Thus far, most research on healthcare robots focused on how people experienced interactions with such robots, while little attention has been paid to how people's prior emotions and attitudes may influence perceptions of such robots prior to any interaction. This is important because many healthcare situations involve intense emotional challenges. Based on emotional appraisal theories and prior research we expected that (appraisals of) coping in particular would influence perceptions of healthcare robots. Effects of ease-of-cope and emotional state were tested in a 2 (hard-to-cope-with vs. easy-to-cope-with situation) x 2 (sad vs. angry) between-subjects lab study including a control group. Emotions were induced via a recall procedure, followed by measurements of appraisals and coping strategies (both emotion-focused and problem-focused). Then, participants interacted with a social healthcare robot about their health and well-being, and after that perceptions such as affordances, relevance, involvement, and use intentions were assessed. Intensity of the recalled emotion differed greatly among respondents. Results of analyses among emotional participants showed that angry participants used problem-focused and positive emotion-focused coping strategies more often than they did negative emotion-focused coping strategies, while no differences were found among sad participants with regard to the relative use of coping strategies. Manipulated ease-of-cope did not affect the relative use of the 3 coping strategies, but did affect the appraisal of coping potential. The appraisal of coping potential and the use of the positive emotion-focused coping strategy were both found to positively affect perceptions of the healthcare robot. Thus, for participants in an emotional state, it is not their emotional state per se that influences how they perceive the robot, but rather how they cope with that emotion affects how they perceive a healthcare robot.

## Research Paper 3: Media Exposure

Time: Thursday, 10/Sep/2015: 9:15am - 10:15am · Location: Room 4332  
Session Chair: Erich Weichselgartner

### Measuring Content-based Media Exposure (C-ME): Validation of a Scale

**Elly A. Konijn<sup>1</sup>, Anouk den Hamer<sup>1</sup>, Xanthe S. Plaisier<sup>1</sup>, Micha G. Keijer<sup>1</sup>, Lydia C. Krabbendam<sup>1</sup>, Brad J. Bushman<sup>1,2</sup>**

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Given the central role media has in the lives of adolescents, it is somewhat ironic that there is no standardized measurement device for assessing the content of media consumed. Problems and inconsistencies exist in accurately measuring media use. Furthermore, most media exposure measures just ask for frequency of exposure to a particular medium (e.g., watching TV or playing video games) without discerning the specific content to which one has been exposed. Obviously, it is important to (1) measure media exposure based on content given today's new media technology (i.e. across channels), and (2) to apply a solid measurement device that will make studies comparable. Therefore, we developed and validated a measurement device to measure both the frequency and content of adolescents' media exposure: the Content-based Media Exposure Scale (C-ME). The components of the C-ME scale are based on previous research and monitors several categories of antisocial and risk behavior as commonly portrayed in today's media fare targeted at adolescents. The C-ME includes 22 items that assess exposure to media content portraying antisocial, violent, risk and norm-crossing behavior (12 items) and pro-social and neutral (10 items) media content. The factor structure was investigated in four independent samples of adolescents aged 11 to 18 years old (N=892, N=748, N=524, N=356). Goodness of fit indices like CFI's and RMSEA's showed good fit, for both types of content. Predictive, discriminant and convergent validity also showed to be in expected directions. Exposure to antisocial media content positively correlated with sensation seeking, trait aggressiveness, violent media use, and general media use, whereas exposure to pro-social media correlated positively with empathy. The C-ME proves a reliable measurement device that is easy to use in a wide variety of systematic research (e.g., experiments, longitudinal designs) on the role of adolescent media use in (risk) behavior.

### Perception of Media Change and Stress

**Philipp Müller**

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Research has demonstrated that the perceived rate of social change in the environment relates to the feeling of stress and can thus reduce well-being (Kim, 2008; Lauer, 1974; Rafferty & Griffin, 2006). Moreover, it has been argued that psycho-social resources such as self-efficacy, openness, social support, or locus of control facilitate individuals' ability to cope with change in a constructive way and should therefore moderate the relationship between perceived change and stress (Pinquart & Silbereisen, 2004). The present paper transfers this notion to the perception of change in the media sector. We argue that media are a crucial factor in everyday social life. Keeping up with media change can be decisive, e.g., for social participation or success in the workplace. Media change could therefore be especially stressful for individuals. We tested the interrelations between the perception of media change and stress in a representative telephone survey of the German population (n = 434). Results indicate an indirect relationship of perceived rate of media change with general life stress which is mediated by the perception of media change as a stressor. Personality traits moderate the latter. Media-related innovativeness and locus of control reduce the perception that media change is a stressor in life. Interestingly, openness to experience reinforces this perception. An explanation for this finding could be that openness leads to an excessive engagement with media innovations in which a loss of self-regulation might be experienced (Tokunaga, 2013). This might lead more open individuals to judge the influence of media change on their lives more negatively. Since the research is correlational in nature, it remains to be explored whether the perception of strong media change boosts general life-stress or whether life-stress leads to stronger perceptions of media change. We discuss both interpretations of the observed relationships and their respective implications.

### Suicide Threads on the Internet: Content Analysis of Postings in „Pro-“ and „Anti-Suicide Message Boards“

**Benedikt Till, Thomas Niederkrotenthaler**

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Recent research shows that the Internet is the preferred source of information on suicide in adolescents and young adults and provides a broad variety of resources on suicide-related information, including personal accounts on suicide, prevention services, information websites, and message boards. Despite its high relevance for suicide research and suicide prevention, studies investigating the content of postings in suicide message boards and comparing the differences between distinctive types of these Internet message boards are scarce. In the present study, we developed a coding system to analyze the content of postings in 1182 chats in seven German speaking message boards that either approve (“pro-suicide message board”) or disapprove suicide (“anti-suicide message board”) or provide a neutral or ambivalent approach toward suicide. Our analysis focused particularly on the types of problems presented and types of responses received. Intercoder-reliability was satisfactory with Krippendorff’s alpha  $>0.80$  for most variables. The results show that threads in “pro-suicide message boards” were shorter than in “anti-suicide message boards” and active visitor participation was weaker in “pro-suicide threads”. In “pro-suicide message boards” discussions on suicide methods were more frequent, suicide was more often accepted as solution to problems, and promotions of health services were less frequent than in neutral or “anti-suicide message boards”. Furthermore, respondents resemble the initiators of a thread in terms of their level of ‘suicidal constriction’ (i.e., their level of social isolation and lack of affective resonance) more often in “pro-suicide threads”. However, explicit affirmation of suicidal behavior was rare across all message boards, including so-called “pro-suicide message boards”. We conclude that different types of suicide message boards may serve different functions and attract different types of users. This study was funded by the Austrian Science Fund (grant number P-23659-B11).

## Research Paper 4: Political Communication

Time: Thursday, 10/Sep/2015: 9:15am - 10:15am · Location: Room 4333  
Session Chair: Frank M. Schneider

### Radicalization 2.0 - a media content analysis of twitter and twitter related web communication

**Frank Schwab, Astrid Carolus**

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Islamic attacks threaten the world - at least since the attack at Charlie Hebdo and the recruitment of Europeans as Jhadi fighters. The radicalizing potential of the internet is feared by general public, extensively covered by mass media and haunted by security agencies. Especially, the fear of adolescents being decoyed online via social media is discussed. However, this modern propaganda and radicalization have only found scant scientific attention yet (Rieger et al. 2013). As a first attempt to close the gap we ask: What kind of (potentially extremist) content do average users find while browsing the internet? Accordingly, we focused the publicly accessible data on twitter (neither the dark web nor hidden radical content). To approach an understanding of the (possible) process of radicalization online we scanned twitter for #JIHAD and #ISIS. The resulting 12,450 tweets were analyzed both, quantitatively and qualitatively. First the overall sample was analyzed regarding the choice of words by using the Textpack software. Following this, we drew subsamples to realize more detailed analysis at three levels. A random sample of 826 tweets were content analyzed (formal and content related aspects). As a result, 396 tweets were categorized as being "supporting radicalism", only 14 of these as "pro jihadi Islamism". Last sample, pictures and videos linked were qualitatively analyzed. To summarize our results briefly only a minority of tweets (4%) were categorized as supporting Islamic ideas. Instead, neutral tweets and tweets against Islamism were found to be in the majority. Tweets against Islamic threat were rather radical. Therefore, our results reveal rather counter Islamic communication warning against societal break up and alienation potentially caused by Islamic terror. We discuss our methodological approach and the results as a promising starting point for a deeper understanding of the communicative context in which radicalization may happen in modern societies.

### Emotional Impacts on News Reception in the Internet: How Different Emotional Sources Affect Viewing Behavior, Memory, and the Evaluation of a News Portal

**Ricardo Ramos Gameiro<sup>1</sup>, Peter König<sup>1,2</sup>, Kai Kaspar<sup>1,3</sup>**

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Effects of emotions on attention have been reported in many fields, but research in the context of media reception is relatively sparse in this respect. In the present talk we outline how different sources of emotional impacts not only affect viewing behavior on webpages but also the memory for content and the evaluation of a news portal's attributes. The effect of emotions on attention arises in the form of externally and internally loaded forms. The former relates to the emotional valence of the sensory stimulus. The latter refers to the emotional state of the subject. In ecological scenarios, both components are active. We investigated their influence and interaction on several levels. Before participants observed webpages of a news portal, an emotional priming induced either positive or negative mood. Each webpage contained positive and negative emotion-laden news (headline plus image) to be recalled in a memory test. Gaze behavior was recorded by an eye-tracker. We captured effects on fixations, saccadic parameters, and explorative behavior. Furthermore, we related memory performance to gaze behavior. We found that negative news attracted more fixations and induced longer fixations than positive news while negative news was also better memorized. The increased attention correlated positively with recall performance on an individual level only after a positive mood induction. Moreover, the evaluation of the news portal's hedonic quality and appeal, but not of its usability, was affected by participants' current mood state. We conclude that in contrast to previously reported mood-congruent preferences in young adults' attention, there are complementary effects of internally and externally loaded emotions in the context of news reception with the tendency that positive priming increased attention and memory for negative content.

### Political Media Outlets for a Young Audience – Strengths, Weaknesses, and Potentials

**Anja M. R. Schmitt, Laura Sophia Loy, Josephine B. Schmitt**

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Within the last decades, interest of young people in politics has been decreasing. As the Internet is the preferred medium amongst young people, there is a rising number of online political media outlets,

specifically produced for a young audience (e.g., LeFloid). Our study explores young people's perspective on these outlets.

We conducted semi-structured interviews with 20 individuals between 14 and 27 years, mostly of lower educational background. They first described what they considered important characteristics of political media outlets. Then, they evaluated several presented youth-targeted websites and YouTube channels as well as one conventional online news magazine (i.e., spiegel.de). We asked them to express their free associations and included a quantitative rating scale on specific properties of these outlets.

The qualitative content analysis revealed that the young respondents preferred outlets they described as modern, informative, intelligible, and concise. They appreciated a big variety of topics and were most interested in current affairs. While the presented youth-targeted media outlets were rather unknown, their evaluation was predominantly positive. The interviewees considered them more interesting, modern, enjoyable, and less boring than conventional political news. The most common positive characteristics they named were the use of informal language and easy explanations that required little background knowledge. Most of them preferred videos over texts and liked visual elements. On the negative side, many respondents found it hard to follow YouTube videos due to a high speaking rate. The quantitative rating showed that the conventional news magazine was seen as most informative compared to all other outlets, but as least probable to be used again.

Our study provides first insights into important features of political media outlets for young people, which can be used to develop items for new respective rating scales. Furthermore, it points to the potential of alternative youth-targeted outlets in fostering political interest.

## Research Paper 5: Social Media 2: Emotion and Social Support

Time: Thursday, 10/Sep/2015: 10:40am - 11:40am · Location: Room 4329  
Session Chair: Sonja Utz

### Longitudinal analysis of social support in mediated and non-mediated channels

**Tobias Dienlin, Philipp Masur, Sabine Trepte**

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Does communication lead to more social support? Or is it the other way around: Does receiving social support lead to more communication? Social penetration theory implies that communication leverages social support (Altman & Taylor, 1973). Moreover, as most people nowadays engage in online communication, do these effects also take place in the new social media? That is, does the communication with one's partner, family members and colleagues on social network sites (SNSs) or instant messengers (IMs) also foster social support (and vice versa)? And generally, do users receive more support from face-to-face (F2F), SNS, or IM communication?

In order to analyze these questions, a two-wave longitudinal study was conducted over the course of six months. The study's sample was representative of German social media users (N = 474). All variables were measured for conversations in three channels: face-to-face (F2F), SNSs, and IMs.

Results showed that users received the most social support from F2F interactions, followed by support from IM and support from SNS interactions. Using a cross-lagged path analysis, we found that social support at T1 had a significant and positive effect on the frequency of communication with other people at T2 in all three communication channels. By contrast, frequency of communication at T1 increased social support at T2 only for SNS and IM communication; F2F communication at T1 did not increase social support at T2.

Our results suggest that people who receive social support through a specific communication channel will communicate more frequently in this channel. Only communication through SNS or IM seems to directly leverage support. In contrast to F2F interaction, frequency of mediated interactions yield social support.

### Broadcasting One World – How Watching Elevating Online Videos Can Strengthen Universal Orientation and Reduce Stereotypes

**Nicole Krämer<sup>1</sup>, Sabrina Eimler<sup>2</sup>, Leonie Rösner<sup>1</sup>, Stephan Winter<sup>1</sup>, German Neubaum<sup>1</sup>, Mary Beth Oliver<sup>3</sup>**

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Research on non-hedonic entertainment has suggested the experience of elevation as an important construct which will lead to beneficial outcomes such as prosocial motivation. Several studies have shown that elevation, resulting from observing moral beauty and human virtue motivated people to engaging in prosocial behavior (Algoe & Haidt, 2009). Likewise, studies in media psychology have demonstrated that observing meaningful media contents, in which media characters display unselfish, prosocial behavior, also leads to an increase in prosocial motivation (Oliver, Hartmann, & Woolley, 2012).

The present research builds on first findings in this realm by distinguishing more clearly between different meaningful media contents. In a 3x4 between subjects online experiment we varied type of video (beauty of the earth, unity of humankind, portrayals of human kindness and funny control videos) and context of proliferation (presentation within an unknown video platform, presentation as YouTube video with low number of views vs. high number of views). We hypothesized that especially portrayals of human kindness will evoke elevation and increase prosocial motivation and that presentation in a youtube environment with high number of views will raise universal orientation. Results indicate that, indeed, meaningful videos led to greater elevation, more universal orientation and prosocial motivation – with videos showing human kindness standing out against other forms of meaningful videos. Additionally, especially human kindness videos fostered more positive attitudes toward stereotyped groups – mediated by the feeling of elevation and the subsequent feeling of universal orientation. The context of proliferation did not yield effects.

Algoe, S.B., & Haidt, J. (2009). Witnessing excellence in action: The 'other-praising' emotions of

elevation, gratitude, and admiration. *Journal of Positive Psychology*, 4, 105–27. doi:10.1080/17439760802650519

Oliver, M. B., Hartmann, T., & Woolley, J. K. (2012). Elevation in response to entertainment portrayals of moral virtue. *Human Communication Research*, 38(3), 360–378. doi: 10.1111/j.1468-2958.2012.01427.x

### **“Everyday I am Çapulcu”: Çapulcu Identity and Collective Action through Social Network Sites in the Gezi Park protests**

**Özden Melis Ulug<sup>1</sup>, Özen Odag<sup>2</sup>, Nevin Solak<sup>3</sup>**

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In communication psychology, social network sites such as Facebook or Twitter have received acclaim for their propensity to facilitate and foster group identities. From a political communication perspective, social network sites have come under criticism for their failure to politically mobilize their participants for collective action in the real world. The present contribution brings these two arguments together in the context of the pro-environmental Gezi Park protests in Turkey. More specifically, it looks at the role of social media in the development of a new Turkish protestor-identity (Çapulcu Identity) that was developed during the protests and the impact social media had on forms of collective action connected with this identity. Data were obtained through an online survey (N=1300) assessing online and offline collective action, identification with the said Çapulcu Identity, and the readiness to protest in the future. Results obtained by means of structural equation modeling show that offline collective action as well as Çapulcu Identity lie at the heart of protestors' intentions to act further in the context of the Gezi case. While offline collective action has a direct, and strong, effect on future protesting, the effect of online collective action on the readiness to protest in the future is mediated by Çapulcu Identity.

### **The Emotional Responses of Browsing Facebook: Happiness, Envy, and the Role of Tie Strength**

**Ruoyun Lin, Sonja Utz**

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From a self-presentation point of view, Facebook users often post about their positive life events, successes, and entertaining status updates. The feeling of happiness and envy might be the most typical positive and negative emotions after reading such positive posts on Facebook. The feeling of happiness can be explained by the effects of emotional contagion, i.e., the tendency for two individuals to emotionally converge; whereas the feeling of envy can be explained as a result of upward social comparison. Also, on Facebook, it is possible to read posts from both strong and weak ties because of the context collapse that social media create.

This paper aims to explore the momentary emotional outcomes after reading a post on Facebook and examine the role of tie strength in predicting happiness and envy. Two studies—one exploratory, based on a sample of 207 American participants and the other experimental, based on a sample of 194 German participants—were conducted in 2014.

The results of the first exploratory study showed that, in general, positive emotions outweighed the negative ones after reading a post on Facebook. In addition, tie strength moderates the feeling of happiness: the effect of emotional contagion is stronger when the post comes from a strong tie rather than a weak tie; however, we did not find a moderating effect of tie strength on the feeling of envy.

In the second experimental study, we manipulated the tie strength between the poster and reader. To the best of our knowledge, this is also the first study to differentiate malicious and benign envy in the context of Facebook use. The results showed that tie strength is positively associated with the feeling of happiness and benign envy, whereas malicious envy is independent of tie strength after reading a positive and envy-inducing post on Facebook.



## Research Paper 6: Peer / Media Influence

Time: Thursday, 10/Sep/2015: 10:40am - 11:40am · Location: Room 4326  
Session Chair: Rohangis Mohseni

### **My body is holy but my mind is not: The impact of Muslim beliefs and sexualized advertisements on self-objectification and cognitive skills**

**Julia Kneer, Nathalie van Oosterhout**

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Research has found that sexualized images, in this case advertisements, have an impact on women's self-objectification as well as on women's cognitive skills. What remains unclear is if religious beliefs – in this case Muslim beliefs – are able to protect against these effects of sexualized media content. This study focused on the influence of sexualized advertisement and how Muslim beliefs can protect against self-objectification induced by objectifying media content. Female participants (40 Muslim and 30 non-Muslim) watched either sexualized or non-sexualized advertisements. Afterwards self-objectification (Noll & Fredrickson, 1998) and cognitive skills (Stroop task) were assessed. We found a significant main effect for the influence of type of advertisements on trait self-objectification  $F(1,70) = 5.64$ ,  $p = .02$ ,  $\eta^2 = .08$ . Women score higher on trait self-objectification after having watched sexualized advertisements than women who have watched non-sexualized advertisements. In addition, the main effect for religion on trait self-objectification  $F(1,70) = 5.59$ ,  $p = .02$ ,  $\eta^2 = .07$ . Muslim women show less self-objectification than non-Muslim women. For cognitive skills type of advertisements had influence on incongruent word time,  $F(1,70) = 4.73$ ,  $p = .03$ ,  $\eta^2 = .06$ ., and on Stroop interference,  $F(1,70) = 5.38$ ,  $p = .02$ ,  $\eta^2 = .07$  as well. Participants who watched the sexualized advertisements showed less cognitive attention than women who watched the non-sexualized advertisements. No significant difference was found for religion,  $F(1,70) = 0.26$ , n.s.. Results showed that religion can protect against self-objectifying but not prevent from decreasing cognitive skills – that means that cognitive skills reduction is not solely explainable by self-objectification. Discussion will focus on stereotype-threat as explanation why cognitive skills are reduced after objectifying media content and if religious beliefs might even decrease performance because they can even lead to a stronger activation of this specific stereotype.

### **Peer Influence and Media Portraying Antisocial Behaviors: The role of Moral Permissibility in Adolescents**

**Xanthe S. Plaisier, Elly A. Konijn, Jolanda Veldhuis**

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While both media and peers play an important role in the lives of adolescents, research on the interaction between the two is limited. In the present study, we aimed to explain adolescents' media use from two relevant forms of peer influence: social exclusion and peer pressure. Thereby, we specifically focused on media content portraying antisocial, risky and immoral behaviors and how these were morally evaluated. To test our hypotheses that peers would influence moral judgments and media preferences, we designed an experiment in which social exclusion (vs. acceptance) was manipulated by an autobiographical mood induction procedure. Then, participants were presented descriptions of various media clips. These clips were combined with either approving, disapproving, or no peer comments in a YouTube format to manipulate peer pressure. Results showed that socially excluded adolescents made more permissible moral judgments of the antisocial behaviors portrayed in the media and reported higher preferences for such contents in comparison to their accepted counterparts. As for peer pressure, media preferences were higher when peers approved the media content compared to when peers disapproved the content or a control condition with no comments. In addition, results revealed an interaction between social exclusion and peer pressure: While peer pressure did not further affect the moral judgments of socially excluded adolescents, their preferences for media portraying antisocial, risky and norm-crossing behavior were further increased when peers approved such contents. Implications for adolescent development and media effects research are discussed.

### **fMRI Study Showing how Peer Feedback Negotiates Effects of Media's Thin-Body Ideal in Adolescents**

**Jolanda Veldhuis, Elly A. Konijn**

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The prevalence of overweight is increasing dramatically in Western society, which contrasts the prevailing ultra-slim beauty-ideal in the media. Research shows this may result in increased levels of

body dissatisfaction. This occurs especially in adolescents, followed by unbalanced weight-control measures such as excessive dieting, which puts them at risk for developing eating disorder symptoms. Moreover, disturbed eating patterns are predictive of weight gain and being overweight in later stages of life, underlining the relation between ideal-body exposure and overweight. However, demonstrating how ideal-body imagery influences adolescents' body image is not easy given contrasting findings in extant literature. Previous studies showed that the effects of idealized media imagery largely depend on the context in which these images are perceived. Hence, these effects are the result of feedback mechanisms determining the impact of media content (e.g., counteracting, normalization, and idealization effects). Concurrently, studies in the field of developmental (neuro)psychology have demonstrated the importance of peer feedback in relation to social norms. Increasingly, media set such social norms, especially for heavy media consumers like today's adolescents. Therefore, we examined the effectiveness of peer feedback mechanisms by neuropsychological responsiveness (fMRI) upon exposure to media model imagery followed by feedback. Girls (18-19 years-old, N=24) were exposed to 60 media models (30 thin; 30 average-sized) while in an MRI-scanner. Subsequently, they rated each model as 'too thin' or 'normal-weight', followed by either congruent or incongruent peer feedback. Results showed increased activity in the ACC and insula in incongruent situations (e.g., the participant rated the model as 'normal-weight' while feedback indicated the model as 'thin'), especially for those with lower self-esteem. The observed increased activity corresponds to previous findings that these brain centers become active in case of uncertain situations, such as when social norms are exceeded. These first results reveal that media-based feedback holds great promise.

### **Influence of Performance-Related Facebook Postings on Students' Intentions to Enhance Their Study Performances**

**Leonie Rösner, Nicole C. Krämer**

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With the rise of social media, and social networking sites (SNS) in particular, social comparisons are easier and more prevalent than ever before. Since many students communicate about study-related issues on SNS, these comparisons can also involve academic performance.

Research concerning social comparisons on SNS has predominantly studied affective outcomes on the self, showing for example that negative social comparisons were linked to rumination and increase in depressive symptoms (Feinstein, Hershenberg, Bhatia, Latack, Meuwly, & Davila, 2013), to a more negative body image and greater perceived discrepancy between individuals' actual and ideal career status (Haferkamp & Krämer, 2011).

The present study aims to extend the research on social comparison effects on SNS by investigating effects on academic performance motivation and behavioral intentions. More specifically, we conducted an online survey to examine whether the frequency of exposure to Facebook postings about peers' academic success (upward comparison) or failure (downward comparison) affects students' intentions to study more for their next exams and their motivation to attain good grades. A sample of N=332 students (226 female), who actively use Facebook, participated in the survey. We assessed self-reported exposure to performance-related Facebook postings of peers, participants' academic intentions, and their academic achievement orientation.

Moderated regression analyses and subsequent simple slopes show that frequent exposure to success-related Facebook postings increases the intention to attain good grades ( $b=.27$ ,  $SE=.06$ ,  $t=4.21$ ,  $p<.001$ ) and the intention to learn more for the next exams ( $b=.23$ ,  $SE=.11$ ,  $t=2.16$ ,  $p<.032$ ) for individuals with lower achievement orientation (compared to higher achievement orientation). Failure-related postings had no influence on intentions, which means that these postings did not increase students' motivation to improve their performances but did not lead to potential undesirable outcomes either (in the sense of adjusting to a lower performance standard).

## **Symposium 1: How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media**

*Time:* Thursday, 10/Sep/2015: 10:40am - 11:40am · *Location:* Room 4332

*Session Chair:* Friederike Hendriks

### **How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media**

*Chair(s):* **Friederike Hendriks** (University of Münster), **Dorothe Kienhues** (University of Münster)

*Discussant(s):* **Tobias Rothmund** (University of Koblenz-Landau)

Web 2.0 is characterized by a change from static websites to blogs, from mere publication to participation (Flew, 2008). This includes that scientists can directly communicate and discuss their theories and findings to the public, e.g. in science blogs, or that laypeople can discuss science related topics online, e.g. in forums. How might this influence the recipients' understanding of and engagement with science? How do people deal with the unprecedented availability of all kinds of science-related information? (How) Do they judge its credibility to find out what to believe? (How) Do people come to an (informed) opinion or even decision? The aim of the panel session is to address such challenges to public understanding of science but also to show how laypeople might resolve them.

The experimental studies contributing to this panel focus on how laypeople deal with scientific topics (health and nanotechnology) published in forums or blogs. They ask, how laypeople handle expert's use technical language (Thon), the introduction of societal implications of science issues (Hendriks), and furthermore, conflicting (Wilden) or tentative (Feinkohl) evidence. They show that to come to conclusions about a topic, cues for the trustworthiness of experts may be used (Thon, Hendriks), and reasoning when forming attitudes may be influenced by laypeople's epistemic beliefs or scientific literacy (Wilden, Feinkohl). Furthermore, the contributions address new possibilities of science communication 2.0. Laypeople can easily access discussion among experts (Hendriks). Also, new media facilitates laypeople's participation in the discussion of scientific information (Feinkohl). Rothmund will discuss further the theoretical and practical implications of the contributions.

Flew, T. (2008). *New Media: An introduction* (3rd ed.). South Melbourne: Oxford University Press.

#### *Presentations of the Symposium*

### **He talked complicated but he should not! How technical wording and information on medical expertise impact the evaluation of online health information**

**Franziska Thon, Regina Jucks**

University of Münster

Processing written information online is not only understanding the content. It is also reflecting about the speakers (e.g., trustworthiness). Using a 2x2 experimental design we manipulated medical statements in an online health forum context regarding both: the wording of the content and the information about the speaker. Students (n=127) from various disciplines judged message credibility of medical statements in a 2 (author's profession: medical vs. non-medical) x 2 (word choice: technical vs. everyday language medical terms) within subjects design. Our results demonstrate that messages from medical authors were more often accepted as true than messages from non-medical authors, whereas technicality of medical language was not used as a cue to author's expertise, but decreased credibility for non-medical authors. Though, participants were not fully aware of the factors influencing their judgments. We conclude that people do believe in expertise when receiving advice in online health communication.

### **Differences in students' trustworthiness assessments of a science blogger depending on the source of a disclosure of ethical concerns**

**Friederike Hendriks, Dorothe Kienhues, Rainer Bromme**

University of Münster

How does a) adding ethical concerns to information about a scientific topic, and b) who mentions those concerns, influence recipients' judgments of a scientist's expertise, integrity, and benevolence? In study 1, high-school students (N = 101) read a scientist's blog entry on neuro-enhancement. In one condition ethical concerns were never mentioned (no-disclosure). In two conditions, the entry was

followed by a comment disclosing ethical concerns either subscribed to an external critic (external-disclosure) or authored by the blogger himself (self-disclosure). Results revealed that lower integrity and benevolence ratings were given following external- compared to no-disclosure, but higher ratings followed self- rather than external-disclosure. Moreover, ascribed benevolence predicted a decision on the issue in a regression analysis (beyond experimental conditions). Results imply that students spontaneously inferred the blogger's intentions from self-disclosure. Such intentions may be judged differently if only ethical pros or cons are introduced, which will be investigated in study 2.

**Real vs. superficial complexity: Effects of two-sided headlines and arguments on readers' attitudes toward scientific debates**

**Eva Wilden<sup>1</sup>, Stephan Winter<sup>2</sup>, Carolin Straßmann<sup>2</sup>, Thomas Ernst<sup>2</sup>**

<sup>1</sup>University of Vechta, <sup>2</sup>University of Duisburg-Essen

Web 2.0 has become an important source of science information for laypersons – but not all documents adequately represent the current state of research and not all readers have the skills to understand complex scientific information. This study investigated under which conditions readers include conflicting evidence in their attitudes on current scientific topics and under which conditions they rely on less effortful heuristics. In an experiment (N= 613) with a 3x2-between-subjects design, we systematically varied the argumentation structure of a science blog article on nanotechnology (pro vs. con vs. two-sided) and message framing in the headline (either one-sided or two-sided). Results primarily showed main effects of argumentation structure on readers' attitudes: Two-sided messages, representing conflicting information, were particularly influential for readers with advanced epistemological beliefs. Framing effects on attitude certainty were only found for readers with naive epistemological beliefs, suggesting that most readers are less susceptible to mere illusions of complexity.

**Internet users' critical evaluation of an online medical news article: Influencing factors of user discussions of scientific uncertainty**

**Insa Feinkohl, Danny Flemming, Ulrike Cress, Joachim Kimmerle**

Knowledge Media Research Center

People are frequently faced with media reports on medical research, but little is known about their ability to identify the tentativeness that is inherent to such research. In an experimental study, we presented 70 students with a journalistic article that described a novel therapeutic method used to treat depression. We asked them to write a comment on that article in an online forum. We manipulated the extent to which tentativeness was discussed in preceding comments and additionally measured selected trait variables. It was found that reading preceding comments that discussed tentativeness led to a greater extent to which participants themselves also addressed the issue. Additionally, participants' discussion of tentativeness was predicted independently by a higher scientific literacy and a higher academic self-efficacy. Our findings show that in a student sample, the discussion of medical uncertainty depends on situational as well as on trait factors.

## Research Paper 7: Video Games: Effects and Perceptions

Time: Thursday, 10/Sep/2015: 10:40am - 11:40am · Location: Room 4333  
Session Chair: Malte Elson

### Differential impact of game difficulty on spatial presence

**Michael Brill, Thaina Ertan, Vanessa Luksch, Frank Schwab**

Universität Würzburg, Germany; [michael.brill@uni-wuerzburg.de](mailto:michael.brill@uni-wuerzburg.de)

Spatial presence, i.e. overlooking the mediated nature of a media experience, is conceptualized by Wirth et al. (2007) as result of a two step process: the user creates a spatial situation model as a mental representation of the media environment and then enters a state of presence, if the media-presented reference frame is chosen over the real-world reference frame as primary reference frame. Two facets of presence are hypothesized: „spatial presence - self-location“ (SPSL; the sense of being physically present in the mediated environment) and „spatial presence - possible actions“ (SPPA; the impression of being able to act in the mediated environment).

This study investigates the impact of video game difficulty on presence. According to the process model, difficulty should rather affect SPPA than SPSL: Spatial media cues are not modified, but increased game difficulty puts stricter limits on whether player actions lead to a successful outcome, possibly diminishing the player's sense of being able to act in the game.

74 participants repeatedly played a shooter game (Unreal Tournament 3; Midway Games, 2007) against computer-controlled opponents; four levels of opponent skill were presented in random order to create different levels of difficulty. The hypothesized presence facets SPSL and SPPA were assessed using the MEC-SPQ presence questionnaire (Vorderer et al., 2004). Participants' game scores (kill/death ratio) were used as an indicator of difficulty.

Manipulation check showed that levels of difficulty differed as intended, except for similar scorings on hard and very hard levels. In line with theoretical assumptions, a repeated measures MANOVA revealed diminishing effects of increasing difficulty: a small effect on SPSL  $F(3,219) = 2.54$ ,  $p = .058$ ,  $\eta^2 = .034$ , but a large effect on SPPA  $F(3,219) = 11.56$ ,  $p < .001$ ,  $\eta^2 = .137$ .

We discuss relevance for games research regarding sample characteristics and adequate choice of presence measures.

### Desensitization effects of video game violence on pain-related responses: Violent video games as painkillers?

**André Melzer**

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Video game violence (VGV) has been reported to desensitize players (e.g. Anderson et al., 2010). Compared to nonviolent games, VGV was found to reduce (a) empathy, that is, the emotional response to harm befalling someone else, and (b) physiological reactivity to scenes of violence. In three lab experiments (N=194), self-reports (Study 1-3) and physiological indicators of pain perceptions (heart rate variability—HRV, Study 3) were used to test whether desensitization also holds true for responses to pain stimuli—does VGV decrease players' own experience of pain?

In each of the experiments, participants either played a violent (Manhunt 2) or a nonviolent video game (Wii Sports). Next, effects of game condition were measured regarding pain-related responses to thermal stress. Using the cold pressor task in Study 1, pain tolerance and self-reported pain perceptions were tested for participants holding their dominant lower arm in 4°C-cold water. In Studies 2 and 3, participants' pain perceptions were measured using heat as thermal stressor applied via a local thermode placed at the inside of the lower arm.

The experiments revealed a dissociation between subjective and objective measures of pain responses. In contrast to a previous finding (Stephens & Allsop, 2012), game condition did not affect self-reports on pain perception. However, as indicated by greater HRV (Study 3), pain was physiologically perceived as less stressful in the violent game condition, thus confirming the selective desensitization effect of VGV. This dissociation between self-reports and physiological measures of pain responses is currently addressed in a fourth experiment. Specifically, Study 4 includes a third game condition that does not require physical activity (i.e. control condition) to rule out an alternative explanation: In Studies 1-3, game conditions differed in violence but not in physical activity, which has been reported as having a pain-distracting effect (Raudenbush, Koon, Cessna, & McCombs, 2009).

## **Moral Kombat – Moral foundations and the evaluation of violent and sexual content in video games**

**Johannes Breuer<sup>1</sup>, Malte Elson<sup>2</sup>, Kimon Kieslich<sup>3</sup>, Nicholas Bowman<sup>4</sup>, Rachel Kowert<sup>3</sup>, Thorsten Quandt<sup>3</sup>, Amanda Lange<sup>5</sup>, Ryan Lange<sup>6</sup>**

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The potential detrimental effects of video games are still cause for heated debates in both academia and the public. Some scholars see this as a sign of a moral panic (e.g., Elson & Ferguson, 2013; Kutner & Olson, 2008), suggesting that these controversies are rooted in differing moral views. Several studies have shown that views on the effects of violent content in video games differ with personal experience and age (Przybylski, 2014). The perception and evaluation of contents can also differ between individuals, depending on the way the content is presented and frequency of use (Breuer, Scharrow, & Quandt, 2014). Another factor that can influence media preferences and the appeal of media violence are moral values (Tamborini et al., 2012). While previous work has focused on noninteractive media and violence, we wanted to extend the research by looking at video games and two different types of potentially offensive material: sexual and violent content.

In a 2x1 experiment (N = 140) using two customized missions for GTA: San Andreas we investigated whether content evaluation (age ratings assigned to the game) depends on moral views and personal use of video games. Based on Moral Foundations Theory (Haidt & Joseph, 2004), we assumed that the purity/sanctity dimension determines age ratings of sexual content (mission 1), while the harm/care dimension predicts appraisal of violent content (mission 2). Regression analyses revealed that, indeed, the rating of the sex mission was significantly predicted by purity, while harm did not emerge as a significant predictor for the rating of the violent mission. Gender and frequency of video game use did not emerge as significant predictors of the age ratings in either condition. The results suggest that parts of the opposing views on violent and sexual content in video games can be attributed to differences in moral views.

## **Newbies, Start Your Engines. Virtual Motor Skill Training and True Transfer**

**Benny Liebold, Kevin Koban, Peter Ohler**

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Video games have been shown to facilitate learning processes in various knowledge domains (Sitzmann, 2011; Wouters et al., 2013). So far, investigations on learning effects have been limited mainly to declarative and procedural knowledge acquisition as well as self-efficacy. With the introduction of natural user interfaces (see Skalski et al., 2010), however, video games provide the potential to serve as easily accessible means for virtual motor skill training otherwise deployed almost exclusively for future pilots (de Winter et al., 2012) or surgeons (Al-Kadi et al., 2012). We hypothesized that virtual race training would lead to positive transfer effects for cognitive, affective, and skill-based outcomes.

We conducted a laboratory experiment with N=41 inexperienced participants following a 2x2 design with input authenticity (low/controller vs. high/steering wheel) and simulation accuracy (low/race-car vs. high/gokart) as between-subject factors as well as one control group without training. Participants in the training conditions completed a 9-week training in Gran Turismo 6 (PolyphonyDigital, 2013) for one hour per week. Following the training, all participants took part in a learning transfer session, where they drove a go-kart for 10 minutes.

The data revealed that participants with virtual training performed better,  $t(36)=2.08$ ,  $p<.05$ ,  $r=.33$ , had higher racing-knowledge,  $t(36)=1.71$ ,  $p<.05$  (one-tailed),  $r=.28$ , reported higher levels of self-efficacy,  $t(36)=2.59$ ,  $p<.05$ ,  $r=.40$ , but were not different regarding their reported anxiety compared to the control group,  $t(36)=1.67$ ,  $p=.10$ ,  $r=.27$ . No differences were found regarding input authenticity or simulation accuracy.

Our results suggest that virtual motor skill training using commercial off-the-shelf games facilitates skill acquisition for real world scenarios even for comparatively short training curricula. The influence of natural user interfaces and simulation accuracy remains unclear due to the rather small sample size. However, data for a second cohort (total N=78) have been collected that should shed more light on the technological properties in question.



## Research Paper 8: Social Media 3: Negative Effects

Time: Thursday, 10/Sep/2015: 1:00pm - 2:00pm · Location: Room 4329  
Session Chair: Nicole Krämer

### How to explain “phubbing” – Can “Fear of Missing Out” predict the compulsive use of mobile phones in social situations?

**Christian Bosau, Max Kühn**

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In recent month the new phenomenon “phubbing” (snubbing someone in favour of your mobile phone) emerged (Lobe, 2014). Additionally, it is argued that the use of modern internet services (e.g. social networks) can be seen as addicted behavior (Masur, 2013; Bosau, Aelker & Amaadachou, 2014a & 2014b). “Phubbing” could therefore be described as a consequence and manifestation of addicted habits, i.e. addicted people can’t stop to use their mobile phones even when they are in company of friends. To explain this behavior the concept of FoMO (Fear of Missing Out) could be used since it was already successfully applied in similar research contexts (Przybylski, Murayama, DeHaan & Gladwell, 2013; Bosau et al., 2014b).

The online-study (N=101) analyzed the influence of FoMO (measured by Przybylski et al., 2013) on the compulsive checking of mobile phones, operationalized by three different scales: a) general problematic mobile phone use (Güzeller & Cosguner, 2012), b) habitual checking tendencies (Bayer & Campbell, 2012), c) frequency of checking (Collins, 2013). To analyze differences of mobile phone use while being alone vs. being in company respondents had to answer scales b) and c) twice to disclose their behavior in the two different settings. Several stepwise regression analyses using bootstrapping were calculated to analyze the explaining power of FoMO.

The results show that FoMO in general is a very strong predictor: people with more FoMO show more problematic mobile phone use. However, in social situations the problematic use is generally lower and the predictive power of FoMO is slightly smaller, i.e. being in company serves as a moderator and buffers to some extent the influence of FoMO on the checking behavior; although, FoMO is still highly correlated to all three behavioural indices. Interestingly, the influence of FoMO differs significantly between males and females and is commonly stronger for males.

### Internet Use and Procrastination: Results from a German Probability Sample

**Leonard Reinecke<sup>1</sup>, Adrian Meier<sup>1</sup>, Stefan Aufenanger<sup>2</sup>, Manfred E. Beutel<sup>3</sup>, Michael Dreier<sup>3</sup>,  
Oliver Quiring<sup>1</sup>, Birgit Stark<sup>1</sup>, Klaus Wölfling<sup>3</sup>, Kai W. Müller<sup>3</sup>**

<sup>1</sup>Department of Communication, Johannes Gutenberg University Mainz, Germany; <sup>2</sup>Department of Education, Johannes Gutenberg University Mainz, Germany; <sup>3</sup>University Medical Centre, Johannes Gutenberg University Mainz, Germany; [leonard.reinecke@uni-mainz.de](mailto:leonard.reinecke@uni-mainz.de)

Online content and communication are constantly available in everyday life and provide easy distraction from aversive tasks and duties. While recent research underlines the general relevance of media use as an activity that is frequently used to postpone other, less hedonically pleasant tasks (Reinecke, Hartmann, & Eden, 2014), the interplay of media use and procrastination has not been explicated comprehensively yet. The aim of the present study was, thus, to test the relationship between trait procrastination and Internet use based on a representative sample of N=1643 German Internet users (51.6% female; Mage = 42.29, SD = 14.92). The data were analyzed with path-modelling ( $\chi^2(6) = 15.27, p < .05, CFI = .998, RMSEA = .031$ ). Trait procrastination was positively associated with the use of entertaining online content ( $\beta = .26, p < .001$ ). Furthermore, trait procrastination was positively related to impaired self-control over Internet use ( $\beta = .27, p < .001$ ), which, in turn, was associated with an increased risk of experiencing negative consequences from Internet use ( $\beta = .46, p < .001$ ). The second part of the model tested uncontrolled Internet use as a mediator of the effects of procrastination on psychological well-being. Bootstrapping with 5000 samples with replacement revealed an indirect effect of trait procrastination on stress ( $\beta = .08, p < .001$ ), depression ( $\beta = .07, p < .001$ ), and general anxiety ( $\beta = .06, p < .001$ ), mediated by the negative consequences of Internet use. The results of the present study clearly underline the relevance of online entertainment as a vehicle for procrastination. Furthermore, trait procrastination was a significant predictor of impulsive and uncontrolled Internet use. These problematic patterns of Internet use, in turn, significantly mediated the detrimental effects of procrastination on psychological well-being, confirming the vital role of everyday media use for procrastination and its psychological effects.

### The Role of Media Use in Cyberbullying: Longitudinal Evidence for a Cyclic Process Model



**Anouk den Hamer, Elly A. Konijn, Marja J. Aartsen**

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Cyberbullying has become a hot topic in research the last few years, possibly due to media coverage of fatal cyberbullying incidents. Scholars, parents, schools, and the media increasingly realize that more insight is needed to find ways to battle this relatively new type of bullying behavior because of the severe consequences it may have. The majority of cyberbullying research thus far focused on negative consequences for the victims, while others examined risk factors of becoming a cyberbully. Research shows that victimization (being bullied online and offline) relates to becoming a cyberbully oneself and vice versa. The current study aims to explain and test the underlying processes in this relation between victimization and cyberbullying behavior. Specifically, we examined the underlying processes of cyberbullying and reciprocal influences of having been bullied, related feelings of anger and frustration, and exposure to media with antisocial and risk behavior content. We proposed a Cyclic Process Model, in which anger and frustration of a bullied adolescent drives him/her to media with antisocial and risk behavior content which further instigates to perform cyberbullying behavior oneself. The adolescent gets caught up in a cyclic loop, since cyberbullies often become victims again. In a longitudinal design with three waves, we tested this model among adolescent participants aged between 11 and 17 years old (N = 1005). Results of SEM-analyses showed that the Cyclic Process Model holds both within waves (cross-sectional) and across waves (longitudinal). Furthermore, the results provide evidence for the feedback loop from cyberbullying to victimization. This study provides unique insights into the underlying mechanisms of cyberbullying and how it evolves over time. Moreover, our results highlight how exposure to media content portraying antisocial and risk behavior plays an important role in amplifying the cyclic process from victimization to cyberbullying behavior.

### **Being Excluded in the Online World: Investigating the Detrimental Effects of Cyberostracism with the Ostracism Online Paradigm**

**Frank M. Schneider, Britta Zwillich, Melanie J. Bindl, Frederic Hopp, Peter Vorderer**

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Cyberostracism—the feeling of being ignored or excluded over the Internet—is a serious threat to fundamental human needs (i.e., belongingness, self-esteem, control, and meaningful existence). According to the temporal need-threat model (Williams, 2009), responses to ostracism occur at three stages that can be described as (1) immediate and universal experiences of social pain and negative emotions (reflexive stage), (2) interpreting the ostracizing event and fortifying threatened needs (coping stage), and (3) detrimental long-term effects (resignation state). Instead of applying the established Cyberball paradigm, we used a new computerized tool, Ostracism Online (Wolf et al., 2014), to manipulate ostracism and investigate the responses at the reflexive and coping stage in a social media context. In Study 1 (N = 105), we investigated the interplay between ostracism and self-esteem in a 2 (excluded vs. included) x 2 (negative vs. positive self-relevant feedback) experimental design. Results showed that mood, belongingness, self-esteem, and meaningful existence were significantly negatively affected in the ostracism condition. In Study 2 (N = 86), we used a 2 (exclusion vs. inclusion) x 2 (outgroup vs. ingroup) x 2 (coping via Facebook vs. control) design to replicate results from Study 1, investigate the impact of ostracism on well-being, and examine the possible effect of Facebook use as a coping strategy. Again, the results showed that ostracized participants felt threatened in their belongingness, self-esteem, and meaningful existence with effect sizes similar to Study 1. Furthermore, their emotional and psychological well-being was impaired. The role of ingroup, Facebook as a coping strategy, and trait self-esteem as a buffer against ostracism will be discussed as well as the fact that we did not find support for effects on control. In sum, our findings highlight the usefulness of the Ostracism Online tool to connect the research area of social media and ostracism.

## Research Paper 9: Evolutionary Media Psychology

Time: Thursday, 10/Sep/2015: 1:00pm - 2:00pm · Location: Room 4326

Session Chair: Johannes Breuer

### Evolutionary basis of movie preferences. The influence of fitness costs as an aspect of cinematic narratives

**Isabelle Maria Menne, Elena Merten, Frank Schwab**

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Why are some films chosen over others? What makes them special? According to the Supernormal Conversation Theory (Nettle, 2005) the recipient's interest in a movie can be increased by incorporating and designing evolved themes of human existence into the cinematic narrative. High and "super" high fitness costs should therefore make a narrative particularly interesting (e.g. super normal exaggeration). Our study investigates the influence of fitness costs (daughter/stepdaughter) in the design of the narrative on the evaluation of movies from different genres (thriller/comedy). The recipient's gender is taken into account as well. We assumed that high fitness costs on the protagonist side lead to a higher evaluation of movie attractiveness than low fitness costs. Therefore the fitness factor "kin" was manipulated (child of the male protagonist). In the low fitness cost condition the off-narrator talked about "step-daughters", while in the high fitness cost condition about "daughters". Within the context of a 2 (fitness costs: high vs. low) x 2 (genre: thriller vs. comedy) between-subjects design with the quasi-experimental factor "sex" we tested the hypotheses experimentally by manipulating movie trailers.

124 people ( $M(\text{age}) = 26.10$ ,  $SD = 11.64$ ) participated in the study. The results show a main effect of fitness costs and genre on the evaluation of the attractiveness of a movie. Contrary to our expectations, the film trailers with low fitness cost were assessed as being more attractive than the trailer with high fitness cost. Thrillers were judged more attractive than comedy. Gender had no effect. The findings are discussed in the light of theoretical considerations related to the figure of the hero (Bischof, 1996) and methodological considerations and limitations.

### Testing perceptual and evolutionary-biological explanations for the uncanny valley

**Astrid Marieke Rosenthal-von der Pütten<sup>1</sup>, Fabian Grabenhorst<sup>2</sup>, Stefan Maderwald<sup>1</sup>, Matthias Brand<sup>1</sup>, Nicole Krämer<sup>1</sup>**

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The uncanny valley hypothesis proposes a non-linear relationship between the human-likeness and the acceptance of robots resulting in lower acceptance for very humanlike robots and greater acceptance for perfectly humanlike and less humanlike robots (Mori, 1970/2012). We systematically tested perceptual and evolutionary-biological explanatory approaches for the uncanny valley. In this multi-methodological study, self-report and behavioral data were combined with fMRI techniques in order to examine whether the observed effects in self-report and behavior occur due to a) additional processing during face perception of human and robotic stimuli, b) automatically elicited processes of social cognition, or c) oversensitivity of the behavioral immune system. The study found strong support for perceptual explanations. First, evaluations of humans and robot with regard to likability and familiarity were driven by perception of human-likeness as indicated by the results of regression analyses (likability,  $\beta = .72$ ,  $t(34) = 6.06$ ,  $p < .001$ ,  $R^2 = .52$ ,  $F(1, 35) = 36.68$ ,  $p < .001$ ; familiarity,  $\beta = .85$ ,  $t(34) = 8.53$ ,  $p < .001$ ,  $R^2 = .68$ ,  $F(1, 35) = 72.73$ ,  $p < .001$ ). Furthermore, evaluations of human-likeness strongly depend on the neural processes of face perception indicated by a correlation between ratings and neural activation in the fusiform gyrus. Thus, "smooth" face processing of actual human faces leads to higher ratings of human-likeness and consequently to more positive ratings on other dimensions. In contrast, additional processing caused by robot faces or flawed human faces is connected to lower ratings in human-likeness and thus a more negative evaluation on other dimensions. Further, there were indicators for the assumption that categorical perception takes place. Contrariwise, evolutionary-biological driven explanations assuming that uncanny valley related reactions are due to oversensitivity of the behavioral immune system were not supported by this work.

### P-curving the media psychology literature of digit ratio (2D:4D) research: Will findings stand the test of replicability?

**Martin Voracek**

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An awareness of what is now known as replication/confidence crisis in psychological science emerged from 2011/12 onwards, when a series of research-related “bad news” surfaced. Among others, the events contributing to this crisis included: the affair surrounding Bem’s psi-paper (2011, *J Pers Soc Psychol*); (2) high-profile scientific fraud cases (e.g., Diederik Stapel); (3) replication failures of highly influential (e.g., social priming) research; and (4) simulation, detection, and prevalence estimation of questionable research practices and researcher degrees of freedom in data collection/analysis. This perceived crisis of unreplicable research has been widely publicized and discussed in the media and research communities, meanwhile has led to fruitful editorial policy changes at major journals, incipient reform of publishing, and ambitious research replication initiatives, and has motivated the development of new methodology and diagnostic tools for assessing the evidentiality of research findings. This talk focuses on these latter innovations, among which the p-curve method (Simonsohn et al., 2014a,b; *J Exp Psychol Gen*; *Persp Psychol Sci*) clearly stands out, as it enables an entirely novel approach to estimating publication bias, true size of effects, and trustworthiness of findings. Here, I (1) introduce this method’s foundations, assumptions, capabilities, as well as limitations; (2) provide an overview of p-curve applications so far (2014/15); and (3) present the results of a new application example. This latter study concerns digit ratio (2D:4D), a widely researched putative retrospective marker for the organizational effects of prenatal androgen exposure on the brain and behavior. 2D:4D research is fraught with numerous unreplicable findings (see Voracek, 2014; *Evol Hum Behav*). The media psychology literature within 2D:4D research has not yet been replicated or summarized. P-curving this literature shows it lacks evidential value, i.e., published effects will likely turn out as unreplicable. Discussed are both specific and general implications of these results.

## Research Paper 10: Learning with Media

Time: Thursday, 10/Sep/2015: 1:00pm - 2:00pm · Location: Room 4332  
Session Chair: Anne Schöler

### Learning by Enjoyment, but Acting on Appreciation: Examining the Differential Relationships Between Entertainment Experiences, Knowledge, and Behavioral Intentions

**Carina Weinmann<sup>1</sup>, Frank M. Schneider<sup>2</sup>, Franziska S. Roth<sup>1</sup>, Katharina Knop<sup>1</sup>, Sabine Reich<sup>1</sup>, Peter Vorderer<sup>1</sup>**

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In light of the growing importance of entertainment media over the past decades, a specific field of research has emerged which deals with—in simple terms—learning through various entertaining media types and formats. In more technical terms, so-called entertainment-education (E-E) research is concerned with the (positive) effects of entertaining media on people's attitudes, knowledge, and behavior (e.g., Singhal & Rogers, 2001). E-E studies rely on various theories and models, but the theoretical development is still in process in this area (cf. Moyer-Gusé, 2008). On this background, the present study relies on entertainment theory (e.g., Bryant & Vorderer, 2006) which has in other contexts (e.g., political media) been proven to be an auspicious background in order to explain cognitive and behavioral outcomes of media users. Following two-process models of entertainment (e.g., Bartsch & Schneider, 2014; Vorderer & Reinecke, 2012) the paper argues that entertainment during media use comprises two different forms of experiences—enjoyment and appreciation—, which are associated with different forms of information processing. Subsequently, different consequences on individuals' knowledge and behavior are expected. An online study using a non-student sample (N = 419) was conducted to investigate the differential relationships between enjoyment and appreciation of a video clip that dealt with the features of natural gas as fuel for cars, objective and subjective knowledge about the content of that clip, and behavioral intentions of dealing with the topic of natural gas. Structural equation modeling revealed that enjoyment was directly positively related to objective and subjective knowledge. However, neither objective nor subjective knowledge were strong predictors for behavioral intentions. Appreciation, in contrast, was directly negatively related to knowledge acquisition and only weakly positively related to subjective knowledge, but was the best predictor for behavioral intentions. These results point to the distinct processes and effects of different entertainment experiences.

### Learning via on-line learning game; Evidence from arithmetic learning in children

**Mojtaba Soltanlou<sup>1,2,3</sup>, Christina Artemenko<sup>4</sup>, Stefan Huber<sup>2</sup>, Thomas Dresler<sup>4,5</sup>, Ann-Christine Ehlis<sup>4,5</sup>, Andreas J. Fallgatter<sup>4,5</sup>, Hans-Christoph Nuerk<sup>2,3,4</sup>**

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Formal mathematics training is not efficient to enable the development of mathematics skill in all children. One strategy to encourage children to learn mathematics involves web-based serious gaming. To this end, the purpose of this study was to assess the potential of an on-line arithmetic game to enhance mathematics skills among children.

In the present study, we explored 26 children (10 female) in grade 5 using multiplication production tasks before and after six sessions of multiplication training. The training sessions were performed at home via an on-line multiplication game. The game used multiple-choice responses in an interactive competition with the computer. For the pre- and post-test, children were presented with four conditions (2 simple and 2 difficult), while they were trained only for one simple and one difficult condition, named trained conditions.

A 2x2x2 repeated measure ANOVA with time point (pre- and post-test), condition (trained and untrained) and difficulty (simple and difficult) as within-participant factors was calculated. The results revealed that after the training children solved more trials in trained than in untrained conditions,  $F(1,25) = 88.10$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.78$ . Moreover, they responded faster to the trained conditions compared to untrained,  $F(1,25) = 34.80$ ,  $p < 0.001$ ,  $\eta_p^2 = 0.58$ . Additional analyses showed that children responded to more trials and faster in both trained simple and difficult conditions than in untrained simple and difficult conditions after the training.

Altogether, the finding showed that besides the traditional mathematics training, children can benefit from other informal web-based training methods. The authors discuss implications of on-line learning games as a new intervention to improve mathematics competency in children.

### **The Impact of Students' Perception of Control on Trends in Achievement Emotions while Learning with Serious Games**

**Claudia Schrader, Ulrike Nett**

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The presented study investigates whether students' perceived control over game play affects trends of achievement emotions during learning with a serious game. The perception of control, i.e. that students know about the attributes of a situation and are able to influence it, affects their actual emotional state (Pekrun, 2006). For example, being in control over gameplay is regarded enjoyable and a lack of control might support anger and frustration (Grodal, 2000). However, an investigation on how the interaction between external game events and the perception of control interacts with the dynamic trends of emotions is missing. 120 students participated in this study, all were randomly assigned to one of three game-versions (e.g., high, moderate, low condition of control) of a game for learning human liver functionalities. The actual perception of control and achievement emotions, i.e. enjoyment, boredom, anger, and frustration were tracked via questionnaires during gameplay interactivity after each of the three rounds students played. First, one-way repeated measures ANOVA's confirms the successful manipulation of the game according to students' perception of control. As expected, contrasts and interaction graphs show that being in control was more pronounced for the high control condition. Second, a significant interaction between trends of each of the achievement emotions and game conditions is observed, indicating that students' emotional state between the three rounds of gameplay differed between the game conditions. By looking at contrasts and interaction graphs, frustration, for example, is significantly higher for students in the low control group between round one and two than for students in the high control group. This interaction is non-significant between second compared to third round of play for all emotions except for boredom. Further, confirmatory analyses using cross-lagged model reveals a significant relationship between perceived control and trends of emotions. Implications for further research are discussed.

### **Content-related controversy awareness in Wiki-based learning**

**Sven Heimbuch, Daniel Bodemer**

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Collaborative knowledge building with Wikis can lead to socio-cognitive conflicts between the user and the social system. Such conflicts do not have to be detrimental for successful learning. Rather they can provide opportunities to constructively resolve a conflict. Learners can be further supported dealing with conflicts in discussions by adding Cognitive Group Awareness (CGA) tools. In the presented study we were interested if a CGA tool providing awareness on controversies in Wiki talk page discussions can lead to increased learning outcomes and article quality and how it can be attained.

We conducted an experimental study with three groups that differed in the level of provided controversy information on discussions (no modification vs controversy indication vs controversy status indication). Participants were asked to read a basic article and to edit it at a later stage on the basis of discussion contents. Six out of 24 discussions were constructed as meaningful in terms of comprising task-relevant evidence-led controversies. We were particularly interested in learning outcome, need for cognitive closure, epistemic curiosity, number of words added to the article and discussions as well as log data.

General analyses of the learning success could not reveal differences between the groups. In more detailed analyses we found positive significant effects of the CGA tool on the learning outcome mediated by reading times of unsolved controversies, with best results by providing controversy status indication. Participants receiving controversy information were more focused on topics comprising relevant evidence rather than on residual topics. These results were further supported by analysing selection and reading patterns with sequential pattern mining, suggesting that without support participants simply tend to follow a top-down reading strategy. Finally, we conclude that structuring talk pages by implementing CGA representations related to socio-cognitive conflicts produces encouraging results with potentials to focus attention and increase learning success.



## Research Paper 11: Evaluation of Brands

Time: Thursday, 10/Sep/2015: 1:00pm - 2:00pm · Location: Room 4333  
Session Chair: Frank Schwab

### Your Brand is Bad and You Should Feel Bad: Schadenfreude and Brands in Social Media

**Rebecca A Hayes, Caleb T Carr**

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Social media have been readily adopted by brands as masspersonal communicative channels to engage their publics, fostering interaction, engagement, and effects beyond cloistered brand communities of ardent supporters. The unique affordances of social media enable even mildly-engaged others to direct messages toward or about a specific brand or brand communities, and the non-engaged to be passively exposed to those messages. These messages are broadly accessible, making both positive information about a brand and negative information about its competitors readily accessible online. Thus, social media provide an opportunity to explore schadenfreude processes (a) in a broad audience beyond specific brand communities; and (b) that may occur as a result of mere exposure via a social medium. This research therefore explores the effect of valenced claims about diametric brands made within a social medium. Hypotheses predicted, within a general audience, perceptions of schadenfreude and sympathy would be (1) negatively associated, and (2) respectively greatest when participants were exposed to negative information about a non-preferred and positive information about a preferred brand. A 2 (positive or negative statement) × 2 (statement about a preferred brand [ingroup] or a non-preferred competitor [outgroup]) factorial-design experiment with N = 108 was used to test hypotheses. Results reveal distinct effects of positive-ingroup messages and negative-outgroup messages, supporting and extending prior work in consumer research and media effects. Results further demonstrate that previously-identified schadenfreude processes and effects are seen not only in those who strongly identify with a brand community, but also occur in a linear relationship with one's social identity with a brand. Findings are discussed with respect to opportunities and outcomes for observing negative information about other brands (i.e., outgroups) on social media, specifically noting the influence of defining social media characteristics. Finally, suggestions for future research into public relations, consumer behavior, and politics are offered.

### Persuasive effects of product review videos on YouTube – A comparison of central and heuristic cues

**Carolin Straßmann, Stephan Winter, Nicole C. Krämer**

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With the emergence of social media, the purchase process of a product and the prior decision phase has changed. Nowadays, electronic word-of-mouth processes are of increasing importance (Brown, Broderick & Lee, 2007). One modern version to obtain peer recommendations is to view a review video on YouTube that has been filmed and uploaded by another user. While numerous studies addressed product reviews and have demonstrated persuasive effects (e.g. Dou, Walden, Lee & Lee, 2012), the specific form of product review videos on YouTube have largely been neglected so far. Thus, the present study aims to extend previous research, which mainly focuses on textual reviews (Walther, Liang, Ganster, Wohn & Emington, 2012), by investigating the persuasive effects of online video reviews. To explore this Web 2.0 phenomenon, a 2x2x2 online experiment has been conducted. The structure of argumentation (only positive toward the product vs. positive with one counterargument (two-sided)), expertise (low vs. high) and the number of views (low vs. high) were manipulated. To capture the persuasive effects, attitude towards the product, purchase intention, credibility, evaluation of the video and its perceived usefulness were measured. Results show that users concentrate on the arguments of a product review to evaluate the product and come to a decision. Product reviews without a contra argument result in a more positive attitude and higher purchase intention, although two-sided messages were perceived as more credible. To evaluate credibility and usefulness, heuristic factors such as expertise and number of views are also taken into account. It can be concluded that users combine central cues as argumentation structure and heuristic cues as expertise and number of views to make sense of product review videos.

### Game of Phones - A Song of Flattery and Praise

**Astrid Carolus, Ricardo Münch, Catharina Schmidt, Florian Schneider, Christine Hennighausen**

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The concept of media equation claims that people unconsciously treat media (entities or devices) as if they were real people. We adopt social rules while interacting with media. From an evolutionary point of view we are adapted to our ancestors' world where social behavior was always linked to intentional

agents - usually human beings. As a consequence, social cues imply social entities to whom we react accordingly - still today and even if they are obviously not human, e.g. computers (Reeves & Nass, 1996). Johnson, Gardner and Wiles (2004) could demonstrate the construct of reciprocity for interactions with desktop PCs leading us to ask: Could the effect be transferred to smartphones? Would duration of smartphone usage make an impact? Would the performance of the smartphone affect the user's evaluation? And, would men and women react differently?

We conducted a laboratory study (n=190). Subjects were told to play a guessing game on a smartphone for about ten minutes. In this game the smartphone was about to guess the subject's degree course. Following this, the smartphone either praised or flattered the subject (experimental group) or evaluated neutrally (control group). Finally, the participant answered the the Positive and Negative Affect Schedule (PANAS; Watson, Clark & Tellegen, 1988) and rated their attitude towards the smartphone.

Results revealed no significant effects: Even after controlling the user's experience and the performance of the smartphone the experimental group and the control group did not differ significantly. However, a significant difference between men and women was found: Women evaluate the smartphone more positively when being flattered or praised compared to the neutral condition. The same effect could not be found for men. We discuss these results regarding socio-psychological and evolutionary psychological assumptions.

### **Personality predicts smartphone application usage**

**Christine Hennighausen, Stefanie Kunze, Astrid Carolus, Frank Schwab**

Julius-Maximilians-University of Würzburg, Institute human-computer-media, Germany;  
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The number of smartphone owners is constantly rising and therewith is the number of available smartphone applications (Statista, 2015). But which factors influence smartphone usage and, more specifically, the usage of smartphone applications? Previous research suggests that perceived enjoyment, usefulness, behavioral control, and socioeconomic status explain the usage of mobile applications (Rahmati et al., 2012; Verkasalo et al., 2010). Moreover, studies show that personality factors affect mobile phone usage, such as making calls or texting (Butt & Phillips, 2008; Ehrenberg et al., 2008; Lane & Manner, 2011). Drawing on these findings, we investigated the influence of the Big-Five personality traits (McCrae & Costa, 1987) on the usage of smartphone apps. In a web-based survey involving 465 participants (66% female, mean age=24.6 years), we measured personality (BFI-S16, Lang, 2005) and the frequency of smartphone app use. To this end, smartphone apps were summarized into apps categories (e.g., social networks, games, efficiency/productivity, finance, navigation) based on categories used in former studies and the categories found in online app stores. Multiple regression analyses revealed that conscientiousness positively predicted the usage of efficiency/productivity apps ( $\beta=.13$ ). Neuroticism ( $\beta=.17$ ) as well as openness to experience ( $\beta=.17$ ) predicted the usage of health and fitness apps. Moreover, extraversion was a marginally significant predictor ( $\beta=.08$ ) for the usage of social network apps. In addition, younger users were more likely to use social network apps ( $\beta=-.20$ ) and game apps ( $\beta=-.11$ ). These findings corroborate our assumption that user personality affects the usage of smartphone apps. Furthermore, it surfaced that user characteristics (i.e., age) influenced the frequency of smartphone app use. The present study thus extends previous research on the factors influencing smartphone usage. Future studies should apply objective measures to assess the frequency of smartphone app use, such as detailed traces of the user's actions (Falaki et al., 2010).



## Poster session: Poster Session + Coffee Break

Time: Thursday, 10/Sep/2015: 2:00pm - 3:00pm · Location: IWM

### Recipients' evaluation of cartoons and the role of embodied cognition

**Maren Schneider<sup>1</sup>, Anna Jurisch<sup>1</sup>, Kai Kaspar<sup>2</sup>**

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Cartoons are a special but frequently used form of media content. Many newspapers, journals, and websites regularly present cartoons, but as usual for humor, some cartoons are perceived as funnier than others. Inspired by previous research showing that the activity of certain facial muscles affects intensity of humor responses, we asked whether the incidental haptic stimulation by weight would also influence the perceived funniness of cartoons.

Research in the field of embodied cognition has shown that weight sensations affects peoples' evaluation of very different issues. Given that newspaper, journals, and electronic devices differ in weight, it seems obvious to assume that these weight differences similarly affect the experience during the reception of media content.

In the present study, participants reviewed a sequence of nonsense cartoons on either a light or heavy clipboard. For each cartoon, participants reported their own funniness experience and additionally assessed the funniness experience of others. We found an interaction between participants' gender and the weight manipulation: according to the metaphor-oriented perspective on embodied cognition, the experienced funniness in female recipients was reduced by heaviness. Heaviness has previously found to reliably elicit the concept of seriousness counteracting the feeling of lightness elicited by nonsense cartoons. However, this effect was reversed in the group of males, indicating a gender-specific mechanism of weight sensations. This result pattern was also found with respect to the inferred funniness experience of other recipients. Furthermore, heaviness led to a worsened mood after the reception phase independently of participant's gender. These new results show that incidental bodily sensations can significantly affect the experience of media recipients.

### A Self-Determination Approach to Playing in Online Gaming Communities

**Felix Reer<sup>1</sup>, Nicole C. Krämer<sup>2</sup>**

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In recent years, online gaming has become a very popular leisure-time activity. Many players of online games play in persistent teams and join gaming communities called clans or guilds. So far, only very little is known about the essential questions why players are attracted to online gaming communities and what psychological benefits a membership in such a group has. The current study fills this gap by applying Self-determination theory (SDT) to the context of playing in first-person shooter clans. A sample of 585 players of Counter-Strike clans filled out a questionnaire on psychological need satisfaction in their clans and in offline-life. In close reference to a model on attraction to Internet use in general (Shen et al., 2013), structural equation modeling was performed to investigate the role successful need satisfaction in clans and in offline-life have for the level of clan engagement and for the psychological outcomes of playing in such groups. The results show that players use clans to fulfil basic psychological needs and that successful need satisfaction is connected with higher levels of clan engagement and with higher levels of perceived positive affect after spending time with clan-life. Additionally, a significant negative connection was found between need satisfaction in offline-life and clan engagement. Negative affect perceived after spending time with clan-life was found to be negatively connected to offline need satisfaction as well as to need satisfaction in clan-life. Taken together, these results affirm the assumptions of SDT in revealing that clan engagement and positive affect experienced in clans are subject to need satisfaction in clans. Additionally, the significant effects offline need satisfaction has on clan engagement and negative affect suggest that the daily life situations of players should also be taken into consideration when investigating outcomes of playing in online gaming communities like clans.

### Bellicistic press coverage and the willingness to initiate first-step military actions in the resurgence of the East vs. West conflict.

**Fabian Gebauer<sup>1,2</sup>, Marius H. Raab<sup>1,2</sup>, Nils Brandenstein<sup>1</sup>, Claus-Christian Carbon<sup>1,2</sup>**

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Given the intensification of the Ukraine Crisis, media coverage often invokes schematic and stereotypical East vs. West thinking again. Moreover, the deployment of military means as part of resolving the conflict has reached intense political and public debate. To assess the impact actual news coverage has on the willingness to militarily engage in the conflict, we asked participants to read either an original, bellicistic news article that was accompanied by a map of Europe showing force levels of NATO members and Russia (taken from a recent issue of the news magazine DER SPIEGEL); alternatively, we offered a mitigated version of the same article that had been cleared of martial statements, with a map lacking force sizes. To be able to compare the impact of the news article with well-documented effects of existential threats derived from Terror Management Theory (TMT), we compared these effects to a condition of mortality salience (MS) which we contrasted with a control condition (dental pain). The participants (N=112) who were randomly assigned to one of the 2x2 factors (bellicistic vs. mitigated article; MS vs. control) were then asked how many German forces he/she would like to see deployed near the Russian border. We revealed that reading the original, bellicistic news article caused large effects of being willing to send German forces to the border, independently of the salience condition, whereas the willingness to engage militarily after reading the mitigated article was only high under MS but not the control condition. We conclude that even seemingly subtle changes of visual metaphors and wording focusing on one specific solution of a conflict, here to send arms and troops, prevent readers from weighing alternatives and therefore increase the inclination to actually engage militarily in the conflict.

### **Eye-tracking made easy: Solutions for a low-cost, easy-to-use eye-tracking lab for media psychology students and researchers**

**Daniel Roth<sup>1,3</sup>, Kai Kaspar<sup>2</sup>, Digo Chakraverty<sup>1</sup>, Johannes Breuer<sup>1</sup>, Gary Bente<sup>1</sup>**

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Most methodological courses in media psychology offer their students only limited opportunities to conduct experimental studies using technology-intensive measures, such as eye-tracking or psychophysiology. This is mostly due to the high costs for these types of equipment and the technical knowledge and skills needed to operate them and handle the data that the devices produce. In order to lower the threshold for students in (media) psychology to work with eye-tracking, we developed a prototype for a low-cost, easy-to-use, and modular laboratory. Within an ongoing project aiming at the development and implementation of innovative teaching methods, we set up a laboratory that allows for a hands-on approach to eye-tracking. To ensure both cost-efficiency and accessibility, the laboratory features a modular setup including a laptop, a low-cost 60Hz eye-tracker (theeyetribе) and a headset as well as Open Source experiment builders and analysis software (OpenSesame, Ogama, and PyGaze). We combine existing hard- and software solutions with additional software implementations to reach both compatibility with other systems and devices and to provide a low threshold for students to learn how to collect and analyze this data. Experiences in methodological courses show that students actively engage with the lab technology without any concerns about the complexity of the devices and the data. Using this type of laboratory, students in (media) psychology programs are able to easily reproduce seminal eye-tracking studies and to conduct their own studies with very little need for continuous guidance and support by researchers or technical staff. Many additional modules (e.g., psychophysiology, real-time response measures or response times) can be added on a no- or low-cost basis. We will present our approach, the setup and components, the implementations as well as the labs' features and limitations.

### **Game on: The Creation of Video Games as a Cultural Display**

**Benjamin P. Lange, Frank Schwab**

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Miller's courtship model (1999), one of the most prominent theories in evolutionary psychology, proposes that most cultural products are created by young men, as can be predicted from sexual selection theory. While this is evident for many traditional cultural phenomena like literature (e.g., Lange & Euler, 2014), pop-cultural entities, like video games, have only been marginally studied from this perspective so far. In general, evolutionary approaches on video games are scarce (but see Mendenhall et al. 2010, Miller, 2000; Ohler & Nieding, 2006 a,b). Hence, in the current study, the courtship model was tested with respect to the creation of video games. Investigating the creators of all game franchises that sold at least 10 million copies (N=132), it was found that, as is the case for other cultural products, the creation of video games is dominated by young men (98.4% of the

creators being male). The male mean age at the time of publication of the game / the first game of the series was 32.42 years (md + mo=31; interquartile range=26-37). This pattern is very similar to the one found for many other cultural products and congruent with the assumptions made from the perspective of sexual selection. As video game creation is strongly shaped by Japanese people, the current study, additional to former research by Miller and others, called for a comparison between different cultural areas (i.e., non-Japanese vs. Japanese). No difference was found, supporting the idea of a cross-culturally evident phenomenon. However, it remains unclear, whether the results can be best explained by intersexual or intrasexual selection or maybe even more likely by sociocultural factors. In order to elucidate the mechanisms behind the obtained pattern, data from a questionnaire study on sex differences regarding the motivation for the production and consumption of video games will be presented too.

### **Metacognitive Strategy Usage in Serious Games: The Impact of Metacognitive Awareness, Involvement, and Achievement Emotions**

**Valentin Riemer, Claudia Schrader**

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Serious games are increasingly popular tools for knowledge acquisition and training of complex skills. In terms of deep understanding and knowledge transfer, however, learners' use of metacognitive strategies (i.e., planning, monitoring, and evaluation) is crucial for gaming experiences to be effective. Research on metacognitive strategy usage as well as on influencing factors is still lacking in the field of serious games. In terms of individual attributes, metacognitive awareness is assumed to affect the use of metacognitive strategies in serious games. Additionally, learners' experiences during gaming, such as involvement (i.e., experiences of taking an active role and being able to influence events in the game), and achievement emotions (i.e., enjoyment, boredom, anger, and frustration; Pekrun, Frenzel, Götz, & Perry, 2007) might have an impact on the use of metacognitive strategies in serious games. The aim of this study was to test these assumptions.

Participants were 98 undergraduate students who played an adventure game developed to enhance financial literacy. Prior to the gaming sessions, a self-report measure of metacognitive awareness was administered. Self-reports of involvement, achievement emotions, and metacognitive strategy usage were collected after the sessions. Additionally, screencasts of individual gaming sessions were captured to gain behavioral measures related to self-report data. A hierarchical regression model confirmed the positive effect of metacognitive awareness on the use of metacognitive strategies on the first level. On the second level, the inclusion of the perceived involvement and achievement emotions improved the model significantly. Perceived involvement as well as enjoyment experienced during gaming positively affected the use of metacognitive strategies and became the strongest predictors in the overall model. The analysis of screencasts is currently underway.

The results underpin the importance of considering individual attributes together with experiences during gaming such as involvement and achievement emotions for evaluation and design of serious games.

### **On the influence of personality and video game genre preferences on the perceived effects of music while gaming**

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Introduction

Hitherto, few studies of music's impact while gaming exist. Experimental research showed an effect of music on immersion (Lipscomb & Zehnder, 2004), performance (Cassidy & McDonald, 2010) and fear and anger (von Georgi et al., 2010). Internal factors like preferences and personality were predominantly ignored.

Aim

Based on the current state of research this study investigates, if the perceived effects of music during gaming depend on the preferences for specific game-genres and personality.

Method

The sample consists of 200 students (108 female, 92 male; Mage=24.2, SD=4.9, Md=23). Participants completed questionnaires on personality (PANAS-d; SKI), videogame-preferences (VGGP: Bötsch, 2014) and on the perceived effects of music while gaming (CamQ: Bötsch, 2014). Taking account of preliminary studies following dimensions of videogame genre preferences could be found and validated: Action/Shooter, Strategy/Simulation, Sports, Skill Games and Parlour Games ( $\alpha \geq 0.76$ ). Furthermore scales on the perceived effects of music while gaming have been constructed: perceived effects, disturbance of concentration, personal music preference and game-external relevance of soundtracks ( $\alpha \geq 0.85$ ). The literature-based hypotheses were tested by multiple regressions. The significance level was set at  $\alpha = 0.05$ .

## Results

Participants, who prefer Action/Shooter ( $\beta = 0.414$ ;  $p \leq 0.001$ ) or Skill Games ( $\beta = 0.183$ ;  $p = 0.017$ ), perceive music's effect more intense ( $R^2 = 0.289$ ;  $f^2 = 0.406$ ). The grade of negative affectivity ( $\beta = 0.198$ ;  $p = 0.006$ ) has an effect on that ( $R^2 = 0.046$ ;  $f^2 = 0.048$ ). The analysis showed no significant results for the regression of game genre preferences through personality.

## Discussion

It seems that emotional lability modulates the perceived ability to concentrate on gaming while listening to music. Interestingly the modulation of arousal (e.g. Eysenck & Eysenck, 1987) seems to be of no importance. Furthermore the intensity of the perceived effect of music, which depends on the preference of specific game genre categories, is due to differences in their complexity of narration (Munday, 2007; Bullerjahn, 2011) and therefore in the functionality of their soundtracks.

### **Personalized Advertisement on News Portals: Effects of Banner ads on Visual Attention, Task Performance, and Memory for Ad Content**

**Marco R<sup>ü</sup>th<sup>1,2</sup>, Kai Kaspar<sup>3</sup>, Kai-Christoph Hamborg<sup>4</sup>, Moritz Köster<sup>4,5</sup>**

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Internet companies capture and analyze many user interaction data to personalize internet content. Thereby, banner ads have come in the focus of interest not only on e-commerce portals but also on social networks and news portals. However, our knowledge about the effects of personalized advertisement on attention, task performance, and memory is very limited.

In this study, participants performed search tasks on webpages of a news portal containing personalized or non-personalized ads, respectively. We investigated whether personalized content actually increases attention and memory for ads and whether the performance of the primary information search task is reduced at the same time. We measured eye movement behavior by an eye-tracker as well as recognition of task-relevant information and ad content. The spatial distribution of fixations quantified by a progressive entropy measure indicated the overall exploration of webpages.

Our results supported the hypotheses that personalization enhances recognition for the content of ads whereas the effect on attention was weaker and partially non-significant. In contrast, the overall exploration of webpages and recognition of task-relevant information was not affected. An in-depth analysis of eye movements on banner ads revealed a relatively stable spatiotemporal course of gaze behavior across regions of interest. The visual exploration of banner ads typically proceeded from ad pictures to the logo and finally to the slogan.

We conclude that task performance is not necessarily hampered by personalized ad content intended to attract increased attention. In fact, the effect of personalization on fixation behavior was relatively small. This small effect may be due to learned banner blindness. However, small effects on the level of attention can elicit substantial effects on the level of memory performance.

### **The Interplay of Usability and Visual Aesthetics: More Evidence for the “What is usable is beautiful” Notion instead of the “What is beautiful is usable” Notion**

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Research in the field of Media Psychology not only focuses on media content but also on the technological devices used to distribute and receive it. One central research question is how different qualities of the devices, such as usability and visual aesthetics, interact. However, hitherto inconsistent findings on the interplay between usability and aesthetics has been reported. The present study aimed to further examine the effect of these two variables on the corresponding perceived qualities of a mobile phone prototype. We conducted an experiment with four versions of a mobile phone varying on two factors: usability (high versus low) and visual aesthetics (high versus low). 88 participants were instructed to complete four typical tasks with one of the four versions of the mobile phone that have been designed on the basis of two pre-studies. Manipulation checks revealed that the different prototypes were distinct in usability (indicated by task completion time, number of navigation errors, reported workload, and perceived usability) and perceived beauty. After participants had performed the tasks, they evaluated the mobile phone's quality. We found that the phone's visual aesthetics did not affect its perceived usability. Manipulated aesthetics neither directly affected the perceived usability, nor moderated the effect of manipulated usability on perceived usability. In contrast, manipulated usability increased perceived beauty, supporting the "what is usable is beautiful" notion instead of "what is beautiful is usable. Moreover, we found effects of manipulated aesthetics and of manipulated usability on hedonic experience in terms of endowing identity and appeal, indicating that both instrumental (usability) and non-instrumental (aesthetics) qualities contributed to a positive user experience.

### **Mining learning and crafting scientific experiments: The use of Minecraft in education and research and what can be learned from its success for the future of educational videogames**

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As the field of educational videogames is not limited to games that are specifically designed for educational purposes, other successfully videogames (c.q. MINECRAFT, 2011) aroused the attention of teachers and researchers alike. To gain insights in the applicability of Minecraft, we reviewed the literature on utilizations of the game in teaching and experimental research. We summarized the current usage in addition to our own considerable experience with Minecraft in courses on educational videogame design and as a research instrument in the field of instructional psychology and discuss the benefits and limitations. Based on these observations, we outlined the future of Minecraft in both fields and highlighted some examples already stretching the technical barriers tremendously. But to increase the avail of our review even further, we distilled three main implications from our analysis. First, content needs to most easily shared, collaboratively created and modified without systematic restrictions or high technological demand. Second, world building should be based on a simple nucleus entity that can be created, modified, grouped, and organized. Third, the spatial placed entities have to offer modifiable (ideally, with forms of visual programming) functions to enable the creation of further entities or interaction with other entities, the player or other input from outside the game world itself. Minecraft does offer tremendous qualities when it comes to creation, collaboration and distribution and offers a wide range of pre-defined entities, but lacks functionality when new entities are needed and therefore requires a huge amount of creativity on the teacher's and researcher's side in addition to flexibility within the addressed topics.

### **Genre and Recovery Experiences - specific preferences of television-genres as a means of recovery**

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Research shows that media is used for recreation and revival reasons (e.g. for recovery purposes; Reinecke, 2009). We address preferences for television content (genres) for recovery in relation to two questions. (1) Which genres do recipients use for recovery purposes generally and depending on their need for recovery? (2) Is there a relationship between preferred genres and the participants' recovery experiences (i.e. mastery and relaxation)? We asked 428 participants (65% females) in a web-based survey about the experienced dimensions of recovery when using television (Recovery Experience Questionnaire; Sonnentag & Fritz, 2007), which genre they prefer for recovery, how often they use television after exhausting situations (Reinecke, 2009) and how intense their need for recovery was (Need for Recovery Scale; van Veldhoven & Broersen, 2003). Addressing the first question, we found preferences of television-genres (i.e. "Love/Romantic Comedy") for recovery

purposes. Further we found differences between participants depending on their need for recovery (i.e. positive correlation for "Science Fiction" and recovery-indigent participants). Addressing the second question, we found typical genre preference for the recovery dimensions of "mastery" and "relaxation". Participants who experienced the recovery dimension "relaxation" preferred "Love/Romantic Comedy" for recovery purposes. Participants who experienced the recovery dimension "mastery", preferred "Knowledge/Documentary", "Horror" and "Porn" for recovery purposes. Results are discussed in the light of mood management theory (Zillmann, 1988), stressor-detachment model (Sonnentag & Fritz, 2014), demand-induced strain compensation model (de Jonge, Spoor, Sonnentag, Dormann, & van den Tooren, 2012), and in relation to theories about sex and gender differences (Bischof-Köhler, 2011; Eagly, 2004).

### **How does subjective knowledge influence behavioral intentions, information search, and actual behavior?**

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Subjective knowledge, or the feeling of knowing, has been found to be a key variable in behavioral decision making (e.g., Hadar, Sood, & Fox, 2013) as well as an important outcome of media use (Park, 2001). Specifically, recent research showed that subjective knowledge is related to watching news and infotainment programs. However, it remains open whether this has positive or negative effects on subsequent outcomes like information seeking, behavioral intentions, or actual choice behavior. On the one hand, it is possible that people with high subjective knowledge are less interested in searching further information (Wood & Lynch, 2002). On the other hand, subjective knowledge is positively correlated with decision confidence and willingness to take action (Raju, Lonial & Mangold, 1995). In a 2 (low vs. high subjective knowledge) x 2 (low vs. highly complex information) between-subjects design (N = 87), we experimentally investigated the effects of subjective knowledge and complexity of a newspaper text about palm oil on willingness to engage in and donate to NGOs, which support sustainable palm oil, on information search as well as on behavioral choices (i.e., actual donation to a relevant NGO and inspection of the ingredients and selection of a supposedly palm-oil free chocolate bar). Behavioral intentions were assessed via self-report by computer; behaviors were coded by observers in the laboratory. Results showed no significant treatment effects on the target variables except that a higher subjective knowledge raises the probability to engage in NGO work for sustainable palm oil (all tests controlled for environmental behavior). Analyses are still ongoing because information search was tracked via logging software and the coding of the screen videos has not been finished to date. All results will be presented and discussed, especially with focus on limitations due to power problems and theoretical and practical implications for future research.

### **Connecting narrative features and effects: A meta-analysis**

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In the past decade, research on narrative effects has grown exponentially. In several areas like media effects, cultivation analysis, and entertainment-education more and more research is being carried out into changes in beliefs, attitudes and intentions as a result of being exposed to narratives. A striking feature of this research area is the enormous diversity in types and forms of narratives that are found in the various studies. For instance, narratives used in effects studies can range in length from a short testimonial of a personal experience embedded in a newspaper article, to a full-length literary account from a novel. In addition, stories can portray a protagonist that shows positive behavior and is rewarded for his actions, but a similar message can be conveyed by a protagonist that shows negative behavior and is punished. We hypothesize that these kinds of differences between narratives influence their effects.

However, previous research has not addressed the great variety in narrative materials that have been used. To gain an overview of the different types and forms of narratives studied in narrative effects research and link this to the effectiveness of the narratives, we carry out a meta-analysis with a specific focus on the narrative materials that were used. A systematic search of relevant databases (e.g. Communication and Mass Media Complete, PsychInfo) has rendered 74 eligible studies to be included in the meta-analysis. Materials of approximately one quarter were included in the report, other materials were requested from the authors with a response rate of approximately 60%. A total of 53 narratives were analyzed on multiple variables like medium (print or audiovisual), embeddedness, type of behavior that is shown (positive or negative), and type of consequences (reward or

punishment). Results confirm the diversity of the narratives used and show links between narrative features and effects.

### **Relevant aspects for a more reflected Facebook usage by young persons**

**Tanja Jadin**

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The Sparkling Science project „Netcompass for Social Web“ aimed at investigating how young people use the Social Web in respect of privacy issues and data protection. By doing so, an online survey was conducted to identify their Facebook usage and four group discussions were carried out. The group discussions consisted of 29 students from 14 to 17 years. In total, 338 youngsters between 13 and 25 answered the online survey. They were asked about their Facebook usage, the primary motives and disclosure of personal information. Most of them reported that they had been using Facebook for many years (93,9%, N = 275). The results of the group discussion show that youngsters are developing their own strategies, based on their peers and their own experiences. After several years of using Facebook, they reduce the participation in Facebook. To identify their underlying motives, several items based on a literature review were conducted. Based on a factor analysis, three factors were identified; namely identity management, relationship management and information management. The same procedure was executed to determine factors for disclosure personal information, i.e. Facebook usage regarding privacy issues and data protection. In this regard, another three factors were identified, aggressive usage, reflective usage and occasional usage. The results of a regression analysis show the relevant variables for a reflective Facebook usage, namely age, the motive information management and marginal not significant workshops and projects in school as awareness method to enhance secure internet usage. In addition, the respondents indicate whether they feel secure in Facebook and how often they use Facebook compared to previous years. The results show that high feelings of perceived security correlate with using Facebook more for information and identity management. Reduced Facebook usage is connected with lower aggressive usage.

### **Using Leadership Linguistics in a Masspersonal Medium to Predict Team Performance: NFL Captains' Tweets during the 2012 Season**

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Social media are altering the way leaders are able communicate with both their work teams and the broader public. Specifically, social media enable leaders to communicate masspersonally—crafting directed messages accessible to a broad audience—to organizational members. Unlike in a collocated workforce, messages via a social medium between supervisor and subordinate can be accessed by a wide audience, potentially minimizing the effectiveness of the message due to its diffusion to a potentially-unintended audience. To explore how leaders' social media messages can influence team performance, 11,255 tweets from N = 84 National Football League team captains were captured and subjected to linguistic analysis. Linguistics of each team captain were used as independent variables in a linear regression analysis to predict each teams' 2012 season performance. Although the overall regression model was significant,  $F(9, 83) = 2.024$ ,  $p = .048$  (2-tailed),  $R^2 = .189$ , only a few hypotheses using individual linguistic elements to predict a team's performance received statistical support. Leaders' use of exclusionary language negatively predicted team performance ( $b^* = -.31$ ) while leaders' use of singular pronouns positively predicted team performance ( $b^* = .33$ ). Seven other linguistic categories did not significantly predict team performance at the  $p < .05$  level. Findings help illuminate the complexities of group and organizational communication via social media tools and are addressed with respect to the concepts of masspersonal communication and context collapse. It is concluded the use of social media to communicate with a specific audience, such as a work team, may be complicated and behavioral effects of messages diminished as compared to face-to-face or closed-system online groups.

### **A temporal model of aesthetic web site perception**

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Research on aesthetics in the context of web pages has identified the use of short presentation durations as a tool for investigating judgments of appeal. Based on models of aesthetic perception, we want to introduce a dual-process model contrasting fast and superficial with slower, more demanding judgment processes. On the basis of the importance of color saturation in the design of web sites, we present a 2x3 study design in which participants either assessed highly saturated or de-saturated

versions (between-subjects) of web sites. All web sites were presented three times to each participant in varying durations (50 ms, 500 ms, and 10 s) and each site was rated regarding its trustworthiness, appeal, and perceived usability. Since intense colors are often used as a means to elicit attention, we hypothesized that highly saturated web sites receive less favorable ratings. Our results suggest that differences in color saturation are able to affect users' website perception concerning visual appeal and trustworthiness. However, perceived usability was not significantly impacted by saturation differences. Based on the differences in ratings resulting from the varying display durations, we propose a temporal model in which users first evaluate the appeal of a web site, followed by its usability, and lastly its trustworthiness. Furthermore, users appear to assess usability continuously, presumably because more possible interactions can be imagined if there is more time to perceive control elements. Our results support dual-process models of aesthetic perception in which judgments on visual aspects are made faster than more complex assessments needed for judgments regarding trustworthiness. In addition, these judgment processes appear to be independent of cognitive styles such as the need for cognition.



# Position Paper 1: Does trust matter? A cognitive approach to the role of trust for online self-disclosures

*Time:* Thursday, 10/Sep/2015: 3:15pm - 4:00pm · *Location:* Room 4329

*Session Chair:* Sandra Pöschl

## Does trust matter? A cognitive approach to the role of trust for online self-disclosures

**Ricarda Moll**

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### Background

Modern societies' digitization has outreached onto many areas of our everyday lives, one of them being the realm of communication on Social Networking Sites (SNS). The communicated contents are often public by default and persist on the providers' servers. Self-disclosing information online is therefore inherently tied to a loss of privacy. Much of the related research discusses "trust" as significantly contributing to people's willingness to nonetheless self-disclose personal information. Thereby, media-specific trust is mostly conceptualized within dyadic relationships, namely in terms of a trustor who makes her/himself vulnerable to a trustee whose trustworthiness is judged based on cues to the trustee's expertise and benevolence (e.g. Joinson, Reips, Buchanan, & Paine Schoefield, 2010).

Three partially interrelated problems arise regarding the application of dyadic trust in the context of online communication. First, it is unclear whom users trust when self-disclosing information. Some studies include trust into the SNS provider (e.g. Fogel & Nehmad, 2009), whereas others combine it with trust into other network members (e.g. Dwyer, Hiltz, & Passerini, 2007; Taddei & Contena, 2013). Second, it is unclear what users' trust includes, as trust can only exist with regard to a certain goal the trustor wants to achieve (Castelfranchi & Falcone, 2001). Thus, trusting an SNS provider may contain the expectation that the provider will protect users' data from access through third parties. And yet, it seems unlikely that people trust Facebook to protect their privacy after frequent media reports about their user-unfriendly privacy policies. Third, trust itself generally remains a rather murky concept in many studies related to media psychology. It is neither clear if dyadic trust is essential for online self-disclosures, nor are its underlying psychological processes properly elaborated.

I argue that a psychological model of trust – relevant for people's willingness to self-disclose online – should be conceptualized as a system of beliefs (Castelfranchi & Falcone, 2001) that results in an abstract, implicit trust into the functioning of an informal system.

### Trust into collective privacy

When thinking about online privacy, users may reason about who actually accesses their information. As they cannot really know this – neither regarding other network members, nor regarding intelligence services or private companies – they are likely to replace their lack of knowledge with subjective beliefs about their audience. The psychological genesis of these beliefs can be structured into three core arguments (Authors, 2014):

First, the basis for users' socio-cognitive inferences about their audience is their everyday experiences, one key experience being the one of information overload, namely the state of receiving more information than one can process (Eppler & Mengis, 2004). As a consequence, people learn that they have to be selective in their information consumption and they might have developed strategies to cope with this overload (Hargittai, Neumann, & Curry, 2012).

Second, when mentalizing about others, people often assume that others are similar to themselves (Ames, 2004). Consequently, they often take themselves as default models (Nickerson, 1999) and project their mental states into their counterparts. Doing so with regard to one's own online experiences might lead to the following inferential process:

- (a) Others have information overload and have only limited cognitive resources to process incoming information (projection).
- (b) Others therefore have to select what information to actually attend to (projection, inference).
- (c) Others select information they find interesting (projection).

(d) Few others find my information interesting (premise)

(e) Few others actually retrieve my information, although many of them have potentially access to it (inference; compare Lundblad, 2004).

We tested different aspects of this socio-cognitive process in a series of experiments (Authors, 2015). Results showed for example that participants regarded it to be less likely that others would read a specific content in the presence of high information density and large audiences. Furthermore, results from a questionnaire study showed that people thought other users to be similar regarding their reading strategies, while dissimilar regarding their privacy-related behaviors.

Third, the resulting trust into collective privacy may be something more enduring than a swift situational impression. Rather, the described inferences may have developed into an intuitive and subjective theory (Authors, 2014; Molden & Dweck, 2006; Scheele & Groeben, 1988). It would manifest itself as users' default trust that whatever they disclose online and to whomever their contents are potentially accessible will vanish in the noise of all online information. Therefore, disclosed information may be perceived as private despite their (semi-) public status which is likely to increase users' willingness to self-disclose.

## Conclusion

Trust into collective privacy is a psychological conceptualization of trust and its impact on the perception of privacy in online communication. It includes concrete assumptions for its underlying psychological processes, for which there is some scientific and plenty of anecdotal evidence, as well as specific predictions for its effects. The topic of collective privacy itself is a subliminal constant in many public and scholarly discussions (e.g. Hoadley, Xu, Lee, & Rosson, 2010; Marwick & Boyd, 2011; see also Solove, 2007). Explicitly conceptualizing this kind of trust from a psychological perspective can thus be seen as a first step to bring its matter into scientific discourse.

Trust into collective privacy itself may not be completely unjustified. It is indeed unlikely that strangers will retrieve information they simply have no reason to be interested in. Even the NSA's capacity to make sense of all the collected data should be limited to some extent, possibly rendering citizens as the needle in the hay stack they hope to be. However, the appropriateness of this trust must be judged from a perspective of societal risk. The concept of collective privacy is based on the idea, that others have no reason to pay attention to one's communication. In order to keep it that way, users must keep their communication "uninteresting" which may decrease their motivation for critical speech. This potential to unknowingly pressure people into conformity therefore makes it worthwhile to think about possibilities to make people critically question the concept of collective privacy.

## **Position Paper 2: Expanding and enforcing the Pottery Barn rule in media psychology**

*Time:* Thursday, 10/Sep/2015: 3:15pm - 4:00pm · *Location:* Room 4326

*Session Chair:* Elly A. Konijn

### **Expanding and enforcing the Pottery Barn rule in media psychology**

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The crisis of trustworthiness of psychological research has variously been called a reproducibility or replication crisis. Solutions have been proposed that involve setting up organized efforts at replication of the key studies. But this is not feasible for many areas of psychology, particularly small ones such as media psychology, and fails to confront the institutional support and individual incentive for publishing newsworthy, but exaggerated or outright invalid findings.

While replication initiatives should be generally applauded, they also protect professional organizations and journals seeking to ghettoize replications and null results in order to protect the prestige of vanity journals. As other psychological areas, media psychology has not seen many replication efforts in the past, and of these many are published in journals explicitly promoting openness to replications (e.g., Tear & Nielsen, 2013; PLoS one) or dedicated to statistically nonsignificant studies (Murphy, 2009; Journal of Articles in the Support of the Null Hypothesis).

An alternative strategy of confrontation and insistence on adherence to an expanded “pottery barn rule” will be proposed: Journals that publish flawed vanity studies must allow replication efforts, null findings, critical commentary, and sharing of data or face public shaming and boycotts. Only then can the trustworthiness of psychological science in general, and media psychology in particular, be assured.

## Position Paper 3: Best Practices for Advancing Internet Gaming Addiction Research

*Time:* Thursday, 10/Sep/2015: 3:15pm - 4:00pm · *Location:* Room 4332

*Session Chair:* Markus Appel

### Best Practices for Advancing Internet Gaming Addiction Research

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The rise of Internet-based games has led many to express concern about their effects on young people. Indeed, preliminary data suggest the American public believe that nearly half (49.7%, +/- 1.6%) of young people aged 13 to 17 are addicted to online games. In response to popular concerns such as these, the American Psychiatric Association (APA) identified Internet Gaming Disorder (IGD) as a new potential psychiatric disorder that might merit inclusion in a future revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM; APA, 2013). In line with this, the third section of the DSM-5 now details a number of necessary and sufficient conditions for future diagnoses of IGD.

The APA invitation for basic research is meant to determine whether IGD is suitable for addition to the DSM. A number of research groups (Petry et al., 2014; Pontes & Griffiths, 2015; Pontes, Király, Demetrovics, & Griffiths, 2014) have advanced approaches and inventories meant to tap into symptoms of the proposed disorder. Such work is at an early stage. Interestingly, existing research suggests the prevalence of so-called disordered gaming or gaming addiction could be as low as 0.1% (Festl et al., 2013) or as high as 50% (Hur et al., 2006). Meta-analytic reviews of existing studies of gaming addiction suggest estimates in the 3% to 5% range are probably the most accurate, though researchers caution these studies are heterogeneous and feature a number of pronounced shortcomings (Ferguson, Coulson, & Barnett, 2011). Unfortunately this research area has not yet matured and much of what we know empirically about a potential IGD has been derived from samples of convenience such as online support communities and Internet-based gaming forums. Shortcomings like these risk seriously misestimating the prevalence of IGD and can say little about its persistence or stability over time.

This position paper will advance the position that future research focused on IGD will only have enduring utility insofar as these studies meet three preconditions, that it is, that they are: (1) Pre-registered, (2) Representative and prospective, and are (3) Open.

First, because it is a common sense notion that IGD exists, the potential for confirmation bias on the part of researchers investigating the phenomenon must be minimized. In particular, a distinction between “exploratory” and “confirmatory” research must be drawn. In exploratory work researchers can be free liberally interpret data and gain inspiration for future studies. Such studies should spur work but not be lent inherent weight in the literature. In contrast, confirmatory work, research designs with fixed analysis plans and reporting criteria logged and registered by researchers in advance of data collection should be valued differently. Greater value should be placed on designs that meet these criteria.

Second, because IGD may become recognized as a psychiatric disorder in its own right, analogous to Disordered Gambling, it is critical that studies of the phenomenon not be limited to one-time, cross sectional analyses of samples of convenience. In contrast, they should specify both the populations to which they generalize and expound their temporal dimensions. Understanding both the prevalence and acute versus chronic nature of this potential disorder in specific populations or sub populations is critical to evaluating and understanding IGD more broadly. Designs that consider these factors should be lent greater empirical weight and consideration.

Finally, because this is a developing research area with an inherently multidisciplinary quality, research data and studies should be valued in terms of their openness. Researcher projects that are open, i.e. make their materials, analysis syntax, and raw data public and open should be valued and commended over work using a proprietary approach. Openness in IGD research at this formative stage will minimize duplicate efforts and ensure that the findings in this research area will be robust, reliable, and reproducible.

The talk will integrate these three necessary conditions for high quality research focused on Internet based gaming, draw on examples outside of media research to highlight their utility, and outline the specific mechanics of developing research that adopts these approaches.

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## **Review Paper 1: The (a)social net? A meta-analytical review of 15 years of research on the relationship between Internet use and perceived social capital/social support**

*Time:* Friday, 11/Sep/2015: 9:00am - 9:30am · *Location:* Room 4329

*Session Chair:* Leonard Reinecke

### **The (a)social net? A meta-analytical review of 15 years of research on the relationship between Internet use and perceived social capital/social support.**

**Emese Domahidi**

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Nowadays there is an overwhelming number of studies on computer-mediated communication (CMC) and users' perceived social capital/social support outcomes with conflicting findings. Therefore, a systematization of the research literature is overdue in order to be able to estimate the effects of different online media use on users' perceived social capital/social support and to identify directions for future research. Hence, we conducted a meta-analysis focusing on the association between online media use and users' social capital/social support outcomes. Our results reveal that while SNS and forum use are positively associated with various dimensions of social capital/social support there is no such effect for the use of digital games. By introducing sample and study characteristics as moderators we found that the measurement of online media use in the individual studies may affect the results obtained.

## **Review Paper 2: In the eye of the observer: What actually guides visual attention on webpages? State of research and prospects for the future**

*Time:* Friday, 11/Sep/2015: 9:00am - 9:30am · *Location:* Room 4326

*Session Chair:* Frank Papenmeier

### **In the eye of the observer: What actually guides visual attention on webpages? State of research and prospects for the future**

**Anne-Kathrin Wilbers, Kai Kaspar**

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Gestalt principles provide a bulk of post-hoc explanations why specific designs attract and guide attention more than others. However, these principles hardly allow a straightforward design of highly usable webpages from the scratch. Only one empirically based usability test can further improve the usability as well as overall appeal of webpages designed according to best practice (Kaspar et al., 2010). Consequently, much empirical research is necessary to understand what guides our attentional focus on webpages. Two clusters of factors are commonly distinguished: bottom-up and top-down factors.

Bottom-up factors generally comprise stimulus-driven mechanisms such as a compulsory look at abrupt occurring stimuli (Posner & Snyder, 1975; Yantis & Jonides, 1984) or unique visual features (Treisman & Gelade, 1980) but also visual saliency elicited by motion (Mahapatra et al., 2008). Accordingly, animated banner ads on webpages were found to attract more attention and to be better recalled than non-animated ads (Hamborg et al., 2012). However, overall ads on webpages are neglected to a high degree. This banner blindness seems to be learned from repetitive exposure to similarly structured webpages. One decade ago it has been claimed that internet users do not have the ability to learn visual schemas (i.e., a mental picture of the visual information previously gathered) (Chalmers, 2003), but recent studies reliably showed that eye movements on webpages follow a rather universal spatiotemporal course with a strong upper-left bias of fixations after webpage onset that successively spreads out to the right and lower webpage regions (Kaspar et al., 2011). Hence, banner blindness was found to be strongest when banner ads are presented on the right side and when internet users perform goal-directed tasks (Resnick & Albert, 2014). Moreover, when a new webpage occurs, animated advertisements signal users the existence of ads and elicit an avoidance behavior towards the ads. However, after repeated exposure to the animated ad it unfolds its motion saliency and attracts more attention that, in turn, is reflected in a better memory for ad content later in time (Lee et al., 2015). In contrast to the ads, most content of webpages – except embedded video material – is static and motion-related saliency does not contribute to bottom-up driven attention. In this case, especially salient contrasts in color, luminosity, and saturation as well as edges significantly correlate with fixation probability on webpages (Betz et al., 2010). Moreover, these feature-fixation correlations are relatively constant across repeated stimulus exposure (Kaspar & König, 2011). Although these correlations are often statistically significant, much variance of inter- and intra-individual gaze behavior cannot be explained by all these bottom-up factors on overt attention. In fact, studies applying scanpath analysis on the individual level revealed, inter alia, that there is a substantial intra-individual variance in how internet users observe the same website across several days, while only few users develop idiosyncratic scanpaths that recurrently occur (Burmester & Mast, 2010). Similarly, when analyzing fixation locations on results provided by contemporary search engines, user groups with distinct viewing behavior can be identified (Dumais et al., 2010). All in all, the bottom-up approach on attentional shifts has revealed important findings and strengthened the notion of visual saliency maps that can explain why specific image regions are observed while others are widely neglected (Itti & Koch, 2001).

But given that much variance in viewing behavior remains unexplained by this approach, top-down factors on attentional shifts have come into the focus of research in the last years (Kaspar, 2013). These factors comprise, simply spoken, all cognitive influences on attentional control that are neuronally grounded in higher brain structures beyond the primary visual system. The role of the current task on fixation behavior is a prototypical example for a top-down factor on attention. For example, being in a browsing versus information search mode elicits distinguishable viewing behavior on webpages (Betz et al., 2010; Shrestha & Lenz, 2007). Especially the interaction between the current observation mode and bottom-up influences gained considerable attention. Thereby, the main question is whether stimulus-driven influences on attention (e.g., effects of animated banner ads) can break through the top-down process constituted by the task (Hamborg et al., 2012; Resnick et al., 2014). However, top-down factors are much more manifold. For example, the observer's attention

towards a target object is increased when webpages contain faces with averted versus mutual gaze (Sajjacholapunt & Ball, 2014), indicating a significant role of one's interpretation of others' gaze behavior. Also emotional impacts on attention have been extensively researched in several psychological and neuroscientific disciplines so far (for a review see Kaspar & König, 2012), but the field of media psychology is an almost blank page in this respect. Given that internet users are normally not in a completely neutral mood and given that much content displayed on webpages is of emotional valence, it seems a fruitful venue for research. Another top-down factor gains increasing interest especially from a marketing perspective: personalized web content that addresses user needs, usually (but not exclusively) in terms of web advertisement, is created on the basis of a vast amount of user data gathered during web surfing. The primary goal is to attract the user's attention and, with respect to more long-lasting effects, to increase memory for product-related features. In fact, although personalized ads cannot substantially diminish banner blindness, they are fixated and recalled more often (Köster et al., 2014). Finally, recent studies on overt attention in the field of personality psychology have shown that also non-clinical personality traits such as the degree of extraversion and neuroticism correlate with eye movement behavior in social (Wu et al., 2014) as well as art-related contexts (Rauthmann et al., 2012). Focusing on such inter-individual differences would be a promising account also for media psychological research.

We conclude that top-down factors can explain substantial variance in viewing behavior and that future research in media psychology should more intensively focus on these factors.



## **Review Paper 3: Revisiting culture - a neglected dimension in U&G research and media psychology**

*Time:* Friday, 11/Sep/2015: 9:00am - 9:30am · *Location:* Room 4332

*Session Chair:* Caleb T. Carr

### **Revisiting culture - a neglected dimension in U&G research and media psychology**

**Özen Odag**

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Central to Uses and Gratifications (U&G) research is the study of communication motivation, along with the claim that motivation drives audiences to purposefully select media and media content in order to satisfy (or gratify) their needs. A plethora of studies since the 1940s have identified numerous media motives such as surveillance, information, pass time, information, entertainment, companionship, escape, relaxation, arousal, behavioral guidance, social interaction, reassurance, curiosity, and many more (Rubin 2009). But researchers have only begun to integrate group identity gratifications into their U&G typologies and to pay attention to special identity and cultural adaptation gratifications in ethnic and migrant groups (e.g. Raman & Harwood, 2008; Reece & Palmgreen, 2000). Little is known, therefore, about cross-cultural variations in media uses and gratifications, and even less is known about whether the identification with one's (home or host) culture, in the sense of a social identity, influences selective exposure to media offerings.

This contribution brings the dimension of culture (back) into the uses and gratifications literature by, firstly, reviewing the handful of studies that have examined the impact of culture in media uses and gratifications research and, secondly, presenting constructs that have been conceptualized scholarly fields outside the borders of U&G research, namely (1) social identity research in media psychology, (2) diaspora communication studies, and (3) inter- and cross-cultural communication research. Aim of the present review is to intersect these seemingly unrelated fields of research and make them fruitful for U&G research and media psychology.

In line with the central assumptions of social identity theory, media psychologists and communication scholars have claimed that individuals use the media for the purpose of confirming their group memberships (Blumler, 1985): Social groups like to see their own group represented in the media, ideally in positive contexts, to boost their self-esteem and articulate a positive self-concept (e.g. Krämer & Trepte, 2006). In line with these claims, it has been shown, for example, that audiences have a preference for representations of their own sex in media offerings (Oliver, Sargent, & Weaver, 1998), that ethnic groups tend to listen to music that strengthens their ethnic belonging (Zillmann et al., 1995), that audiences prefer television news that deal with their own country rather than far away ones (Zaharopoulos, 1990), and that group membership, while guiding both selection and avoidance of media exposure, also has consequences for vitality beliefs audiences endorse about their ethnic group(s) (Abrams & Giles, 2007). Taken together, social identity research in media psychology can count as one proponent of bringing cultural groups back into visibility in research on U&G, with the central claim that cultural belonging and positive group-esteem represent motivations for selective exposure.

A second area that avails of the dimension of culture outside the classic U&G research is diaspora or migration research with a focus on mass media (Dayan, 1999). The majority of this research is concerned with migrants' integration into a host society through the use of host and home media, demonstrating that the media transmit cultural capital (Peeters & D'Haenens, 2005), and thus facilitate the integration into a new majority culture (e.g., Soruco & Pinto, 2010). More recently, diaspora communication scholars have looked at the complexity of migrant communication as an antagonistic interplay between "bonding" in the sense of keeping ties with the home culture and "bridging" in the sense of connecting with the host culture (De Leeuw & Rydin, p. 192, borrowing the terminology from Putnam, 2000). As a corollary, a number of studies have shown that migrant audiences use the media for both acculturation and identification purposes, or to cast it differently, to fit in with the host society (e.g., Clément, Baker, Josephson, Noels, 2005) and at the same time reinforce their immigrant or ethnic identity (e.g., Ogan & D'Haenens). Taken together, these bodies of literature indisputably confirm that mass media are used by migrant audiences for their identification efforts in transnational spaces, resulting in ever more complex communication networks across territorial borders (Georgiou, 2006). In other words, and coming back to U&G, identifying with the home or host culture represents an important motivation driving the selection of media offerings.

A third field of research specifically looking at the dimension of culture is inter- and cross-cultural communication research, where we find a common differentiation of cultures into individualistic and collectivistic ones (Gudykunst & Lee, 2002). While individualistic cultures, such as the USA or Northern Europe, are driven by maxims of achievement and self-preservation, collectivistic cultures, such as Asian and Southern European ones, are committed to being loyal to the wider collective (e.g., Gudykunst & Bond, 1997; Triandis, 1995). These cultural orientations have received a substantial amount of evidence (Gudykunst & Mody, 2002; Kağıtçıbaşı, 1997) and have typically been measured either on the aggregate culture-level as a tendency of a whole nation or country (Hofstede & Hofstede, 2005), or on the individual level as a personality trait such as idiocentrism versus allocentrism (Triandis, 2001) or independent and interdependent self-construals (Markus & Kitayama, 1991). The distinction between collectivistic and individualistic cultural orientations has recently also been drawn in cross-cultural media research, demonstrating, for example, that using social network sites (Y. Kim, Sohn, & Choi, 2011), experiences of presence (Hu & Bartneck, 2008), entertainment preferences (J. Kim, Seo, Yu, & Neuendorf, 2014), and preferences for US American prime time television series (Trepte, 2008) differ along the individualism/collectivism dimension – once again unequivocally confirming that culture is an important dimension to consider in U&G research.

Against the backdrop of the three research fields presented above, the current review suggests ways of integrating culture into U&G research in particular, and media psychology in general: (1) by examining media motivations that are related to special cultural groups and integrating these into existing typologies and instruments; (2) by establishing and testing the causal link between migration (i.e., minority groups) and social identity motivations in the context of selective exposure (3) by carrying out cross-cultural research. Needless to say, the review ends with words of caution concerning inter- and cross-cultural research.

## Research Paper 12: Social Media 4: Impression Formation

Time: Friday, 11/Sep/2015: 9:30am - 10:30am · Location: Room 4329

Session Chair: Emese Domahidi

### Spontaneous trait inferences in social media

**Ana Levordashka, Sonja Utz**

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Social media and networking sites are praised for their potential to help people maintain large, diverse social networks. Considering the enormous amount of information available online, however, the meaningfulness of online networks would depend on the efficiency of the relationship formation and maintenance processes (Donath, 2007), which have remained understudied (Vitak & Ellison, 2012). The present research introduces an established mechanism of first impressions – spontaneous trait inferences (STIs; Uleman, Adil Saribay, & Gonzalez, 2008) – to social-media research.

There is robust evidence that traits are spontaneously inferred from behavioral descriptions (e.g., “She solved the mystery half way through the book” implying clever; Todorov & Uleman, 2002). Status updates contain similar trait-implying information and can therefore be expected to produce similar effects. One important difference prevents us from directly drawing this conclusion. Status updates are self-generated and, as such, can have multiple interpretations (e.g., “I solved the mystery” implies clever but posting it can also be associated with showing off). Furthermore, self-generated information is less diagnostic (Utz, 2010).

To test whether spontaneous trait inferences form on the basis of self-generated content, we modified the false-recognition paradigm (Todorov & Uleman, 2002), using trait-implying status updates as stimuli. After memorizing status updates paired with faces, participants were more likely to falsely recognize novel trait-words as previously presented, when paired with the actor whose status update implied the same trait, as opposed to another trait,  $t(27) = 5.70$ ,  $p < .001$ ,  $r = .74$ ). This pattern is consistent with prior research and indicates the occurrence of spontaneous trait inferences.

The present research allows us to translate valuable insights from STI research, such as the automaticity and actor-specificity of inferences (Todorov & Uleman, 2003, 2004), to online impression formation and can serve as a basis of future investigation of medium-specific questions.

### Deal or no Deal? - Gender, Migrant Background and Career Level in Business Network Profile Evaluation

**Sabrina C. Eimler<sup>1</sup>, Leonie Mauerhoefer<sup>2</sup>**

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An enormous rise in memberships and a shift of recruiting processes towards the online context makes Social Networking Sites (SNS) for professional self-presentation (e.g. LinkedIn, XING) more important. Person perception processes are especially relevant, e.g. when it comes to gender stereotypes and equality issues, e.g. the goal of higher ratios of women in management positions. However, while numerous studies investigated the evaluation of private SNS profiles, Business Networking Sites have largely been ignored. By applying a 3 (low vs. medium vs. high career level) x 2 (male vs. female profile person) between-subject-design in an online experiment with  $N = 541$  ( $n = 311$  female) we investigated (among others) attributions in line with the Stereotype-Content-Model (Fiske et al., 2002). Main effects of career level show that with rising level higher levels of competence and status and lower levels of warmth were attributed, while no effects were shown for perceived competitive interdependence. Main effects for gender showed that female profiles are attributed more warmth and lower degrees of competitive interdependence, as well as higher levels of competence, while no effects emerged for attributed economic status. Interaction effects could not be detected. Based on recently released data demonstrating poorer job chances for applicants with migrant background, a currently running follow-up study varies the same material with regard to migrant background using Turkish names for the persons depicted in the profile. Results will show the relative influence of gender and migrant background across career levels and will allow discussion and conclusions regarding intersectionality.

## Research Paper 13: Narratives: Content and Processing

Time: Friday, 11/Sep/2015: 9:30am - 10:30am · Location: Room 4326  
Session Chair: Anneke de Graaf

### A closer look at the updating of situation models in audio-visual narratives: An eye-tracking study

**Frank Papenmeier, Tino G.K. Meitz, Markus Huff**

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Humans understand film by representing its contents in situation models. These describe situations using several dimensions such as time, space, protagonist, and action. Changes in these dimensions cause discontinuities and are perceived as boundaries between two meaningful units at which the situation model has to be updated. Recently, we showed that both memory for audio-visual narratives (i.e. sitcoms) and predictions about the future development of the plot are dependent on the number of changes in the situation model: the more dimensions changed, the higher was the recognition performance and participants' predictions became less reliable. After event boundaries new information needs to be integrated in the current situation model. For example, if a new protagonist enters the scene, the respective dimension of the situation model has to be updated. This requires processes of visual attention and information search on the screen. We measured participants' eye movements (N = 41) while they watched one episode of the sitcoms "Two and a Half Men" and "Big Bang Theory". We analyzed gaze data in terms of gaze coherence, which is the higher the more similar the gaze pattern of multiple participants is across space and time. We looked at time points at which dimensions of the current situation model change. Mean gaze coherence was not affected by the number of dimension changes. This could be a result of filmmaking techniques - most changes are depicted in the center of the screen. In contrast, maximum gaze coherence increased with increasing number of dimension changes, indicating that the changes falling in this category encompass a greater variety. We discuss how gaze coherence relates to changes of physical characteristics, such as lightness or contrast, and how this might influence gaze coherence across event boundaries in audio-visual narratives.

### Narrative Persuasion: The roles of argument quality, narrativity, transportation, and working memory

**Constanze Schreiner<sup>1</sup>, Markus Appel<sup>1</sup>, Maj-Britt Isberner<sup>2</sup>, Tobias Richter<sup>2</sup>**

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Studies from different fields of psychology and communication science have shown that stories are a powerful means to change people's attitudes and beliefs (narrative persuasion, e.g. Appel & Richter, 2007). Whereas classic models of persuasion through non-narrative texts emphasize the key role of argument quality (e.g., Petty & Cacioppo, 1986), stories have been described as a way to change attitudes and beliefs even if the arguments or incidents presented are weak and provide little reasons for attitude change (Green & Brock, 2002). Recipients are considered to lack the motivation and/or ability to engage in thoughtful and critical processing of the presented material, particularly if the recipients are highly transported into the story world. We present a study aimed at providing additional evidence on four key factors in narrative persuasion: Argument strength, story narrativity, working memory capacity, and transportation.

Based on a within subjects design (82 participants) we examined whether and how these factors affected attitude change (pre-post). We were particularly interested in the interactions between the experimental factors (narrativity and argument strength) and the two continuous measures - readers' transportation scores (state) and readers' working memory capacity (trait). Under which conditions does the strength of arguments matter for narrative persuasion?

A multilevel analysis was conducted. A key finding was a three-way interaction between argument quality, narrativity, and transportation with attitude change as the criterion. Transportation contributed to attitude change, but only if argument quality and story narrativity were high. In addition, effects on process measures (thought listing, Pinocchio circling) were observed. Detailed results will be reported at the conference presentation.

### "Counter Narratives - Preaching to the choir?"

**Anna Morten, Shalina Marx, Lena Frischlich, Diana Rieger, Olivia Rutkowski, Freya Elvert, Gary Bente**

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Propaganda has historically been a - if not the – central method used by extremist groups in order to voice their opinions and attract new recruits (Ashour, 2010). The modern twenty first century extremist arsenal includes and, heavily relies on, the Internet in propagating their message (Europol, 2011). So-called counter narrative videos aim at preventing extremist narratives from developing their persuasive potential by transforming the attitudes of the audience addressed by extremist propaganda (Violence Prevention Network, 2014).

As part of a broader project on the supply and effect of German counter narratives countering right-wing (RE) and Islamic extremist (IE) propaganda we conducted a quantitative content analysis on 136 videos, split into 337 sequences (N-AntiRE=183; N-AntiIE=154). In light of the identity-establishing role media messages have in the context of social comparison processes, the question “which audience counter narratives are directed toward” plays a crucial role in terms of potential message efficacy. Our results show the targeted audience in a majority of cases to be adult and male. Most sequences countering IE propaganda directly addressed the recipient significantly less often and were kept rather simple where language was concerned; mostly addressing recipients of lesser educational levels. Thereby leaving the impression that the agents often times seemed to be speaking of Muslims rather than to them. Sequences countering RE however addressed an audience of higher education in half of the cases. In sum our analyses revealed systematic differences between sequences countering RE and IE messages. The senders of most counter narratives that entered our analysis appear to have been led by a set of extremist stereotypes in constructing their messages. Raising awareness on this issue might be crucial in order to avoid negative consequences such as stereotype threat and thereby allow counter narratives to take the desired effect.

### **Communicate simply against or using counter narrative? Different forms of narratives against right-wing and Islamic extremist propaganda and their adoption of basic needs**

**Shalina Marx, Anna Morten, Lena Frischlich, Diana Rieger, Olivia Rutkowski, Freya Elvert, Gary Bente**

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The number of extremist propaganda videos disseminated through the internet increases continually (Europol, 2011). Especially right-wing extremists (REs) and Islamic extremists (IEs) are using this medium as a platform to spread their ideology and recruit new members. The influence of propaganda videos has to be taken seriously: Via the internet they reach a global audience, including young people as digital natives and potentially vulnerable persons. Security services and mass media discuss propaganda videos as a decisive factor related to radicalization processes (Dilanian & Bennett, 2013). Focusing on strategies which are able to counter this development is therefore absolutely important. Using counter narratives is one mean currently discussed related to the intention of preventing people becoming extremist sympathizers and transforming attitudes or behavior based on extremist ideology by adopting its need-satisfying function (RE; IE). Nevertheless corresponding research is still seldom. As part of a broader study focused on the effect of counter narratives to prevent RE and IE propaganda, we conducted a content analysis on 136 videos against RE and IE ideology. To investigate if the material could function as a counter narrative “antidote” to extremist “poison” (Neumann, 2013) we examined its narrative structure and its adoption of basic human need-satisfaction (Ryan & Deci, 2000). Beyond the transmission of specific religious or historical narratives our results showed comparable narratives in sequences countering both forms of extremism. Notably, their relative frequency within the sample differed significantly. Warning narratives were the most frequent concept in sequences against RE and IE. Empowering narratives and the addressing of autonomy, competence and relatedness needs were, although overall seldom, even less apparent in sequences against IE. Furthermore, only 16% of the sequences countering RE and 10% of those countering IE explicitly transported the democratic narratives of a pluralist society. We discuss these results regarding their implications.

## Research Paper 14: Propaganda and Memes

Time: Friday, 11/Sep/2015: 9:30am - 10:30am · Location: Room 4332  
Session Chair: Özen Odag

### **Dying the right way? Mortality Salience Increases Interest in and Persuasiveness of Right-wing Extremist Propaganda among Germans**

**Lena Frischlich<sup>1</sup>, Diana Rieger<sup>2,1</sup>, Gary Bente<sup>1</sup>**

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Extremist propaganda videos have become increasingly common in the Internet (Glaser, 2011). In Germany, particularly right-wing propagandists aim at fostering solidarity among a nationally defined German in-group and the derogation of out-groups, such as “the system”, or “the Islam”. Research repeatedly found opposite effects of in-group propaganda, at least in academic samples. For instance, German students distanced more from right-wing- (in-group) than from Islamic extremist (out-group) propaganda (Frischlich & Rieger, 2013; Rieger, Frischlich, & Bente, 2013), due to the negative effects extremist in-groups have on one’s self-esteem (Frischlich, Rieger, Rutkowski, & Bente, 2015).

Self-relevant threats, such as mortality salience (MS), can influence such a distancing (Greenberg, Schimel, Martens, & Solomon, 2001), yet, the direction of the effect is somewhat unclear. On the one hand, Pyszczynski et al. (2006) found a more positive evaluation of in-group terrorists after MS. On the other hand, Arndt et al. (2002) found MS to increase the devaluation of in-group art among subjects who had read about a negative in-group member before.

Building upon these findings, the current study examined for the first time the effects of MS on the evaluation of in- versus out-group propaganda among Germans. A total of N = 103 students (18 males) participated via online survey. Participants were randomly assigned to a MS (versus control) condition, before they evaluated a series of propaganda videos (three right-wing-, three Islamic extremist). Replicating prior research, control subjects rated in-group more negatively than out-group videos. More relevant, this effect was absent in the MS condition. After MS, participants evaluated the in-group propaganda as more interesting and persuasive. The effect was independent from intra-individual factors (gender, age, and authoritarianism). We discuss the results concerning the unique effects of existential threats on the evaluation of in-group propaganda.

### **Propaganda in an insecure, unstructured world: The effects of authoritarianism and uncertainty on the evaluation of right-wing extremist propaganda videos.**

**Diana Rieger<sup>1,2</sup>, Lena Frischlich<sup>2</sup>, Gary Bente<sup>2,3</sup>**

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The activities of extremist groups to promote their ideas and recruit new members online with propagandistic videos has aroused public attention, created mass media reports and alerted global security agencies. Contrary to this alertness, a recent set of studies could demonstrate that young adults show a negative evaluation of propagandistic video clips (Rieger, Frischlich, & Bente, 2013). Nevertheless, the authors also revealed that higher levels of authoritarianism decreased the rejection of propaganda. In a related vein, studies by Hogg et al. (2007, 2010) provided evidence that uncertainty fosters the identification with more entitative groups (Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007) as well as with more radical groups (Hogg, Meehan, & Farquharson, 2010). As extremist groups often build their propagandistic messages in a simplistic worldview and with clearly structured orders, people seeking for certainty or order and structure might be more prone to accept propaganda messages than more secure and liberal persons.

The current study therefore addressed the question whether authoritarianism and uncertainty shape the evaluation of right-wing extremist propaganda and foster national identification. In an experiment (N = 51), German male students either read a newspaper article that described a secure job situation for bachelor students or an article that described an unsecure job situation. Afterwards they watched a right-wing extremist propaganda video and were asked to evaluate it. Results demonstrate that high authoritarianism and higher uncertainty increased the perceived persuasiveness of the propaganda video as well as decreased the aversion felt as a reaction to this video. Higher authoritarianism further increased the identification with one’s nation. These results will be discussed in light of current extremist movements and their attempts to attract young adults as well as ideas to prevent radicalization and counter it.

## **Monitoring the Opinion of the Crowd – Psychological Patterns of Public Opinion Perceptions in Social Media**

**German Neubaum, Nicole Krämer**

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According to the spiral of silence theory, human beings have a fundamental fear of being rejected by other people. This prompts them to steadily monitor their surroundings in order to gauge which opinions are socially accepted. Inferences about public opinion can be made based on mass media reception and/or interpersonal communication (e.g., with friends and family). Due to the convergence of mass and interpersonal communication in social media, these technologies appear to be ideal venues to convey opinion climates to their users. In order to uncover the psychological mechanisms explaining how the juxtaposition of media messages and peer reactions (e.g., likes or user-generated comments) in social media can affect the individual's perceptions of opinion climates, the present research examines (a) the relative influence of different message types in social media on people's perceptions of public opinion and (b) the psychological factors determining how people process these different message types.

In an experiment (N = 658), we presented participants a fictitious Facebook newsfeed, manipulating the valence of a Facebook posting (pro vs. con regarding a controversial topic), the valence of user comments (pro vs. con vs. mixed viewpoints concerning the topic) and number of likes (high or low) related to this posting. In line with the spiral of silence theory, results showed that a higher fear of isolation motivates people to pay attention to other users' comments and number of likes. However, only comments affected the inferences recipients made about the opinion climate: When people saw four user-generated comments which, for instance, were in favor of the legalization of euthanasia, they perceived that also the national population as well as all Facebook users would be in favor. Implications for modeling public opinion perceptions online and how they, in turn, influence the recipient's opinion expression behavior will be discussed.

## **Uses and gratifications in participatory culture: Understanding Internet memes through the eyes of meme users**

**Anne Leiser, Özen Odag**

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The morphing of the Internet into the Web 2.0 has also altered the role of online users. Today websites and other social platforms encourage Internet users to be active contributors and curators of content. Research thus far has investigated the impact such an interactive environment has on our daily lives. Most of the focus has been on the changes in communication, the building of social connections, and identity formation in online communities. The study of user-generated content from a media psychological perspective is still comparably small and has neglected Internet memes as one of the most significant forms of participatory culture.

An Internet meme is a "group of digital items sharing common characteristics of content, form, and/or stance, that were created with awareness of each other, and were circulated, imitated, and/or transformed via the Internet by many users." (Shifman, 2014, p. 8). Internet memes are therefore an inherently social phenomenon. While communication science has examined the anatomy of viral and memetic content, the uses and gratifications obtained from using and producing Internet memes remain unexplored.

In this exploratory study I address this issue by applying a user-centered approach. I ask Internet meme users in an iterative, three-step Delphi study to discuss their understanding of Internet memes and the uses and gratifications they obtain through Internet meme usage. Through a qualitative content analysis I identify key characteristics of Internet memes, such as humor, superficiality, timeliness, and effortlessness. I also establish an overview of uses and gratifications reported by Internet meme users, such as self-expression, feeling of superiority, entertainment, and reputation.

This study therefore deepens our understanding of user-generated content from a media psychological perspective by applying the uses and gratifications framework to the context of participatory culture. Furthermore it provides first empirical insights for future research on Internet memes.

## Research Paper 15: Perception and Cognition

Time: Friday, 11/Sep/2015: 9:30am - 10:30am · Location: Room 4333  
Session Chair: Markus Huff

### Multimedia Effects at Repeated Studying and Testing: Evidence for Adaptation to Task Demands

**Alexander Eitel**

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Numerous studies have shown that it was more effective for learning when information was presented not only by one (e.g., text) but by multi-media (e.g., text and picture). This is termed multimedia effect. However, several studies failed to find multimedia effects, and a potential reason is the constrained study setup: Multimedia effects are often studied by having students learn the instructional materials once, followed by the knowledge tests. In this setup, students hardly know what to expect from the upcoming test. Hence, they cannot optimize their processing of text and pictures with respect to the demands of the test so that they might rely on their general text-based learning strategies and fail to process pictures to a sufficient degree. If studying and testing is repeated, however, students can adapt their processing of text and pictures in study-test cycle 2 to the demands of test 1. Accordingly, they are expected to process (text and) pictures more deliberately to extract information needed in the test, being reflected in a more balanced attention distribution. To test these assumptions, 52 participants learned with either just a text or with text and pictures (multimedia) about how a toilet flushing system works while their eye movements were recorded. Subsequently, they were tested for retention and comprehension, and afterwards this study-test cycle was repeated using the identical materials and tests. Results revealed robust multimedia effects across cycles and a strong increase in performance from test 1 to test 2. As expected, results revealed a strong focus on text-processing in cycle 1, which was reduced in cycle 2. This shift towards a more balanced attention distribution was predictive of better performance, suggesting that repeated studying and testing is beneficial for multimedia learning, because students make better use of pictures to be well-prepared for the upcoming test.

### Perceiving and remembering audio dramas

**Annika Elisabeth Maurer<sup>1</sup>, Irina Brich<sup>2</sup>, Markus Huff<sup>1</sup>**

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Humans perceive narrations by segmenting the plot into discrete events at points of change. Research has shown that memory for such event boundaries is higher than memory for non-event boundaries. Although theories of event cognition propose that the underlying cognitive mechanisms are independent of the stimulus' modality, most research used visual stimulus material (i.e. movies). Yet, visual and auditory information processing differ in various ways. For example, whereas changes in the plot can be readily perceived in the visual modality (e.g., character or location changes across an abrupt filmic cut in a movie) changes in audio dramas develop across much larger time spans. In three experiments, we studied perception and memory for an audio drama (one episode of "The three investigators") and tested general and specific predictions derived from event cognition literature. In Experiment 1, we determined the event structure. Participants listened and segmented the audio drama into meaningful units. We used the resulting event boundaries in the subsequent experiments. In Experiment 2, a new set of participants listened to the same audio drama and completed an auditory recognition test. Memory was higher for event boundaries than for non-event boundaries, thus replicating effects from research with visual stimuli. Experiment 3 finally tested the specific assumption that there is a positive linear relationship between the amount of change at an event boundary and memory performance with a new set of participants. While this effect was found in recent studies with audio-visual narratives we did not find such an effect using audio dramas. In contrast, we found a negative relationship - memory performance was lower the more change was related with the event boundary. This indicates modality specific influences on memory formation processes. We discuss these findings in the light of current event cognition theories.

### Moral decision-making in virtual reality settings – An eye-tracking and pupillometry study

**Alexander Skulmowski<sup>1</sup>, Andreas Bunge<sup>2</sup>, Kai Kaspar<sup>3</sup>, Gordon Pipa<sup>4</sup>**

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Investigations in virtual reality (VR) settings have recently gained much attention in media psychological research as they allow studying social interactions in highly ecological environments. In



a VR setting we investigated emotional and cognitive aspects in a forced-choice decision-making task. Based on dual-process theories, we examined the interplay between intuitive and controlled cognitive processes related to moral and social judgments in a VR version of the trolley dilemma. In this dilemma decisions regarding the sacrificing of persons are provoked. Participants sat in the cockpit of a virtual trolley and their task was to steer it either to the left or right track at junctions. However, avatars differing in number or specific properties such as gender stood on the tracks. We replicated the classical effect of mainly utilitarian decisions and additionally found a tendency towards sacrificing male avatars. This tendency was particularly strong for male participants. Furthermore, we used eye-tracking and pupillometric measures to study emotional arousal and how it can be affected using irritating music. Based on emotion induction research, we used music to induce emotional arousal measured by means of pupil diameter. We found a specific temporal signature featuring a peak in arousal around the moment of decision. The effect of music on pupil diameter is of an additive nature and significantly increases pupil diameter over the course of the decision time-frame. Besides, we found that gaze durations during decisions are context-dependent, resulting in prolonged gaze duration if a choice between avatars differing in gender has to be made. Our study demonstrates that pupillometric measurements are a promising tool for investigating affective responses in VR with a high temporal resolution.

### **User Experience in Virtual Reality Application Development – Design and Evaluation of a Fear of Public Speaking Scenario**

**Sandra Pöschl, Nicola Döring**

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Virtual training environments are a success story. However, in order to design and implement effective applications, system features as well as user experience should be targeted in the development process. The design and user evaluation of a virtual fear of public speaking training is presented. First, a realistic virtual audience (high simulation fidelity, Lee, Rincon, Meyer, Hollerer, & Bowman, 2013) was designed on basis of findings from three observational studies in university lectures (Ntotal = 91 students) on non-verbal behavior actions. Results show that real audiences tend to be social and 800 different (in)attentive individual behavior patterns were shown. Further, speaker's eye contact and voice volume were identified as triggers for attention-related audience behavior.

Second, an experimental cross-sectional and within-subject laboratory study (N = 40 non-phobic users) was conducted, evaluating the effect of simulation fidelity (animated vs. static audience) on user experience (presence (Slater, 2003), anxiety, and perceived realism). No influence was shown on presence and perceived realism, but an animated audience led to significantly higher anxiety while giving a talk. Although the application might still not have been realistic enough, these findings question the role of presence as a user experience factor for virtual exposure applications.

Our findings highlight the importance of high simulation fidelity for designing and implementing effective (fear triggering) virtual fear of public speaking applications. Future studies should explore the interrelation of user experience and system features in more detail, in order to efficiently implement high quality and effective virtual reality applications.

#### References

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## Research Paper 16: Parasocial Interaction

*Time:* Friday, 11/Sep/2015: 2:00pm - 3:00pm · *Location:* Room 4329  
*Session Chair:* André Melzer

### **Parasocial interaction with ambivalent characters in television series. How viewers react to the serial killer Dexter Morgan.**

**Ines Clara Vogel, Erika Frei**

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Parasocial interaction (PSI), a concept first introduced by Horton and Wohl (1956), examines TV viewers' illusionary experience of being in a "conversational give-and-take" with a media figure. Thoughts, feelings, and behaviors of viewers that are targeted toward a media figure during PSI, show great resemblance to reactions that would take place in face-to-face social interactions (Klimmt, Hartmann, & Schramm, 2006). Since its first appearance, PSI has become well established in media literature and has produced an impressive amount of research publications (Giles, 2002). Most publications however concentrate on PSI with liked media figures. Only very few studies take PSI with disliked media figures and negative parasocial relationships into account (Dibble & Rosaen, 2011; Hartmann, Stuke, & Daschmann, 2008). Regarding ambivalent media figures, i.e. characters that behave in a morally questionable manner and therefore cannot simply be classified as "good" or "bad", there is a research gap regarding PSI. Therefore, the current study aims at closing this gap by investigating parasocial processes while viewing media content with an ambivalent main character.

A total of 307 participants watched the complete first season of the TV series "Dexter". Using the PSI Process Scales by Schramm and Hartmann (2008), PSI with the main character "Dexter Morgan" was measured at three times during the study. Participants were also asked to assess the main character with the Evaluative Space Grid by Larsen, Norris, and McGraw (2008). In addition, overall enjoyment and the probability of continuing the TV series were measured after the last episode.

Results show that—as the TV series progresses—PSI processes with the main character intensify significantly and evaluations of the character become significantly less ambiguous and more positive. Positive evaluations of the character are positively correlated with the enjoyment of the series and the intention to continue watching it.

### **Adolescent Girls' Parasocial Relationships with Male YouTube-Stars**

**Nicola Döring**

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Research Question: With the growing popularity of the video sharing platform YouTube, a new type of media star has emerged, the YouTube star. The present study examined adolescent girls' parasocial relationships with male YouTube stars. Firstly, the study aims at describing these parasocial relationships and their cognitive, affective, and conative components in detail. Secondly, the study tests the hypothesis, that a male YouTube star who presents himself as a single man inspires more romantic parasocial relationships than a YouTube star who is in a committed relationship with his girlfriend.

Method: Two young male YouTube stars from Germany who (in 2014) were similar in popularity but differed in their relationship status were selected. For each YouTube star five female fans (age 13-17) were recruited. They participated in semi-structured interviews and filled in a standardized parasocial relationship scale. Additionally, all online comments on YouTube, Facebook, and Twitter written by female viewers that immediately followed the publication of a new video of both YouTube stars were collected and submitted to content analysis. Altogether, the study was based on the analysis of 10 interviews and 1,184 online comments.

Results: Both interviews and online comments revealed a broad spectrum of cognitive, affective, and conative parasocial relationship components. To feel more connected to the YouTube star, female fans often also followed the star's friends and family members as far as they were active on social media.

The relationship status of the YouTube star who presented himself as a single man was a very "hot topic" of discussion among his female fans, some of whom explicitly regarded themselves as the ideal girlfriend for him. Romantic parasocial relationships were intense and long-lasting (up to 4 years). The

online comments for the YouTube star with single status contained twice as many love declarations and five times as many requests for personal contact.

### **Sheldon Cooper or Doctor Who - Who's like a friend to you!? Parasocial relationship quality and perceived closeness and similarity**

**Johanna Constance Malich, Uli Gleich**

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Aron and Aron (1986) proposed that an important element of close interpersonal relationships is the inclusion of other in the self (IOS). By including their partners' resources, perspectives or characteristics, people expand their selves and thus, strengthen self-efficacy. Despite lacking reciprocity, parasocial relationships (PSR) are considered to be felt like real relationships and have "real" consequences for the audience (e.g. Eyal & Cohen, 2006). Bringing together research on the self-expansion model and research on PSR we examined whether mediated characters can be a source of self-expansion by including them in the self. With the study we addressed two research questions: 1. To what extent do recipients include their favorite character into their selves? 2. Does the type of PSR effect the degree of IOS? An online-survey (n=228; 76.8% female; age: M=26.17) was conducted and subjects had to choose their favorite TV character. To measure the type of reported PSR, Tukachinsky's (2010) MPSR-Scale, which distinguishes between parasocial love (PSL) and parasocial friendship (PSF) was used. To measure the degree of overlap with the character, we used the IOS-Scale (Aron, Aron, & Smollan, 1992), a one-item measure that includes seven gradually overlapping circles. Results show a significant positive correlation between parasocial friendship (PSF) and IOS. No such correlation could be found between parasocial love (PSL) and IOS. Instead, PSL is significantly related to perceived similarity with the persona. The results may shed some additional light on the self-relevant functions (e.g. self-efficacy, social comparison) different types of PSRs with media characters have for the audience.

### **„I don't care if the characters are likable as long as they're interesting!“ The relation between personality traits and the preference of TV series with ambivalent main characters.**

**Alexandra Späth, Ines Vogel**

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Over the past fifteen years, TV entertainment has witnessed a remarkable transformation (Sepinwall, 2012): Breaking with the notion that likeable characters are key to a successful TV series, a number of acclaimed TV series feature ambivalent characters at the center of their plots (e.g., Breaking Bad, Dexter). Characters such as Walter White or Dexter Morgan challenge viewers because they behave in a morally questionable way and therefore cannot simply be classified as "good" or "bad".

Concerning the success of entertainment with ambivalent characters, theories such as the affective disposition theory (Zillmann & Cantor, 1972) fall short in providing satisfying explanations. Zillmann (2006) even doubts that ambivalent characters influence enjoyment in a positive way. However, research clearly shows that entertainment featuring such characters is enjoyed at least by some viewers (Krakowiak & Oliver, 2012; Krakowiak & Tsay, 2011). Corresponding to the uses and gratifications approach (Blumler & Katz, 1974), the current study aims at examining the role of viewers' personality traits in order to get a better understanding regarding choice and preference of such media content.

In an online survey, need for affect, need for cognition, need for cognitive closure, sensation seeking, and moral disengagement were taken into account (n = 1,082; 62.8% female, 35.1% male, 2.1% not specified). In addition, frequency of consumption and appreciation of TV series in general and TV series with ambivalent characters in particular were measured.

As expected, need for cognition, sensation seeking, and moral disengagement correlated positively, whereas need for cognitive closure correlated negatively with the preference for TV series with ambivalent characters. Unexpectedly, need for affect showed no significant correlation with appreciation and a negative correlation with the viewing frequency of such TV series. Results are discussed in light of Raney's (2006) expansion of the affective disposition theory.

## Research Paper 17: Film/TV

*Time:* Friday, 11/Sep/2015: 2:00pm - 3:00pm · *Location:* Room 4326  
*Session Chair:* Hauke S. Meyerhoff

### Using Hollywood movies to explore audio-visual integration in long-term memory

**Hauke S. Meyerhoff<sup>1</sup>, Markus Huff<sup>2</sup>**

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Hollywood movies provide multimodal and naturalistic stimuli to explore human cognitive processes. With regard to such naturalistic stimuli, human long-term memory reveals a tremendous capacity. Here, we evaluate memory performance for brief excerpts of Hollywood movies in order to study how auditory information alters memory performance for naturalistic scenes. More specific, we explore whether the integration of auditory and visual information during encoding enhances memory performance. In a total of six experiments, we manipulated the presentation modality (auditory, visual, audio-visual) of brief filmic clips as well as the semantic match and temporal synchrony between auditory and visual information of the same clip. Our results show that memory performance is generally more accurate for audio-visual than visual scenes. Remarkably, this audio-visual memory advantage is more pronounced with matching auditory and visual information (i.e. from the same movie) than with mismatching auditory and visual information (i.e. from different movies). This finding emphasizes that it is rather audio-visual integration that boosts memory performance than a pure summation of alternative retrieval cues. During perceptual processes, audio-visual integration typically is sensitive to violations of audio-visual synchrony. Regarding memory performance, however, we observed the opposite. Neither reversing the visual track of an audio-visual clip nor a sequential learning of auditory and visual information impaired memory performance for audio-visual clips. Only a temporal separation filled with several other clips of matching auditory and visual information finally prevented audio-visual integration and thus resulted in inferior memory performance. Taken together, our results provide first evidence for a distinction between the integration of auditory and visual information during perceptual and memory processes. Especially, the remarkable tolerance against violations of audio-visual synchrony during encoding seems to be unique for memory representations of naturalistic audio-visual scenes. Eventually, we discuss implications of these results for media reception processes (e.g., consequences of dubbing).

### The meaning in Sci-Fi movies and their influence on the acceptance of new technologies

**Stefan Krause, Markus Appel, Uli Gleich, Martina Mara**

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Technological advancements are central to most Science-Fiction movies. Even some of today's common technologies like mobile phones or airplanes were first introduced in Sci-Fi stories. However, the influence of these stories on the acceptance of new technologies has received little attention so far. A closer look on these effects might be worthwhile, since certain technologies are making great progress and they could be a central part of our daily lives rather soon.

In order to empirically test the assumption that Science Fiction provides meaning to otherwise alien technologies, we chose service robots as an important real-life future technology that is widely covered in Science Fiction. Service robots are almost humanlike robots which support people in their daily routine. Taking care of older people will likely be a field of application for these kinds of robots.

An experiment was conducted, guided by theories on the psychology of meaning making (more on this in the presentation at the conference). One out of two Sci-Fi movies was presented, following a one-factorial between subjects design (N = 56). The treatment movie was "Robot & Frank", which is about an android service robot and the friendship to its demented owner. The control movie was a Sci-Fi movie as well, but it was unrelated to robotics.

Meaning-making was operationalized as concept-clarity and a self-robot-link, the main dependent variable were the behavioral intentions to purchase the robot (these variables were assessed immediately and with a two-week delay).

For data analyzes a sequential multi-step multiple mediation model (Hayes, 2009, 2013; Model 6) was used. For both points of measurement, the results supported an indirect mediational process. There was a significant positive effect of our experimental treatment on concept clarity which in turn significantly increased the self-concept-link and those with higher a self-concept-link had also significantly higher behavioral intentions.

## **Shared entertainment, shared opinions: The influence of Social TV comments on the evaluation and enjoyment of talent shows**

**Stephan Winter, Brenda Benninghoff, Christine Gallus, Nicole Krämer**

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While watching TV, viewers increasingly use a second screen to communicate with others, commonly referred to as Social TV (Cohen & Lancaster, 2014). With the example of talent shows and music competitions, this research investigated the effects of reading user-generated comments on the evaluation of TV shows and related processes of media entertainment. Based on research on informational social influence (Deutsch & Gerard, 1955) and offline co-viewing (Fein, Goethals, & Kugler, 2007), it can be assumed that voices out of the audience that are visible in Social TV settings shape viewers' attitudes toward the protagonists. Since talent shows (as a subgenre of Reality TV) frequently include depictions of antisocial behavior (e.g., exhibition of untalented candidates and insulting comments), this influence might create effects that are undesirable from a normative perspective, for instance, if commenters describe antisocial behavior as funny and justified. In a laboratory experiment, 117 participants watched a 10-minute clip of a talent show ("Got Talent" series). In a 2x3 between-subjects design, we varied the type of clip (either showing a conventional performance of a talented singer or insulting comments by the judges toward a less talented candidate) and the Social TV comments by ostensible co-viewers (positive toward the clip vs. negative vs. no comments). Results showed that viewers' evaluation of the main judge varied in line with the tone of user-generated comments, particularly for the clip with antisocial behavior. This suggests that Social TV viewers are susceptible to social influence of their co-viewers, which might amplify problems regarding the portrayal of antisocial behavior in Reality TV shows. Viewers' enjoyment was generally increased by positive comments, while there was no decreasing effect of negative comments (in comparison to the control group), which may underline the gratifying nature of interacting with others in settings of mediated co-viewing.

## **Effects of co-viewing and social interactions on TV reception**

**Thomas Friemel, Mareike Dötsch**

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Research on TV reception has found evidence for a variety of influencing factors and outcome variables. However, most studies focus on intra-individual aspects or the content. In contrast to this, the social context of TV use and its influence on TV reception are rarely considered in empirical work. Little is known about the effects of co-viewers and the social interaction while co-viewing. An experiment with a single factor between-subject design was conducted to test the influence of co-viewing and social interactions on various outcome variables of individual TV experience. These individual experiences include a) emotional effects (entertainment and enjoyment), b) cognitive effects (rating), and c) action-oriented/conative aspects (likelihood of repeated use, follow up conversations, recommendation, search for additional information, and interest in online chats). Participants (N=131) were recruited in pairs and as single persons. The pairs served as experimental groups and were either allowed or not allowed to speak while watching a 15 minute TV program. The control group watched the same program but had no co-viewer. The assignment of the pairs to one of the two situations was at random and the dependent variables were measured by a post-test questionnaire. Analyses of variance reveal significant differences between the two experimental groups for most of the dependent variables. Participants who were not allowed to talk while watching the program report higher enjoyment, give higher ratings, and are more interested in engaging in follow-up actions compared to the participants which were allowed to talk. For the control group lower ratings of enjoyment (M-DAS scale) and higher interest in online interactions are found. The presentation will discuss the challenge to disentangle the influence of co-viewing and interaction and their relevance for the analysis of current trends like social-TV (TV related online interactions).

## **Symposium 2: Research on Learning and Instruction Meets Media Psychology**

*Time:* Friday, 11/Sep/2015: 2:00pm - 3:00pm · *Location:* Room 4332

*Session Chair:* Katharina Scheiter

### **Research on Learning and Instruction Meets Media Psychology**

*Chair(s):* **Katharina Scheiter** (Leibniz-Institut für Wissensmedien)

Research on learning and instruction is concerned with designing instructional scenarios to improve students' understanding. These scenarios may comprise very different instructional arrangements; however, with the increasing use of technology in education a lot of educational research nowadays focuses on how media can be exploited to improve learning by. Despite these close ties, traditionally media psychology and educational psychology have been in the focus of different scientific communities, published in different journals, and discussed at different conferences. This is the case despite the fact that the boundaries between technologies that are investigated in media psychology, namely, media that are predominantly designed for larger audiences (e.g., entertainment media, social media), and technologies used for education are gradually fading. Thus, the present symposium aims at showing how media that were not primarily intended for educational purposes such as videos, tablets, and apps are used for learning and which new potentials arise from considering media not only as passive presentation devices as they have been used in the early days of educational technology. In particular, media now offers the opportunity to not only perceive a variety of information, but also to interact with contents in a self-guided fashion and adjust its design to specific instructional purposes, create representations to support one's learning, and to design instruction that is adjusted to one's individual processing (e.g., processing speed, visual attention distribution). Four presentations aim at illustrating these potentials with the first presentation showing how students perceive propaganda videos initially developed for mass persuasion, but now modified with the purpose of highlighting specific communication devices deployed in these videos. The second presentation addresses how students can learn from creating drawings while learning from tablet-based instruction. The final presentations concern the effects of media that adjust to an individual's information processing based on its online analysis.

#### *Presentations of the Symposium*

### **Instructional Support for Analyzing Propaganda**

**Martin Merkt<sup>1</sup>, Florian Sochatz<sup>2</sup>**

<sup>1</sup>Leibniz-Institut für Wissensmedien, <sup>2</sup>KU Eichstaett-Ingolstadt

Because cinematic techniques influence how recipients conceive messages, successful use of videos in the context of learning and instruction depends on awareness of these techniques. For example, using videos as historical sources, students may stumble upon propaganda using cinematic techniques such as camera angle to influence the audience. We conducted two studies testing whether highlighting cinematic techniques by cueing was an appropriate instructional strategy to support the analysis of propaganda. Cueing the use of cinematic techniques on a category level (e.g., camera angle) resulted in less detailed analyses of propaganda both for practice clips that included cues, and for test clips that did not include cues. In contrast, more specific manifestation cues (e.g., low angle shot) and more general cues (i.e., cinematic techniques) resulted in more detailed analyses than category cues. These findings constitute a basis for further research investigating effects of different kinds of cues when students analyze propaganda.

### **Learning with tablets: Can drawing help understanding?**

**Steffen Schmidgall, Alexander Eitel, Katharina Scheiter**

Leibniz-Institut für Wissensmedien

In the present study, the effectiveness of different ways of using tablets as learning devices was investigated. Generative activities – participants were asked to actively deal with the provided content by generating content of their own – were compared with more passive, perceptive-focused activities – participants were asked to merely process given content. 115 students were provided with a tablet and were randomly assigned to 1 of 4 conditions: 1) learning with text and self-generated drawings, 2) learning with text and self-generated summaries, 3) learning with text and pictures (multimedia), 4) learning with text only. Subsequently, participants worked on an immediate and a delayed posttest (one week later). As expected, a benefit of drawing (and multimedia) with regard to transfer knowledge could be found compared with text-based activities (summary and text only). This result speaks in favor of a successful enhancement of text comprehension through generating (and perceiving) specific pictorial representations using tablets.

### **Speed up your reading: Higher efficiency of reading with an RSVP-based speed reading app**

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According to many rapid serial visual presentation (RSVP) studies, RSVP-based reading performance is impaired as compared to traditional reading. With the recent advent of RSVP-based speed reading apps for mobile devices, this finding has stimulated novel research. In the present study, we compared reading performance when reading expository texts traditionally on a paper sheet versus on a tablet with an RSVP-based speed reading app. Results indicate, that the number of facts remembered was higher for traditional reading. However, with regard to efficiency, participants in the RSVP condition remembered more facts per minute reading time due to a faster individually chosen reading speed. Moreover, we found no impairments of the RSVP condition with regard to a transfer task where pictorial representations had to be identified by readers based on the textual information they have read. These data suggest that RSVP might be a method to improve reading efficiency on mobile devices.

### **Can adaptive learning systems improve the effectiveness of multimedia instructions?**

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Despite the general effectiveness of multimedia instructions, some students fail to process verbal and pictorial representations sufficiently. Therefore, the aim of the present study was to test whether a system that provided adaptive processing support based on learners' eye movement behavior could improve the effectiveness of multimedia instructions. In the experimental group (n = 33) fixation times and transitions were compared to threshold values. If eye movement parameters were below these thresholds, an adaptive response was initiated by the system. For example, in the case of too few transitions, the same page was presented with color coding of corresponding text-picture elements. Regression analyses revealed that the adaptive multimedia system did not improve performance of learners nor changed their eye-movement behavior compared to a non-adaptive control group (n = 36; all ps < .20). Implications of these findings and for the refinement of the adaptive system will be discussed.

## Index of authors

Author(s)	Session	Pages
<b>Aartsen</b> , Marja J.	Social Media 3: Negative Effects	33
<b>Abele</b> , Theresa	Social Media 1: Privacy and Self Disclosure	16
<b>Appel</b> , Markus	Film/TV Narratives: Content and Processing	52,60,68
<b>Artemenko</b> , Christina	Learning with Media	36
<b>Aufenanger</b> , Stefan	Social Media 3: Negative Effects	32
<b>Augustin</b> , Yannik	Poster Session	47
<b>Benninghoff</b> , Brenda	Film/TV	69
<b>Bente</b> , Gary	Poster Session Narratives: Content and Processing Propaganda and Memes Narratives: Content and Processing Propaganda and Memes	42,60,61,62,62
<b>Beutel</b> , Manfred E.	Social Media 3: Negative Effects	32
<b>Bindl</b> , Melanie J.	Social Media 3: Negative Effects	33
<b>Bodemer</b> , Daniel	Learning with Media	37
<b>Bosau</b> , Christian	Social Media 3: Negative Effects	32
<b>Bötsch</b> , Isabell	Poster Session	42
<b>Bowman</b> , Nicholas	Video Games: Effects and Perceptions	30
<b>Brand</b> , Matthias	Evolutionary Media Psychology	34
<b>Brandenstein</b> , Nils	Poster Session	41
<b>Breuer</b> , Johannes	Poster Session	34
<b>Breuer</b> , Johannes	Video Games: Effects and Perceptions	30,42
<b>Brich</b> , Irina	Perception and Cognition	64
<b>Brill</b> , Michael	Video Games: Effects and Perceptions	29
<b>Bromme</b> , Rainer	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media Social Media 1: Privacy and Self Disclosure	15,27
<b>Brömme</b> , Romy	Research on Learning and Instruction Meets Media Psychology	71
<b>Brunner</b> , Tobias	Social Media 1: Privacy and Self Disclosure	16
<b>Bunge</b> , Andreas	Perception and Cognition	64
<b>Bushman</b> , Brad J.	Media Exposure	19
<b>Carbon</b> , Claus-Christian	Poster Session	41
<b>Carolus</b> , Astrid	Evaluation of Brands Evaluation of Brands	21
<b>Carolus</b> , Astrid	Political Communication	39,40
<b>Carr</b> , Caleb T	Evaluation of Brands Poster Session	39,47,57
<b>Chakraverty</b> , Digo	Poster Session	42
<b>Coyne</b> , James C.	Expanding and enforcing the Pottery Barn rule in media psychology	51
<b>Cress</b> , Ulrike	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28



<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>de Graaf, Anneke</b>	Poster Session	46,60
<b>den Hamer, Anouk</b>	Media Exposure Social Media 3: Negative Effects	19,33
<b>Dienlin, Tobias</b>	Social Media 2: Emotion and Social Support	23
<b>Domahidi, Emese</b>	The (a)social net? A meta-analytical review of 15 years of research on the relationship between Internet use and perceived social capital/social support	54,59
<b>Döring, Nicola</b>	Parasocial Interaction Perception and Cognition	65,66
<b>Dötsch, Mareike</b>	Film/TV	69
<b>Dreier, Michael</b>	Social Media 3: Negative Effects	32
<b>Dresler, Thomas</b>	Learning with Media	36
<b>Ehllis, Ann-Christine</b>	Learning with Media	36
<b>Eimler, Sabrina C</b>	Social Media 2: Emotion and Social Support Social Media 4: Impression Formation	23,59
<b>Eitel, Alexander</b>	Research on Learning and Instruction Meets Media Psychology Perception and Cognition	64,70
<b>Elson, Malte</b>	Video Games: Effects and Perceptions	29,30
<b>Elvert, Freya</b>	Narratives: Content and Processing Narratives: Content and Processing	60,61
<b>Ernst, Thomas</b>	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28
<b>Ertan, Thaina</b>	Video Games: Effects and Perceptions	29
<b>Fallgatter, Andreas J.</b>	Learning with Media	36
<b>Färber, Axel</b>	Poster Session	45
<b>Feinkohl, Insa</b>	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28
<b>Flemming, Danny</b>	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28
<b>Frei, Erika</b>	Parasocial Interaction	66
<b>Friemel, Thomas</b>	Film/TV	69
<b>Frischlich, Lena</b>	Narratives: Content and Processing Propaganda and Memes Propaganda and Memes Narratives: Content and Processing	60,61,62,62
<b>Gallus, Christine</b>	Film/TV	69
<b>Gebauer, Fabian</b>	Poster Session	41
<b>Gerjets, Peter</b>	Research on Learning and Instruction Meets Media Psychology	71
<b>Gleich, Uli</b>	Film/TV Parasocial Interaction	67,68
<b>Grabenhorst, Fabian</b>	Evolutionary Media Psychology	34
<b>Hamborg, Kai-Christoph</b>	Poster Session Poster Session	44,45
<b>Hayes, Rebecca A</b>	Evaluation of Brands	39

Author(s)	Session	Pages
Hayes, Rebecca A.	Poster Session	47
Heber, Svenja	Poster Session	46
Heimbuch, Sven	Learning with Media	37
Hemeli, Dominik	Poster Session	45
Hendriks, Friederike	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	27,27,27
Hennighausen, Christine	Evaluation of Brands Evaluation of Brands	39,40
Herrmann, Jonathan	Design and Function of Robots	17
Hoeken, Hans	Poster Session	46
Hoorn, Johan F.	Design and Function of Robots Design and Function of Robots	17,17
Hopp, Frederic	Social Media 3: Negative Effects	33
Huber, Stefan	Learning with Media	36
Huff, Markus	Film/TV Perception and Cognition Narratives: Content and Processing	60,64,64,68
Hülsmann, Julia	Poster Session	45
Isberner, Maj-Britt	Narratives: Content and Processing	60
Jadin, Tanja	Poster Session	47
Jucks, Regina	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	27
Jurisch, Anna	Poster Session	41
Kaspar, Kai	Political Communication Poster Session In the eye of the observer: What actually guides visual attention on webpages? State of research and prospects for the future Poster Session Poster Session Poster Session Perception and Cognition	21,41,42,44,45,55,64
Keijer, Micha G.	Media Exposure	19
Keyson, David V.	Design and Function of Robots	17
Kienhues, Dorothe	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	27,27
Kieslich, Kimon	Video Games: Effects and Perceptions	30
Kimmerle, Joachim	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28
Klemm, Sarah	Poster Session	45
Kneer, Julia	Peer / Media Influence	25

<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>Knop, Katharina</b>	Learning with Media Social Media 1: Privacy and Self Disclosure	16,36
<b>Koban, Kevin</b>	Video Games: Effects and Perceptions	30
<b>König, Peter</b>	Political Communication	21
<b>Königstein, Elisabeth</b>	Poster Session	45
<b>Konijn, Elly A.</b>	Design and Function of Robots Peer / Media Influence Peer / Media Influence Media Exposure Design and Function of Robots Social Media 3: Negative Effects	17,17,19,25,25,33,51
<b>Köster, Moritz</b>	Poster Session	44
<b>Kowert, Rachel</b>	Video Games: Effects and Perceptions	30
<b>Krabbendam, Lydia C.</b>	Media Exposure	19
<b>Krämer, Nicole</b>	Design and Function of Robots Social Media 2: Emotion and Social Support Propaganda and Memes Film/TV Evolutionary Media Psychology Evaluation of Brands Poster Session Peer / Media Influence	17,23,26,32,34,39,41,63,69
<b>Krause, Stefan</b>	Film/TV	68
<b>Kühn, Max</b>	Social Media 3: Negative Effects	32
<b>Kunze, Stefanie</b>	Evaluation of Brands	40
<b>Lange, Amanda</b>	Video Games: Effects and Perceptions	30
<b>Lange, Benjamin P.</b>	Poster Session	42
<b>Lange, Ryan</b>	Video Games: Effects and Perceptions	30
<b>Leiser, Anne</b>	Propaganda and Memes	63
<b>Levordashka, Ana</b>	Social Media 4: Impression Formation	59
<b>Liebold, Benny</b>	Video Games: Effects and Perceptions	30
<b>Lin, Ruoyun</b>	Social Media 2: Emotion and Social Support	24
<b>Loy, Laura Sophia</b>	Political Communication	21
<b>Luksch, Vanessa</b>	Video Games: Effects and Perceptions	29
<b>Maderwald, Stefan</b>	Evolutionary Media Psychology	34
<b>Malich, Johanna Constance</b>	Parasocial Interaction	67
<b>Mara, Martina</b>	Film/TV	68
<b>Marx, Shalina</b>	Narratives: Content and Processing Narratives: Content and Processing	60,61
<b>Masur, Philipp</b>	Social Media 2: Emotion and Social Support	23
<b>Masur, Philipp K.</b>	Social Media 1: Privacy and Self Disclosure	15
<b>Mauerhoefer, Leonie</b>	Social Media 4: Impression Formation	59
<b>Maurer, Annika Elisabeth</b>	Perception and Cognition	64
<b>Meier, Adrian</b>	Social Media 3: Negative Effects	32
<b>Meitz, Tino G.K.</b>	Narratives: Content and Processing	60

<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>Melzer</b> , André	Video Games: Effects and Perceptions	29,66
<b>Menne</b> , Isabelle Maria	Evolutionary Media Psychology	34
<b>Merkt</b> , Martin	Research on Learning and Instruction Meets Media Psychology	70
<b>Merten</b> , Elena	Evolutionary Media Psychology	34
<b>Meyerhoff</b> , Hauke S.	Film/TV	68,68
<b>Moll</b> , Ricarda	Does trust matter? A cognitive approach to the role of trust for online self-disclosures Social Media 1: Privacy and Self Disclosure	15,49
<b>Morten</b> , Anna	Narratives: Content and Processing Narratives: Content and Processing	60,61
<b>Müller</b> , Kai W.	Social Media 3: Negative Effects	32
<b>Müller</b> , Philipp	Media Exposure	19
<b>Münch</b> , Ricardo	Evaluation of Brands	39
<b>Nebel</b> , Steve	Poster Session	45
<b>Nett</b> , Ulrike	Learning with Media	37
<b>Neubaum</b> , German	Social Media 2: Emotion and Social Support Propaganda and Memes	23,63
<b>Niederkrotenthaler</b> , Thomas	Media Exposure	19
<b>Nuerk</b> , Hans- Christoph	Learning with Media	36
<b>Odag</b> , Özen	Revisiting culture - a neglected dimension in U&G research and media psychology Propaganda and Memes Social Media 2: Emotion and Social Support	24,57,62,63
<b>Ohler</b> , Peter	Video Games: Effects and Perceptions	30
<b>Oliver</b> , Mary Beth	Social Media 2: Emotion and Social Support	23
<b>Öncü</b> , Julian	Social Media 1: Privacy and Self Disclosure	16
<b>Paauwe</b> , Robert A.	Design and Function of Robots	17
<b>Papenmeier</b> , Frank	Narratives: Content and Processing	55,60
<b>Penzel</b> , Jana	Social Media 1: Privacy and Self Disclosure	16
<b>Pieschl</b> , Stephanie	Social Media 1: Privacy and Self Disclosure	15
<b>Pipa</b> , Gordon	Perception and Cognition	64
<b>Plaisier</b> , Xanthe S.	Media Exposure Peer / Media Influence	19,25,25
<b>Pöschl</b> , Sandra	Perception and Cognition	49,65
<b>Pradel</b> , Simon	Poster Session	47
<b>Przybylski</b> , Andrew K.	Best Practices for Advancing Internet Gaming Addiction Research	15,52
<b>Quandt</b> , Thorsten	Video Games: Effects and Perceptions	30
<b>Quiring</b> , Oliver	Social Media 3: Negative Effects	32
<b>Raab</b> , Marius H.	Poster Session	41
<b>Ramos Gameiro</b> , Ricardo	Political Communication	21
<b>Reer</b> , Felix	Poster Session	41
<b>Reich</b> , Sabine	Learning with Media	36

<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>Reinecke</b> , Leonard	Social Media 3: Negative Effects	32,54
<b>Rey</b> , Günter Daniel	Poster Session Poster Session	45,47
<b>Richter</b> , Tobias	Narratives: Content and Processing	60
<b>Rieger</b> , Diana	Narratives: Content and Processing Narratives: Content and Processing Propaganda and Memes Propaganda and Memes	60,61,62,62
<b>Riemer</b> , Valentin	Poster Session	43
<b>Rosenthal-von der Pütten</b> , Astrid Marieke	Design and Function of Robots Evolutionary Media Psychology	17,34
<b>Rösner</b> , Leonie	Social Media 2: Emotion and Social Support Peer / Media Influence	23,26
<b>Roth</b> , Daniel	Poster Session	42
<b>Roth</b> , Franziska S.	Poster Session Learning with Media	36,46
<b>Rothblum</b> , Amy	Poster Session	47
<b>Rothmund</b> , Tobias	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	27
<b>Rüth</b> , Marco	Poster Session	44
<b>Rutkowski</b> , Olivia	Narratives: Content and Processing Narratives: Content and Processing	60,61
<b>Sanders</b> , José	Poster Session	46
<b>Scheiter</b> , Katharina	Research on Learning and Instruction Meets Media Psychology Research on Learning and Instruction Meets Media Psychology Research on Learning and Instruction Meets Media Psychology	70,70,70,71
<b>Schmidgall</b> , Steffen	Research on Learning and Instruction Meets Media Psychology	70
<b>Schmidt</b> , Catharina	Evaluation of Brands	39
<b>Schmitt</b> , Anja M. R.	Political Communication	21
<b>Schmitt</b> , Josephine B.	Political Communication Poster Session	21,46
<b>Schneider</b> , Florian	Evaluation of Brands	39
<b>Schneider</b> , Frank M.	Poster Session Social Media 3: Negative Effects Learning with Media	21,33,36,46
<b>Schneider</b> , Maren	Poster Session	41
<b>Schneider</b> , Sascha	Poster Session	45
<b>Schrader</b> , Claudia	Poster Session Learning with Media	37,43
<b>Schreiner</b> , Constanze	Narratives: Content and Processing	60
<b>Schubert</b> , Carina	Research on Learning and Instruction Meets Media Psychology	71

<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>Schüler, Anne</b>	Research on Learning and Instruction Meets Media Psychology	36,71
<b>Schwab, Frank</b>	Political Communication Evaluation of Brands Video Games: Effects and Perceptions Poster Session Poster Session Evolutionary Media Psychology	21,29,34,39,40 42,45
<b>Skulmowski, Alexander</b>	Poster Session Perception and Cognition	47,64
<b>Sochatzy, Florian</b>	Research on Learning and Instruction Meets Media Psychology	70
<b>Solak, Nevin</b>	Social Media 2: Emotion and Social Support	24
<b>Soltanlou, Mojtaba</b>	Learning with Media	36
<b>Späth, Alexandra</b>	Parasocial Interaction	67
<b>Spekman, Marloes L.C.</b>	Design and Function of Robots	17
<b>Stark, Birgit</b>	Social Media 3: Negative Effects	32
<b>Straßmann, Carolin</b>	Evaluation of Brands How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28,39
<b>Teutsch, Doris</b>	Social Media 1: Privacy and Self Disclosure Social Media 1: Privacy and Self Disclosure	15,16
<b>Thon, Franziska</b>	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	27
<b>Tibus, Maike</b>	Research on Learning and Instruction Meets Media Psychology	71
<b>Till, Benedikt</b>	Media Exposure	19
<b>Trepte, Sabine</b>	Social Media 1: Privacy and Self Disclosure Social Media 2: Emotion and Social Support Social Media 1: Privacy and Self Disclosure	15,16,23
<b>Ulug, Özden Melis</b>	Social Media 2: Emotion and Social Support	24
<b>Utz, Sonja</b>	Social Media 4: Impression Formation Social Media 2: Emotion and Social Support	23,24,59
<b>van Oosterhout, Nathalie</b>	Peer / Media Influence	25
<b>Veldhuis, Jolanda</b>	Peer / Media Influence Peer / Media Influence	25,25
<b>Vogel, Ines Clara</b>	Parasocial Interaction Parasocial Interaction	66,67
<b>von Georgi, Richard</b>	Poster Session	43
<b>Voracek, Martin</b>	Evolutionary Media Psychology	34
<b>Vorderer, Peter</b>	Social Media 3: Negative Effects Learning with Media	33,36
<b>Weinmann, Carina</b>	Poster Session Learning with Media	36,46
<b>Weinstein, Netta</b>	Best Practices for Advancing Internet Gaming Addiction Research	52

<b>Author(s)</b>	<b>Session</b>	<b>Pages</b>
<b>Wilbers</b> , Anne-Kathrin	In the eye of the observer: What actually guides visual attention on webpages? State of research and prospects for the future	55
<b>Wilden</b> , Eva	How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media	28
<b>Winter</b> , Stephan	Social Media 2: Emotion and Social Support Evaluation of Brands How Web 2.0 influences public understanding of science: Laypeople's ways of dealing with, deciding on and engaging in science issues in digital media Film/TV	23,28,39,69
<b>Wölfling</b> , Klaus	Social Media 3: Negative Effects	32
<b>Zwillich</b> , Britta	Social Media 3: Negative Effects	33