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Media psychology in the contemporary humanities

Summary

DEFINITION OF THE TERM: Media psychology is a subdiscipline of theoretical and applied psychology and is a transdiscipline that draws on the social sciences, the humanities, the neurosciences, and computer science. It is also a hybrid discipline which encompasses four spheres: methodology (M), ethics (E), theory (T), and application (A), or META for short. Media psychologists study complex relationships between man, media, and new interactive, immersive, and virtual environments to understand the bidirectional impact of media on the individual user and the individual user on media, i.e., the impact on their functionality, content, and form.

HISTORICAL ANALYSIS OF THE TERM: The foundations of media psychology were laid by philosophers and forerunners of psychology who were interested in the perception of visual and auditory stimuli, psychoanalysis, and behavioural and cognitive concepts. Important contributions were also made by media creators (mainly film directors, journalists, designers of UX solutions, and new media artists).

DISCUSSION OF THE TERM: The results of studies conducted within media psychology are nowadays applied to analyses of the impact on users of traditional media, new media, and digital environments linked to networked media, virtual reality (VR), augmented reality (AR), and mixed reality (MR). The results of these studies have an important impact when applied to the design of media technologies, psychological, educational, and preventive programmes and therapeutic activities, remote and hybrid education based on new media, and VR, AR, and MR technologies. Also

discussed here are media psychology research into and implementations of humanoid robots, the psychological aspects of human cyborgisation, the creation of hybrid systems, and technology readiness.

SYSTEMATIC REFLECTION WITH CONCLUSIONS AND RECOMMENDATIONS: The theoretical and practical aspects of media psychology are applied to communication studies, media studies, film studies, and media cultural studies. They play a special role in studies dedicated to the impact exerted by media, strategies for their use, and the design of UX solutions. The results of these studies also find practical applications in media pedagogy and media education, including the psychological determinants of hybrid and remote education, as well as media and digital competences.

Keywords: psychology, media, media psychology, media studies, cyberpsychology

Definition of the term

Media psychology, as a subdiscipline of theoretical and applied psychology, investigates the impact of traditional (one-way) media and new media, including social media, on individual users and groups of users, which are called online communities. Studying their role in communication processes, the building of interpersonal contacts and bonds and the creation of new forms of social activity play an important role in these analyses. Media psychology refers to the study of positive behaviours related to both the growth of the individual's potential and the potential of the actors with whom one enters into online relationships; it also refers to negative behaviours that degenerate man's development and functioning in interpersonal relations, communication (e.g., online aggression), and his social tasks and roles. Due to its transdisciplinary nature, media psychology draws on research, models, and terminology from media studies, cultural studies (mostly media cultural studies), communication studies, film studies, and other social sciences (e.g., sociology, ethnography, and media economics), as well as the findings of subdisciplines of psychology such as cognitive, social, clinical, developmental, psycholinguistic, and cultural psychology. Research from computer science (mainly social computing) and neuroscience (mainly neuropsychology and human neuroscience) is also used by media psychologists. Thanks to the rapid development of digital media and immersive technologies based on artificial intelligence (AI) and artificial neural networks, media psychology is also considered a parent subdiscipline of social media psychology and cyberpsychology, the latter of which focuses primarily on the impact of digital media, digital environments, and cyberculture on the behaviours and attitudes of their users, creators, and prosumers.

Its research subject makes media psychology both a subdiscipline and a transdiscipline. It is a subdiscipline of psychology as a social science, and a transdiscipline of media-related studies. Media psychology encompasses four spheres: methodology (M), ethics (E), theory (T), and application (A) (i.e., META). Media psychology aspires to being integrated psychology that merges knowledge from the above-mentioned disciplines and subdisciplines into a coherent theoretical system, while also retaining its anthropocentric character. Indeed, media psychology

focuses on the study of man's behaviours in relation to media and within different media environments, e.g., VR (virtual reality), AR (augmented reality), MR (mixed reality), with the aim of describing and explaining these behaviours, predicting them, influencing them, and controlling them based on research findings.

Historical analysis of the term

The foundations of media psychology were laid by the precursors of psychology, in which Wilhelm Wundt, who founded the first laboratory for experimental psychology in Leipzig in 1879, played an important role. He studied the basic processes of perception of sensory impressions using objective and repeatable procedures, which allowed researchers to measure the subjects' reactions to stimuli and to statistically analyse the data obtained. The date his laboratory first opened is considered to mark the birth of psychology as an independent scientific discipline. The studies in psychophysics and psychophysiology conducted by Wundt led to the development of knowledge about the individual's various states of consciousness, which are accessed through one's inner experience, i.e., introspection.

The studies of the structuralist Max Wertheimer, a precursor of Gestalt psychology, were also significant. He investigated the way in which the human mind integrates data into a coherent whole and pointed to the effect of cognitive synergy: the result of the mind's work is more than the sum of individual data. In 1910, he worked at the Institute of Psychology at the University of Frankfurt, where he became interested in perception and, together with his assistants Wolfgang Köhler and Kurt Koffka, studied perception using a toy stroboscope. Wertheimer's studies on visual perception were precursors of contemporary studies dedicated to the psychology of film reception and the reception of all audiovisual messages that are conducted in the cognitive, experimental, and neurocognitive perspectives of media psychology.

Hugo Münsterberg's work has also influenced the development of media psychology. He was a doctoral student under Wilhelm Wundt, an American psychologist of German origin, and his interest in film goes back to the early 20th century, when he wrote two books in which he

developed his own aesthetic conception: *The Principles of Art Education* (1905) and *The Eternal Values* (1908). This conception reached its full expression – combined with considerations of the impact of film on the spectator – in his seminal book *The Film. A Psychological Study* (1915). As a forerunner of film psychology, he was the first to describe how spectators identify with the experiences of on-screen characters, their projections of thoughts and emotions, and their involvement in the story. His concept was further developed by the French sociologist Edgar Morin in his book *The Cinema, or the Imaginary Man* (1958), in which he described the cinema as a magical structure that realises man's dream of the possible materialisation of his double, called a *spectre*.

Münsterberg, who was a neo-Kantian, believed that cognition is not a reflection of the properties of objects but the result of the work of the human mind, while the object of cognition is ultimately a product of the cognising subject. Thus, film does not imitate the external world. Its structure should be adapted to the laws of the mind and its cognitive processes, as this ensures that the spectator is emotionally stirred and understands the message. The film technique should reflect the spectator's inner life. The essence and specificity of film does not consist in copying external reality: film functions as an autonomous construction of the depicted world, created according to the laws of the mind rather than the idea of fidelity to the depicted reality. The turn away from the mimetic strategy, which supposedly ensures that spectators understand the message, towards cognitive thought, which presupposes the subject's active role in the processing of information, links Münsterberg's views with Rudolf Arnheim's theory of visual thinking.

Münsterberg's book entitled *The Film. A Psychological Study* expresses Gestalt ideas, although the author does not emphasise this explicitly. In his book *Psychology and Life* (1899), he analysed the laws that govern the human mind. He believed that the brain does not only receive stimuli from the environment but also sends stimuli out itself, and that this makes his relationship with the external world interactional. In his opinion, the aim of psychology is to study the elements of man's mental life, in the same way as the aim of physics is to study the elements of matter.

Münsterberg's media studies were pioneering within contemporary (neuro)cognitive studies, especially his studies on the reception of the

traditional compact structure of audiovisual messages (e.g., films, television programmes, or television commercials). The psychological conception of cinema – developed by Malte Hagener, who formulated his film theory based on the senses, and Thomas Elsaesser – was also studied by Hugo Münsterberg and Noel Carroll, the leading researchers of the cognitive processes that are responsible for the spectator's reception of a film.

Rudolf Arnheim was a German-born writer, art and film theorist, a psychologist of perception, and – like Münsterberg – also a precognitivist. In two of his books, *Art and Visual Perception. A Psychology of the Creative Eye* (1954) and *Visual Thinking* (1969), he presented a coherent conception of the psychology of visual perception based on Gestalt assumptions. And although in his analyses he mainly referred to examples from the field of traditional art (painting, sculpture, drawing, architecture, and film), his findings are also relevant for the perception and creation of all (audio)visual messages. The focus of his analyses was visual perception, which he considered to be an active and dynamic process of information processing, the essence of which lies in the cognitive grasp of the essential features of the structure of a particular object. Man's passive ability to take in an image of the world is supported by his active power to analyse and systematise incoming stimuli. This is particularly clear with regard to the senses of sight and hearing, as shapes, colours, movements, and sounds best lend themselves to spatio-temporal organisation. As a result, visual perception and auditory perception are selective and teleological (purposeful, intentional). The individual immediately 'grasps' the shape of an object (e.g., a thing, a sign, or a person) in such a way that the resulting structure that appears in his mind – and corresponds to that element – is as simple as possible. From this perspective, the best images (or more broadly, compositions or visual messages) are those in which the author omits superfluous details but includes those attributes that are key to understanding the essence, meaning, and significance of the message he wants to convey. These include, for example, simplicity of shape, accurate grouping of elements, differentiation between figure and ground, use of light and perspective to bring out the volume, and graphic emphasis on the importance of a particular object compared to others.

Visual perception, treated by Arnheim as cognitive activity, makes it possible to define artistic activity as a type of reasoning based on both

perception and thinking. In this perspective, thinking functions as an essential component of perception due to mechanisms such as actively exploring the field of vision, selecting and distinguishing the most important elements, extracting what is important, simplifying, analysing, synthesising, completing, correcting, associating, problem-solving, placing in context, etc. For Arnheim, visual perception is a type of visual thinking.

Thus, the recipient of a message sees the contents of the field of vision and remembers them by actively creating an ordered whole (figure and ground). The simpler, more expressive, and more dynamic the figure (which is the main object in this field), the more conspicuously it stands out from the ground. It dominates when it is, for example, in motion relative to other more static elements in the field of vision, or when it is autonomous, i.e., when it does not merge with the other elements of the background, e.g., through a distinctive contour or a contrasting colour. A figure can be distinguished by its colour, brightness, size, and movement, which make it the main object on which the spectator focuses his gaze. Arnheim treated seeing as a creative activity of the human mind rather than a passive registration of visual impressions (stimuli). He emphasised that every visual experience is embedded in a specific spatio-temporal context. The appearance of objects is influenced not only by what we see next to them spatially at any given moment (in context) but also by what we have seen before. He advocated the principle that the content of our memory shapes our expectations and current ways of seeing an object. The impact of memory increases if the individual desires to see objects or people with certain properties, and this desire is motivated by a strong need, drive (e.g., hunger), or emotion (e.g., longing for a particular person).

Arnheim's findings are now used in analyses of strategies of both the reception and creation of (audio)visual messages, such as adverts, films, comics, and computer games. Knowing the principles of Gestalt psychology (understood as a theory of perception, not psychotherapy), the author of the message can control the viewers' attention and design messages that are understandable and suggestive. The protagonist in a comic book, film, or online game is created in such a way as to stand out from the background (i.e., other characters and elements that make up the presented world). At the same time, his behaviour and appearance are interpreted by the recipient with reference to the situational

context. Elements that are unstated but required in order to understand the character's motivation and the meaning of elements of the depicted world are actively supplemented by recipients at the conceptual level, based on their prior knowledge and perceptual experience.

The Russian film theorist and director Lev Kuleshov also conducted pioneering studies on the reception of audiovisual messages (using film and editing as an example). In the 1920s, he conducted an experiment (whose results are known as the Kuleshov effect), in which he proved the sense-making significance of film editing. In this experiment, he juxtaposed a shot of the expressionless face of a Russian actor, Ivan Mozzhukhin, with other shots. Depending on those other shots, viewers attributed a different emotion to the actor's face: (1) a plate of soup (viewers got the impression that the actor was looking at the soup and his face expressed hunger); (2) a coffin with a woman's body (viewers attributed great sadness to the actor's face); and (3) a girl playing (viewers thought that Mozzhukhin's face expressed cheerfulness and tenderness). Through this experiment, Kuleshov deduced that viewers give meaning to film shots not in isolation but in combination with the shots preceding and following them, and that the person who edits a film can shape its meaning independently of the content of each individual shot. Thus, the Kuleshov effect points to the cognitive activity of the viewer, who creates in his mind an overall sense of the message that exceeds the information contained in individual shots, scenes, or film frames.

Sergei Eisenstein, another Russian director, film, and theatre theorist, was an inspiring researcher of the impact of film editing on a viewer's cognitive activity and emotional reactions. In his theoretical and creative work, he combined theatrical and film experience (on the impact of the message on viewers). He used his outstanding formal solutions in making feature and propaganda films. He believed that montage was the most important means of expression linked to audience reaction. In this context, he created the rules of 'emotional montage' and introduced the terms 'montage of attractions' and 'intellectual montage'. A montage of attractions is based on combining shots with a very strong emotional charge or pronounced aesthetic meaning, which creates juxtapositions that evoke strong emotional responses in viewers. Eisenstein developed his 'montage of attractions' theory in 1922 and applied it in his 1924 film *Strike* (e.g., the juxtaposition of shots from the slaughterhouse

with shots that depicted the massacre of workers) and partially in his 1925 film *Battleship Potemkin*. Using this technique, it is possible to exert sensory or psychological impact on viewers in an intentional and predictable manner and to provoke certain reactions. In his concept of intellectual montage, he drew on his experiences with reading hieroglyphs. He postulated that frames (which he called cells) needed to be juxtaposed so that they were arranged in rows which expressed human thoughts (by analogy with the creation of meaning through hieroglyphs). Accordingly, when this principle is applied in practice, an image of water and an image of an eye means crying; an image of an ear next to an image of a door means listening; a dog plus a mouth means barking; a mouth plus a child means shouting; a mouth plus a bird means singing; and a knife and a heart means sadness. Through the application of the rules of intellectual montage, Eisenstein transformed scenes that were descriptive, informative, unambiguous, and content-neutral into more complex and sophisticated wholes. In this process, he motivated the viewer not only to look 'passively' but also to see visually, which engages active interpretation and other capacities of the human mind. In his work as a director, he also used cue phrases and symbolic allusions, which activated in viewers the processes of making holistic sense of the presented narrative and motivated them to 'go beyond' literal meanings. He applied the principles of intellectual montage in practice to two of his films: *October* (1928) and *The General Line* (1929).

Nowadays, Kuleshov's and Eisenstein's findings on influencing viewers through editing are widely used by creators of visual and audiovisual messages and even immersive media. Knowledge of these rules enables creators to effectively influence the attitude and behaviour of their audiences by deliberately directing their processes of interpretation and, consequently, evoking specific emotional responses. Editing applies to the image itself, to sound (in music or radio broadcasts), and also to both image and sound together. Specific sounds can exert an impact on viewers' emotional and cognitive reactions; for example, the 'canned laughter' in sitcoms indicates for viewers those places in the structure of the message that are funny, and in horror films those that are scary. Sound accentuates the significance of particular scenes and foretells how a story will develop, which suggests to viewers the receptive reactions intended by the sender.

The findings of Russian cinema theorists and directors correspond with the main thesis of the constructivist concept of learning, which was developed in the second half of the 20th century by the American psychologist Jeremy Bruner. He was primarily interested in cognitive processes and education, and in his book *Beyond the Information Given: Studies in the Psychology of Knowing* (1973), he argued that people are active recipients of information, which they select, interpret and modify, 'going beyond the information given'. At present, his studies are continued by the Polish cognitive and experimental psychologist Piotr Francuz, who focuses on the reception of audiovisual messages (e.g., television and film) and images (e.g., paintings).

The origins of media psychology are also linked to the development of psychoanalysis, which played a significant role in the creation of the first cathartic theories that attempted to explain the impact of (initially) theatre and drama on the viewer's psyche. *Catharsis* (a Greek word that means 'purification' or 'cleansing') means a release from suffering, the unwinding of blocked tensions, repressed emotions, restrained thoughts, and imaginings. Originally, *catharsis* was experienced by actors and spectators at the end of a theatrical performance (Aristotle). In psychoanalysis, it is assumed that the elements that *catharsis* cleanses (i.e., complexes) were previously subject to the control of the defence mechanisms of the personality, the ego (self), or social control (also in the form of the superego). Cleansing, i.e., the liberation of the psyche from these elements, occurs as a result of the viewer's emotional involvement in the reception of a work of art.

The year 1895, in which the Lumière brothers invented the film projector, was also an important year in the development of psychoanalysis: in this year, Sigmund Freud and Josef Breuer published a book entitled *Studies in Hysteria*, in which they described five female patients, including the famous Anna O., whose therapy largely determined the shape of psychoanalysis as a therapeutic method. It also indirectly inspired the creators of the feature film *A Dangerous Method* (2011), directed by David Cronenberg.

Nowadays, the use of different types of media in psychoanalytic, psychodynamic, and existential therapies (e.g., phototherapy, bibliotherapy, cinema therapy, and film therapy) is gaining in importance.

Other ways in which psychoanalysis has contributed to media studies are linked with the latter's incorporation of concepts such as voyeurism,

exhibitionism, and scopophilia. As a result of this interdisciplinary ‘transfer’, these terms have lost their status of paraphilias, i.e., psychosexual deviations, described, among others, by Freud himself in the early 20th century. Instead, they have gained the epithet of being ‘media’. In media studies, film studies, media cultural studies, and media sociology, the terms ‘media voyeurism’, ‘media exhibitionism’, and ‘film scopophilia’ have become commonplace. Media voyeurism denotes a mechanism of surveillance and a set of cultural practices for making certain individuals’ privacy and intimacy public in the media – with or without their consent and knowledge – with the intention of generating interest from viewers. Media exhibitionism means using the media to display one’s privacy (real or faked) out of a desire to satisfy economic, social, and/or psychological needs. Film scopophilia is the psychological or aesthetic pleasure derived from looking at an object or person in a film.

The idea of combining looking with surveillance, power, and control found expression in the metaphor of the panopticon which was introduced by Jeremy Bentham and later popularised in the social sciences, mainly in media sociology and social philosophy, by Michel Foucault and Zygmunt Bauman. It has featured in several films and literary works, including Peter Weir’s *The Truman Show* (1998) and Shawn Levy’s *Free Guy* (2021) as well as George Orwell’s *1984* and Dave Eggers’s *The Circle* (2015).

References to Freudian psychoanalysis, especially Lacan’s conceptions, are evident in works written within film studies and cultural studies, e.g., by Christian Metz about cinema and by Slavoj Žižek about pop culture. According to Jean-Louis Baudry, cinema refers to the mirror stage identified by Lacan and replicates the perceptual situation characteristic of children between 6–18 months of age. During this period, in what is called the mirror stage, a child misidentifies his image as equivalent to the self and, on this basis, constructs an overall image of his body. The misidentification with the mirror image gives the individual a sense of separateness from the world and an identity defined by the pronoun ‘I’. According to Baudry, a child – similarly to a cinema-goer – has limited motor skills yet relatively well-developed visual competence. However, for the child, identification with his mirror image is primordial identification, while for the spectator the cinema experience is an opportunity to form secondary identifications based on the matrix formed in the mirror stage.

In film studies, Lacan's theory inspired the formulation of the concept of *suture*. This term refers to the relationship between the spectator and the discourse of the film; it denotes the way in which the spectator is 'sewn into' the discourse through the work of his unconscious. Technically speaking, the shot-versus-shot relationship situates the viewer in relation to the on-screen space (visible in the frame) and off-screen space in such a way that he has a sense of the coherence of the film narrative. The concept of *suture* was developed by Jean-Pierre Oudart and later elaborated on by Daniel Dayan and Stephen Heath in the 1970s. Studies devoted to psychoanalytic film theories have been important for the development of psychoanalytically oriented media psychology and psychological research into the reception of media messages (mainly film). They were also used in researching the use of new media for self-creation (e.g., e-personality and e-identity), media voyeurism, media exhibitionism, and networked narcissism.

The dynamic development of cognitive psychology from the 1960s onwards had an inspiring influence on the development of a cognitive perspective on film studies (1980s) and then on transmedia storytelling. This research field emerged in opposition to psychoanalysis and structural methods, which postulated an implied audience (e.g., a spectator), i.e., an audience inscribed into the message by the sender. The essence of the new approach was the study of a real spectator, who – through his cognitive activity – understands, interprets, and analyses the message (e.g., David Bordwell, Edward Branigan, Janet Staiger, and Kristin Thompson). Studies on the relationship between film and the workings of the viewer's mind were inspired by Rudolf Arnheim's idea of visual thinking, while studies dedicated to the viewer's emotional activity in the cognitive process (e.g., Murray Smith's theory) were initiated in response to criticism of the 'rationally' oriented strand of cognitive film studies. This led to second-generation cognitive studies, which emphasised the corporeal aspect of cognition and the relationship of the bodily subject to the environment. These were inspired by, among others, the cognitive linguistics of George Lakoff and Mark Johnson, whose work on conceptual metaphors represented a symbolic moment of transition from the computational (connectionist) paradigm to the embodied paradigm. The dynamic development of the latter in the 1990s also drew on the phenomenology of Edmund Husserl and Maurice Merleau-Ponty

(the role of corporeality in cognition). In the second half of the 1990s, these studies led to the rapid development of research into the neurobiological and neuropsychological connections between the spectator and the characters and events portrayed in the media, including the biochemical processes which occur in the brain and the study of neurocognitive activity while watching (Francuz, 2013).

Media psychology as a subdiscipline of psychology started in 1986 with the establishment of Division 46 of the American Psychological Association. Initially, it was dominated by clinical psychologists, but representatives of social psychology and psycholinguistics also gradually came to the fore. They conducted studies and analyses devoted to the use of media as channels for the distribution of psychological knowledge, including information about mental disorders and illnesses, the role of the psychologist as an expert or host in media programmes, the preparation of psychologists for appearances in the media, and the impact of media on users. In 2012, this division was transformed into the Society for Media and Psychology and Technology, which also initiated research into the impact of new media on the individual.

Discussion of the term

Today, the key research problems related to media psychology include:

- the impact of audiovisual media on the user, including iconic and media violence and pathological and risky forms of media use;
- the impact of social media on the individual and online communities;
- psychological determinants of online aggression and cybercrime;
- forms of engaging audiences in messages;
- textual mechanisms, technological determinants, and social behaviours of media users online and offline;
- the use of media in education and psychotherapy, including photography, film, and interactive media, immersive media, tactile media, and online games;
- online psychological counselling;
- psychological aspects of digital identity and personality, etc.

In the contemporary humanities, these issues are addressed in studies undertaken within media sociology, network ethnography, media

linguistics, cyber-cultural studies, media cultural studies, pedagogy, including media pedagogy, social informatics, info-aesthetics, new media art, etc. The research topics that these disciplines share with media psychology include narrative, identity, memory, and language. The findings of studies conducted in media psychology are applied to:

- solutions implemented in the area of user experience;
- the design of media products (e.g., TV programmes, educational games, immersive environments and communication technologies for therapy and training in psychological and non-psychological areas);
- designing robots for educational, therapeutic, and caring purposes;
- creation and implementation of projects for the prevention and treatment of pathological forms of media use and online risky behaviours;
- remote and hybrid education using new media and VR, AR, and MR technologies;
- artistic activities using interactive, networked, immersive, digital, hypertextual, and virtual media.

Issues of interest to media psychologists change in response to dynamic changes in the research scope within this discipline, which include:

- the shift from a mass media paradigm to a digital media paradigm and convergence culture;
- the progressive mediatisation of reality, the crisis of representation, and the primacy of simulacra over simulation (in Jean Baudrillard's typology);
- the corruption of the infosphere and the mediasphere due to the development of hybrid genres, the post-truth sphere, disinformation techniques, and the tabloidisation of the media;
- the development of attention capitalism, affective capitalism, and surveillance capitalism;
- the dynamic development of social media and immersive environments;
- the cyborgisation of humans and the development of technocorporeal hybrids.

These innovations have led to the emergence of new research areas related to the relationship between media and their users in terms of their impact (short- and long-term) on emotions and feelings, the cognitive

sphere, the behavioural sphere, and the neuropsychological sphere. The processes of human cyborgisation are analysed by psychologists and cyberculturalists using trans- and posthumanist concepts and the idea of the posthuman (Ogonowska, 2018, 2021).

Systematic reflection with conclusions and recommendations

Studies conducted with media psychology can be applied to media studies and film studies related to the impact of media on users. This line of interdisciplinary borrowings is particularly relevant in the context of the development of new media and technological environments that intensify the impression of reality and the engagement in network communication and online interactions. The strength, extent, and form of this impact depend not only on users' characteristics but also on the characteristics of the new media, such as interactivity, immersiveness, virtuality, mobility, hypertextuality, and the quality of the digital image. Narrowly specialised studies devoted to specific media and types of messages, e.g., the psychology of advertising (Doliński, 2003), the psychology of the internet (Szmigielska, 2009), the psychology of social media, and the psychology of film, are conducted alongside dynamically developing studies dedicated to specific research problems, e.g., pathological or risky use of media such as online games or social media, psychological aspects of digital crime (cybercrime), or human cyborgisation (Ogonowska, 2014).

Interdisciplinary and transdisciplinary studies on specific issues are also conducted and include research subjects such as technology readiness, online disinhibition, cyberbullying, or hate speech. The results of such studies have practical applications, both in solving specific psychological problems and in the context of implementing them in applied media studies. The aims of applied media studies, which focuses on the design of media solutions and activities in media education and obtaining digital competence, include informed, critical media use, effective dealing with disinformation and media manipulation, and the prevention of the aforementioned problematic and risky behaviours. Nowadays, the findings of media psychology are also used to analyse the psychological

factors that affect technology readiness, psychological and environmental determinants of technophobic behaviours, and the strategies of specific, concrete groups of users when using media of a specific type. Analyses of the influence of media representations on the cognitive representations of recipients and message creators – and ultimately on the sphere of their social attitudes and behaviours – also play an important role. In this context, studies and analyses concerning iconic violence, i.e., the unconscious, hidden impact exerted by messages (mainly in political and consumer areas) on different age groups are valuable (Ogonowska, 2004). With reference to the relationship between man and technology, increasingly sophisticated studies are conducted on psychological communications with bots and humanoid robots (used for educational, therapeutic and caring purposes) and hybrid systems based on artificial intelligence. Based on their studies, researchers coin new creative metaphors that succinctly describe contemporary society, such as post-biological society, screen society, or surveillance society. In the contemporary humanities, these metaphors are used in conceptual models, which are often the starting point for further in-depth theoretical studies conducted within both basic research and empirical research.

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