



Institute for Photopsychology

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2023 Research Project 2: Summary

Artificial Intelligence and Photography:

A Psychological Analysis

Notes

- The full report can be found here: <https://foto-psychologie.de/publikation/>. Citations should be taken only from the full report.
- This brief form presents results selectively. Methodology and limitations are detailed in the full report.
- Legend: * = significant; P = Professionals, A = Amateurs; GM = male, GF= female; Bold: medium or large effect; Value 5 = high level/agreement, Value 1 = low level/disagreement
- Reading Example P+/A*: Professionals have a significantly higher mean than amateurs. Small effect.

Sample

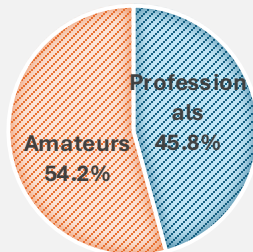
N = 131

○ N = 60 Professionals

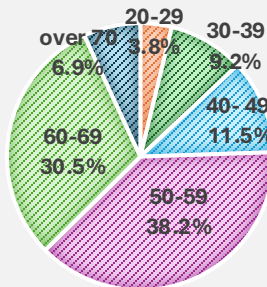
○ N = 71 Amateurs

Conducted in Germany, Austria, Switzerland, 2023

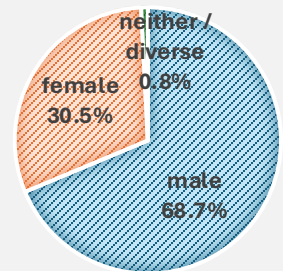
PROFESSIONALS
AMATEURS



AGE

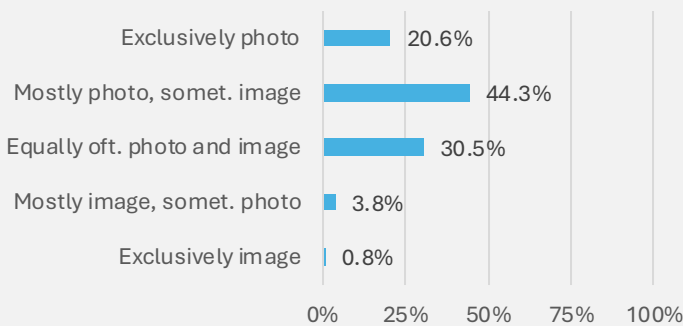


GENDER



Nomenclature of photorealistic AI images

Naming of real photographs



Only 20.6% of professionals and amateurs exclusively use the specific term photo/photography. For the others, it's a mix of photo/photography and image.

Photorealistic AI image no longer a photo afterwards

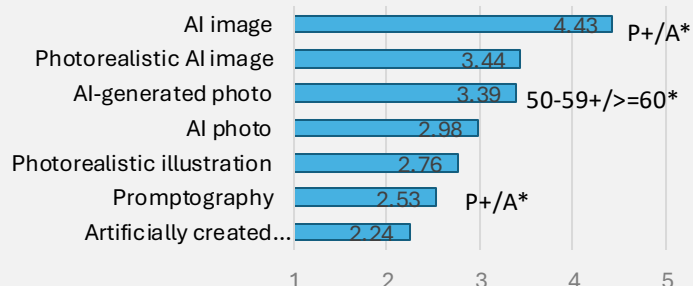


"Imagine a photo in an exhibition or magazine turns out to be AI-generated after a few weeks." For 61.4%, it would clearly no longer be considered a photo, and for 21.4%, it would rather not be considered a photo anymore.

The scale "**Distinction between Photorealistic AI Images**," consisting of four items, expresses the desire for clear linguistic differentiation and distinction between authentic photographs and AI-generated images that resemble real photographs. The mean is 4.29, indicating a strong preference for this differentiation.

There is a pronounced general feeling of mistrust toward photorealistic AI images. Two-thirds of respondents rather or fully agree with the corresponding statement (M = 3.79). The higher the level of mistrust, the more people desire a linguistic distinction between real photographs and photorealistic AI images ($r = 0.42^*$, moderate effect).

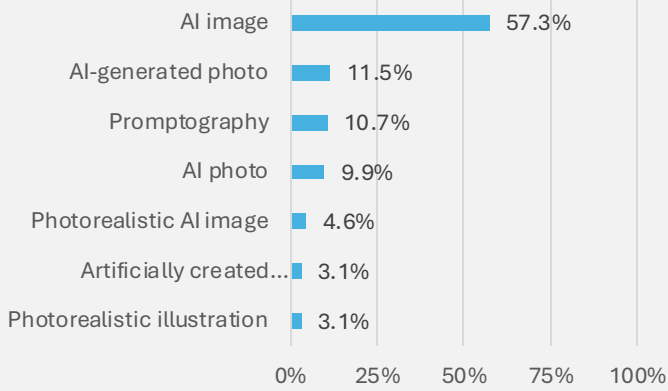
Terms for photorealistic AI images



For AI-generated images that resemble real photos, the term "AI image" is considered the most suitable, followed by "photorealistic AI image" and "AI-generated photo."

Nomenclature of Photorealistic AI Images

Preferred term for everyday use



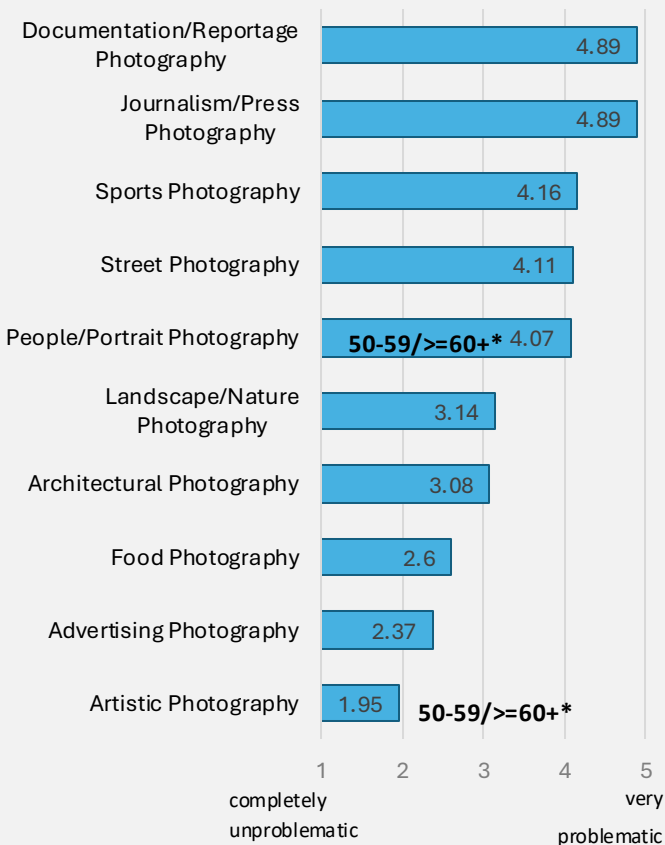
The clear majority would use the term "AI image" in everyday language, with "AI-generated photo," "promptography," and "AI photo" trailing far behind.

	Amateurs	Professionals
AI image	54,9%	60,0%
AI generated photo	15,5%	6,7%
Promptography	7,0%	15,0%
AI photo	11,3%	8,3%
Fotorealistic AI Image	5,6%	3,3%
Artificially created photorealism	2,8%	3,3%
Photorealistic illustration	2,8%	3,3%

The clear preference for the term "AI image" is found among both professionals and amateurs. Among amateurs, "AI-generated photo" ranks second, followed by "AI photo." Among professionals, "promptography" ranks second, followed by "AI photo." Women prefer "promptography" more than men.

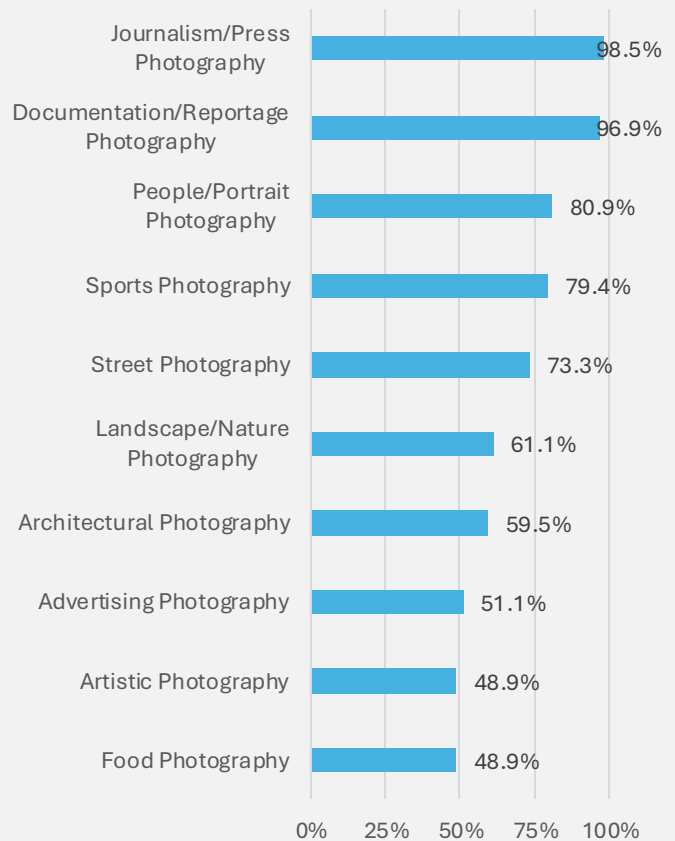
Problematic Areas and Labeling Requirements

Problem of photorealistic AI images in photography genres



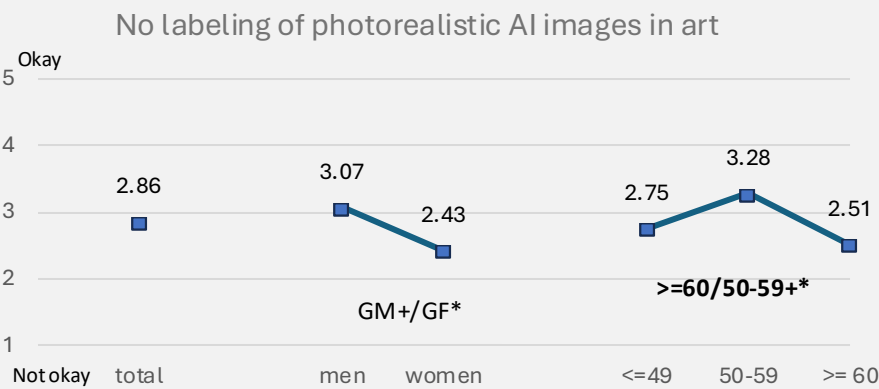
Nearly all professionals and amateurs find photorealistic AI images most problematic in the fields of documentary/reportage photography and journalism/press photography. Sports, street, and people/portrait photography are considered somewhat problematic.

Desire for mandatory labeling of photorealistic AI images



Nearly all professionals and amateurs want mandatory labeling for photorealistic AI images in the fields of documentary/reportage photography and journalism/press photography. Still, 50% also desire such labeling in advertising, food, and artistic photography.

No labeling of photorealistic AI images in art



The idea that it is acceptable in art not to label photorealistic AI images as such is viewed very differently. 39.7% somewhat or fully agree, while 45.8% somewhat or completely disagree, with women being the least likely to agree.

Many people find it important to know whether an artistic image that looks like a real photograph is AI-generated or not. 44.3% fully agree with this statement, and 23.7% somewhat agree. On the other hand, 14.5% somewhat disagree, and 5.3% completely disagree. The mean score is 3.87.

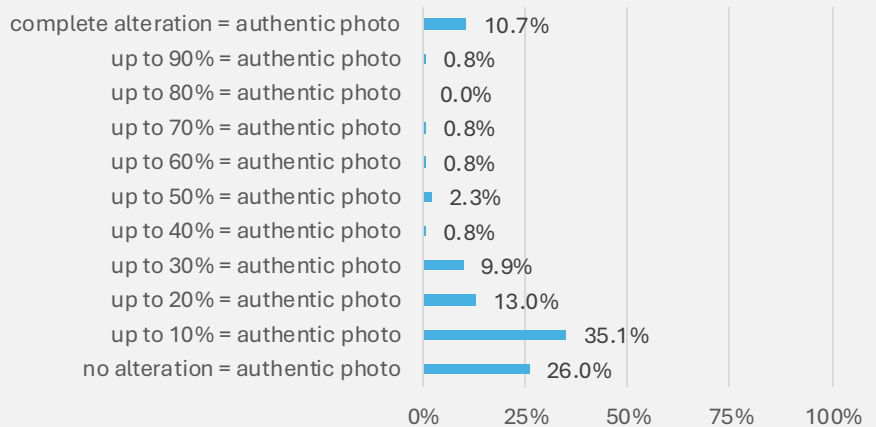
Both statements are correlated. The more important it is for someone to know whether a photo is AI-generated, the less they agree that it's acceptable in art not to label photorealistic AI images ($r = -0.42^*$, moderate effect).

Manipulation/alteration of authentic photos

Only 13% of professionals and amateurs never alter image content using photo editing software. 38.9% do this rarely, 28.2% occasionally, and 19.8% frequently or very frequently.

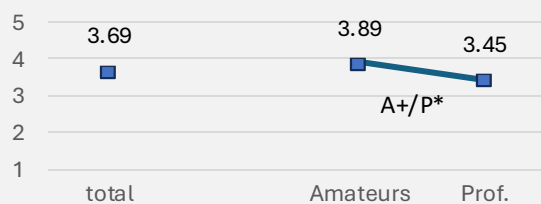
Correcting red-eye in flash photography does not compromise the authenticity of a photo for the vast majority. 73.3% fully agree with this statement, and 19.8% somewhat agree. The mean score is 4.59.

Impact of image editing on the authenticity of a photograph



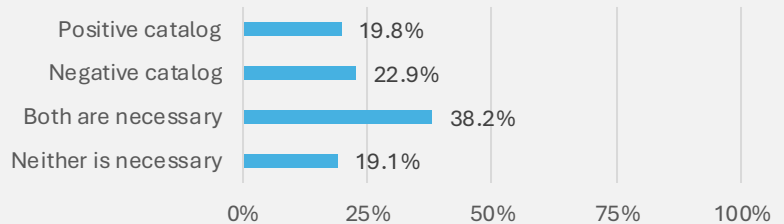
For 26%, any alteration of a photo using editing software results in the photo no longer being real or authentic. For 35.1%, up to 10% of the photo can be altered while maintaining its authenticity. For 10.7%, even a fully altered photo is still considered a real and authentic photo.

Authentic photo if the central message of the image is preserved despite editing



The statement "As long as the central message of the image is preserved, it's still a real photo to me, even if parts of the photo have been altered using AI image editing software" is fully agreed with by 22.9% and somewhat agreed with by 50.4%.

Regulation of authentic photos



A clear majority supports the idea of a positive list outlining which modifications do not compromise the authenticity of a photo (e.g., adjusting color contrast, red-eye correction), or a negative list specifying which modifications make a photo no longer authentic (e.g., fundamentally changing colors, adding or removing parts of the image), or both.

Summary

This study explores aspects of perception and evaluation of Artificial Intelligence in the field of photography, specifically focusing on how real photographs can be distinguished from manipulated photos and generated photorealistic AI images, as well as how these images are assessed. Currently, there are no empirical findings on this topic.

The exploratory study was conducted in the German-speaking region and considered both professional and amateur photographers.

The results indicate a widespread desire for clear linguistic differentiation between authentic photographs and photorealistic images generated with the help of AI image generators. The term "AI image" is clearly preferred for naming such images.

Generated photorealistic AI images are perceived as particularly problematic in the field of documentary/reportage photography and journalism/press photography. Accordingly, there is a high demand for an obligation to label such images accordingly. Such labeling requirements are desired even in photography areas considered unproblematic, highlighting the high sensitivity to this issue and the desire for transparency and authenticity in photography.

In the realm of artistic photography, while a majority opposes mandatory labeling, it is evident that a majority still wants to know whether an artistic photorealistic image is a real photograph or not.

A large majority of surveyed professionals and amateurs edit photos using image editing software. There are varying opinions on how this affects the authenticity and genuineness of a photo. A majority seeks guidance in the form of a positive and/or negative catalog, listing what forms of photo editing are allowed and what are not. This clear desire for rules indicates a high level of uncertainty regarding photo editing in the context of authenticity and genuineness.

Advancements in Artificial Intelligence will continue, and it is expected that attitudes and behaviors in this context will evolve. Therefore, continuous research is necessary to capture these developments over time. The present results serve as a starting point for this exploration.