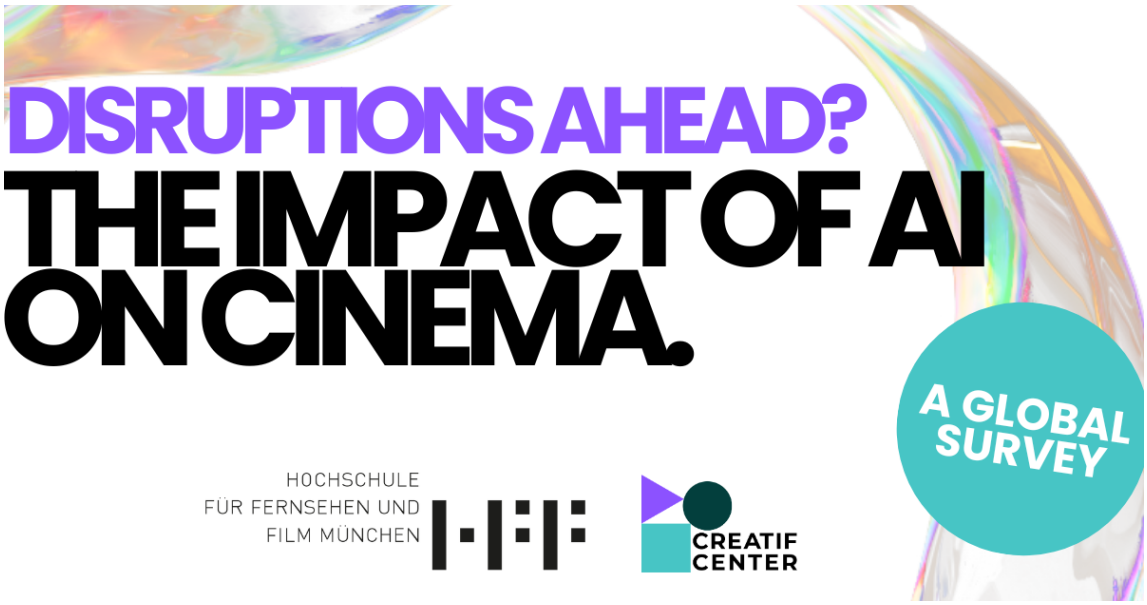
DISRUPTIONS AHEAD?
THE IMPACT OF AI ON CINEMA.



HOCHSCHULE FÜR FERNSEHEN UND FILM MÜNCHEN

CREATIF CENTER

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INHALTSVERZEICHNIS

SURVEY ON AI IN CINEMA

1. DISCLAIMER

This survey was initiated by Peter C. Slansky, Jean-Paul Jarry and Petru Maier in 2023. It was designed in autumn 2024 with Sylvia Rothe joining the team. The survey opened for participation on the Congress of the World Association of Film Schools CILECT in November 2024 in Beijing. For the analysis and writing of this report, the team of authors was joined by Simon von der Au. This report was finished under the aegis of the CreatiF Centre of the University of Television and Film Munich (HFF) in March 2026.
Artificial Intelligence has been developing rapidly during this time span. Although the authors are convinced that most of the survey's results are still valid, they have to be seen in this temporal context.
All the analysis and the report itself were produced without the use of AI, except for translations.

2. ABOUT THE AUTHORS AND THE CREATIF CENTER

Peter C. Slansky was executive professor for film and television technology at the HFF Munich from 1999 to 2025. Together with the chairman of the technology department Siegfried Foessel he founded the AI research professorship and the CreatiF Centre at the HFF.

Jean-Paul Jarry is a cinematographer from France. He also works as a cinematography teacher since 1995.

Petru Maier is a cinematographer from Denmark. He also worked as a cinematography teacher from 1994 to 2023.

Peter C. Slansky, Jean-Paul Jarry and Petru Maier cooperate in cinematography education since 2012.

Sylvia Rothe is research professor for AI in media production at the HFF since 2022. She has studied mathematics and obtained her PhD in cinematic virtual production.

Simon von der Au is the general manager of the CreatiF Centre since 2023. He is also project manager of the Creative Innovation Lab, as one of three sub-projects inside the CreatiF Centre.

The CreatiF Centre at the HFF Munich develops and researches innovations for film and television production. It serves as a hub for transfer between art, science and technology. The Creative Innovation Lab is a real-world laboratory inside the CreatiF Centre that evaluates new technological processes and tests them on film productions.

3. SURVEY DESIGN

The survey was realized in English language only. It was completely anonymous.

It is important to note that the entire survey is based exclusively on self-reported data that the authors of the survey were neither able nor intending to validate. Therefore, all results are strongly influenced by the 'technological self-confidence' of each individual participant.

The survey consisted of a total of 50 questions, including sub-questions. All questions of the original questionnaire are listed in Appendix A. The first five questions covered personal data: age, gender, country, status and professional field. The next eight questions were about the personal experience with AI tools in general as well as specific fields of use. 11 questions were about the expectations about the future development of AI and the consequences in different fields of use. One question was specific for professionals, teachers or students about the expected impact of AI to their respective status. One group of questions covered the expected benefit or backdraft of AI onto 14 different professional fields. Five questions covered the ethical dimension of the use of AI in cinema. Five questions asked which kind of support the participants would find helpful. The last question

was how much the participants wanted to incorporate AI tools in his/her future projects.

At last, the participants had the opportunity to give a free text comment. This comment could be kept anonymous or be personally authorized. Appendix B contains a selection of anonymous comments. Appendix C refers all comments that were authorized personally.

For the most questions a five-step scale from 1 to 5 was used. Intermediate values could not be selected. According to the type of question, the scales were different.

Question/Scale	1	2	3	4	5
Do you have…?	no experience	first steps experience	medium experience	advanced experience	professional experience
Do you agree on…?	strongly disagree	disagree	neutral	agree	Strongly agree
How will AI…?	harm a lot	harm	neutral	benefit	benefit a lot
Will you incorporate…?	definitively not	probably not	not sure	probably	definitively

Table 1: Five-steps-scale for different types of questions.

In the evaluation, the arithmetic mean and the standard deviation were calculated in each case, whereby the latter was only stated in a few cases.

4. PARTICIPATION

After a comprehensive check for plausibility and consistency, the data of **240 participants** from the film sector remained in the data set. Instead, some questions were not answered by every participant.

The participants came from **37 nations** worldwide. **40 %** of the participants came from Germany. The exact distribution is explained in Chapter 8.

52 % of the participants stated their **gender** as male, **41.7 %** as female and **3 %** as diverse. **3.3 %** did not state their gender.

The **age** of the participants ranged from **18** to **78**. The exact age distribution is explained in Chapter 6.

55 % of the participants characterized their **status** as film professionals, **22 %** as film teachers and **23 %** as film students.

The distribution of the participants over the various **professional fields** is explained in Chapter 9.

5. SHORTLIST OF OUTSTANDING RESULTS

Before going into details according to all criteria investigated, nine outstanding results shall be pointed out:

1. In general, all the participants feel very poorly prepared for working with AI tools. The average experience of all participants in all kinds of AI tools was **1.84** on the scale of 1 to 5 which means a little below "first steps" (= 2), instead of "no experience" (= 1). This naturally varies greatly from one participant to another, but the general trend is certainly striking.

2. The vast majority of the participants expect AI to change the professional process of filmmaking. With an average of **4.28**, between "agree" (= 4) and "strongly agree" (= 5), this is the third strongest vote in the entire survey.

3. The overwhelming majority of the participants see serious problems with intellectual property as the greatest challenge posed by AI. Question 43: "AI-based film creation will cause issues with intellectual property" resulted in an average of **4.57** on the scale of 1 to 5. This can be interpreted as more than half way between "probably" (= 4) and "definitively" (= 5). No participant thought that this would "definitively not" be the case (= 1). No other question in the whole survey achieved this level of overall agreement.

4. The overwhelming majority of the participants fears new ethical problems by AI. Question 39: "AI-based film creation will create new ethical problems within filmmaking" resulted in an average of **4.48**. This means half way between "probably" (= 4) and "definitively" (= 5). This is the second highest degree of agreement in the survey.

5. Film students take a much more critical and negative view of the use of AI than film professionals or film teachers. For example, the students answered question 50 "Are you willing to incorporate AI tools in your future project?" with an average of **2.77**, which means something between "probably not" (= 2) and "not sure" (= 3). Film professionals voted with **3.92** (nearly "probably"), while film teachers were even more enthusiastic with a vote of **4.00** (= "probably").

6. There are significant differences between the genders. The experience with AI tools for text generation is the same for male and female participants – 2.90 to 2.90 (a little below "medium") – as well as for film montage – 1.34 to 1.33 (very little experience). But female participants state that they have significantly less experience in all other AI tools, namely for still image creation, video creation, sound creation and music creation. The differences to male participants are between **-0.23** and **-0.44**. The highest difference in the experience between female and male participants is in the crucial topic of AI tools for **video generation**: **1.45** (female) to **1.89** (male). Consequently, female participants welcome all kinds of support measures by approx. 0.2 points more than male participants. Compared to the male participants, female participants are almost as willing to use AI in the future.

7. Unfortunately, the survey is strongly biased in nationality. Germany is overrepresented, the USA and China for example are strongly

underrepresented. As a consequence, specifications according to nationality are limited. Instead: The participants from Germany – who make up 40 % of all participants – rate their levels of experience in AI tools for film creation generally slightly lower than participants of other nationalities: **1.80** against **1.87**. Interestingly there are no significant differences about the estimated amount of problems created by the use of AI tools in film creation. On the other side, German participants are more enthusiastic to incorporate AI tools in their future projects: In question 50 they voted for **3.98** by average, which is close to "probably", while the participants of other nationalities voted with **3.49**, which is half way to "not sure".

8. There are significant differences between participants from different professional fields in film business. This concerns both their personal experience with AI tools as well as potential concerns about the use of AI tools and their willingness to use these tools in their future projects. The field with the lowest experience in AI tools is the film actors with an overall experience in AI tools of **1.61**. It comes as no surprise that the field with the highest experience in AI tools is film technology. But even their average experience in AI tools of all kind is only **2.34**, a little better than "first experiences". Interestingly documentary directors have slightly more experience in AI tools than directors of fiction and commercials: **1.93** against **1.79**. The willingness to incorporate AI tools in their future projects is quite high in general. Only the actors are reluctant with **2.57**. All other professional fields are willing to use AI tools "more than probably": **3.45** (VFX) to **4.04** (production).

9. The majority of all participants stated that "access to AI software and tools" would help them most in feeling more comfortable using AI tools in their professional field. This was expressed by the average vote of **3.98** (4 = "helpful"). Other steps such as "trainings and workshops" and "technical support" (both **3.88**) as well as "collaboration with AI experts" (**3.82**) and "case studies" (**3.71**) followed. This might be noted by all institutions in film education and film training.

6. GENERAL RESULTS

6.1 EXPERIENCE WITH AI TOOLS

In general, all the participants feel very poorly prepared for working with AI tools. The average experience of all participants in all kinds of AI tools was **1.84** which means a little below "first steps". This naturally varies greatly from one participant to another, but the general trend is certainly striking.

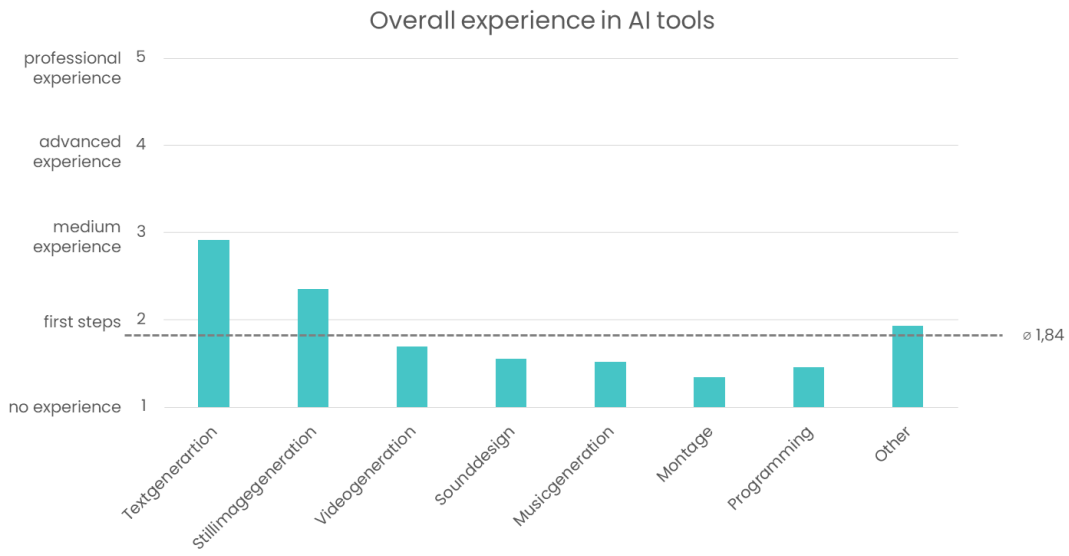

Figure 1: Overall experience of all participants in different AI tools (questions 6 to 13). The average level of experience with AI tools among all participants is 1.84, a little below "first steps". This naturally varies greatly from one participant to another, but the general trend is certainly striking.

It comes as no surprise that the highest degree in experience is with AI tools for text generation. But this experience is rated by average with just 2.91, a little below "medium". The experience with AI tools for still image creation is the second highest with 2.35, a bit more than "first steps". All other AI tools are rate below 2, so, their average experience is between "no experience" (= 1) and "first steps" (=2) in the sequence: other AI tools (1.93), video creation (1.69), sound creation (1.55), music creation (1.52), programming (1.45) and film montage (1.34).

It is quite remarkable that the experience with video creation is ranked significantly higher than with film montage, because editing software integrated AI tools before AI video creation became available. Perhaps many users are unaware of the current technical status of their editing software. Nevertheless, the

experience of the participants is clearly driven by AI text generation. One possible explanation is that film, too, starts with a script.

There are only a very small number of participants who rate themselves as AI tools' professionals: for text generation 11 participants rate themselves "professional" (= 5), in AI tools for still image creation their number is 5 (with only one congruence to the first group), in AI video creation as well as film montage there is just one AI professional.

6.2 ESTIMATED CONSEQUENCES OF AI

The following chart gives the average estimations of the participants about the consequences of AI tools:

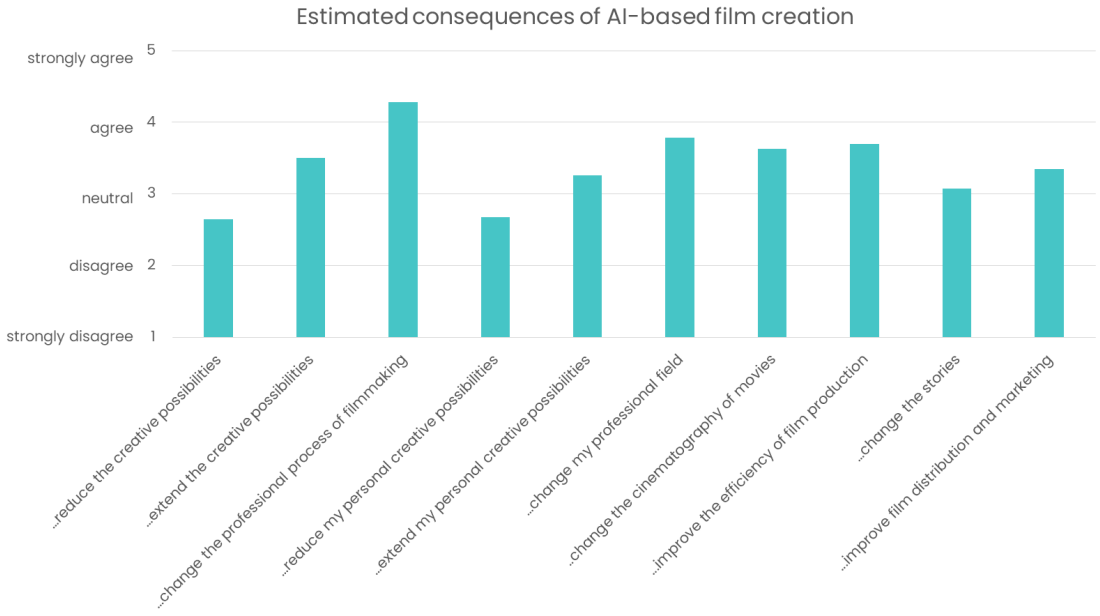

Figure 2: Estimated consequences of AI-based film creation tools (questions 14 to 23)

Here, it has to be taken into account that the variations between the participants were very high, which means a high degree of differences in the opinions and expectations.

The first two questions were asked in reciprocal order. This is largely reflected by the results. The majority assumes (question 15) that AI will expand creative possibilities (regardless of whose possibilities). But the average vote is only half way between "neutral" (=3) and "agree" (= 4). This is nearly mirrored by the results

to question 14 that AI will reduce creative possibilities (regardless of whose possibilities), which is rated 2.64, between "neutral (= 3) and "disagree" (= 2).

Instead, the vast majority of the participants expect AI to change the professional process of filmmaking: 4.28, between "agree" (= 4) and "strongly agree" (= 5). This is the third strongest vote in the entire survey.

The question doublet 14/15 was specified for the specific professional field of the participant in the question doublet 17/18. Interestingly, the answers were even more reluctant than before: The majority assumes (question 18) that AI will expand their own creative possibilities. But the average vote 3.26 is only just above "neutral" (=3). This is nearly mirrored by the results to question 17 that AI will reduce their creative possibilities, which is rated 2.67, a little below "neutral". This can be interpreted as a more pessimistic view of one's personal future compared to the general outlook.

Interestingly, the participants rate the changes in their own professional field caused by AI with just 3.78, a bit lower than "agree" (= 4). This is significantly lower than the estimated general change of filmmaking (question 16), where there was such a high amount of common sense with a vote of 4.28.

The questions to more inherently cinematic consequences of AI (questions 19 to 23) are assessed with less agreement. The strongest agreement is given to "AI will improve the efficiency of film production" with 3.70, which is still between "agree" (= 4) and "neutral" (= 3). "AI will change the cinematography of movies" is agreed with 3.63, "AI will improve film distribution and marketing" is agreed with only 3.35 and "AI will change the stories" is just above "neutral" with only 3.07. Such a low estimation about the influence on cinema is quite remarkable. On the other side, the strong variations between the different votes reflect the general controversy in this complex, too.

6.2 CONSEQUENCES OF AI IN/TO DIFFERENT PROFESSIONAL FIELDS

"How will the different professional fields of filmmaking benefit or be harmed by AI-based film production?" The questions on this topic (questions 19 to 23) cannot, of course, be answered in general terms, but only in a differentiated manner according to the respective professional field. They are therefore addressed in Chapter 11.

6.3 THE ETHICAL DIMENSION

Questions 39 to 43 addressed the possible ethical issues arising with the use of AI in filmmaking. Here, the participants showed a high degree of consensus. The two most unanimous votes were achieved in this section.

First: The overwhelming majority of all participants see serious problems with intellectual property as the greatest challenge posed by AI. They answered question 43: "AI-based film creation will cause issues with intellectual property" with **4.57**. This means more than half way between "probably" (= 4) and "definitively" (= 5). No participant thought that this would "definitively not" be the case (= 1). No other question in the whole survey achieved this level of agreement. There are also only very little differences in terms of age, gender, status or other criteria examined here.

Second: The overwhelming majority of all participants fears the introduction of ethical problems by AI. They answered question 39: "AI-based film creation will create new ethical problems within filmmaking" with **4.48**. This means more than half way between "probably" (= 4) and "definitively" (= 5). This is the second highest degree of agreement of the whole survey. Here, too, are hardly any differences in terms of age, gender, status or other criteria examined in this survey.

Another fear was that "AI-based film creation will introduce new stereotypes into filmmaking" (question 42). This was generally agreed with 3.71 (with 3 = "neutral" and 4 = "agree").

On the other hand, potential hopes for AI were more or less dampened: Question 40 "AI-based film creation will reduce social biases within filmmaking" received an agreement of 2.53, meaning half way from "disagree" (= 2) and "neutral (= 3).

Question 41 "AI-based film creation will help to impose true diversity within filmmaking" received an agreement of only 2.31. However, it must also be noted that there was a high degree of disagreement on these two questions – in stark contrast to questions 39 and 43.

6.4 THE ESTIMATED FUTURE OF AI IN FILMMAKING

Question 44 offered 5 different scenarios to the future development:

"In ten years' time, AI will…

1. …not be in use in filmmaking anymore"
2. …be one technique among many others in filmmaking"
3. …be a tool in some steps of filmmaking but not in all"
4. …be an indispensable und unquestionable tool in every step of filmmaking"
5. …have completely superseded classic filmmaking and cinema".

The five options were formulated in such a way that they constituted a series that was as evenly spaced as possible. For the analysis it is necessary to look at the absolute numbers, not only at the average and the variation. Unfortunately, there were only 216 participants to answer this question (instead of 240 at the beginning of the questionnaire).

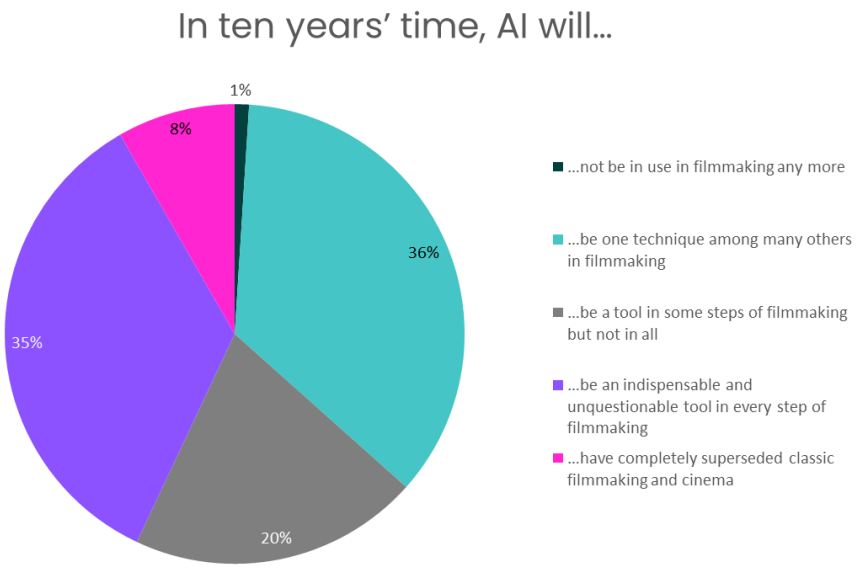

Figure 3: Estimations about the future development of AI tools in the next 10 years (question 44).
Answer 1 was given by only two participants (= 1 %; both of them students)
Answer 2 was given by 77 participants (= 35.6 %)
Answer 3 was given by 44 participants (= 20.4 %)
Answer 4 was given by 75 participants (= 34.7 %)
Answer 5 was given by 18 participants (= 8.3 %).

It is clear to see that the numeric average of 3.14, combined with the standard deviation of 1.34, is not telling the real story. There is a polarization between the participants with by far the most votes to the two "semi-extreme" scenarios. The details of the answers to this question will be examined in more detail in the following chapters.

6.5 HELPFUL SUPPORT

"What kind of support or resources would help you to feel more comfortable using AI-based tools in your professional field?" The term 'in your professional field' was intended to encourage the participants to adopt a more pragmatic approach to questions 44 to 48. The five options offered all received overall agreement a little below "helpful" (= 4; with "neutral" = 3):

45. Trainings and workshops	3.88
46. Access to AI software and tools	3.96
47. Case studies and success stories	3.71
48. Technical support	3.88
49. Collaboration with AI experts	3.82.

Obviously, the main message is that (free?) access to AI software is crucial. This should be noted by all institutions in film education and film training.

6.6 THE INCORPORATION OF AI

The last question (No. 50) was, in a nutshell, the litmus test: "Are you willing to incorporate AI tools in your future projects?"

Again, we look at the numbers instead of average and variation. There were five options:

Vote	Value
"definitively not"	1
"probably not"	2
"not sure"	3
"probably"	4
"definitively yes"	5

Again, some participants were lost in the questionnaire but 215 participants still gave their votes.

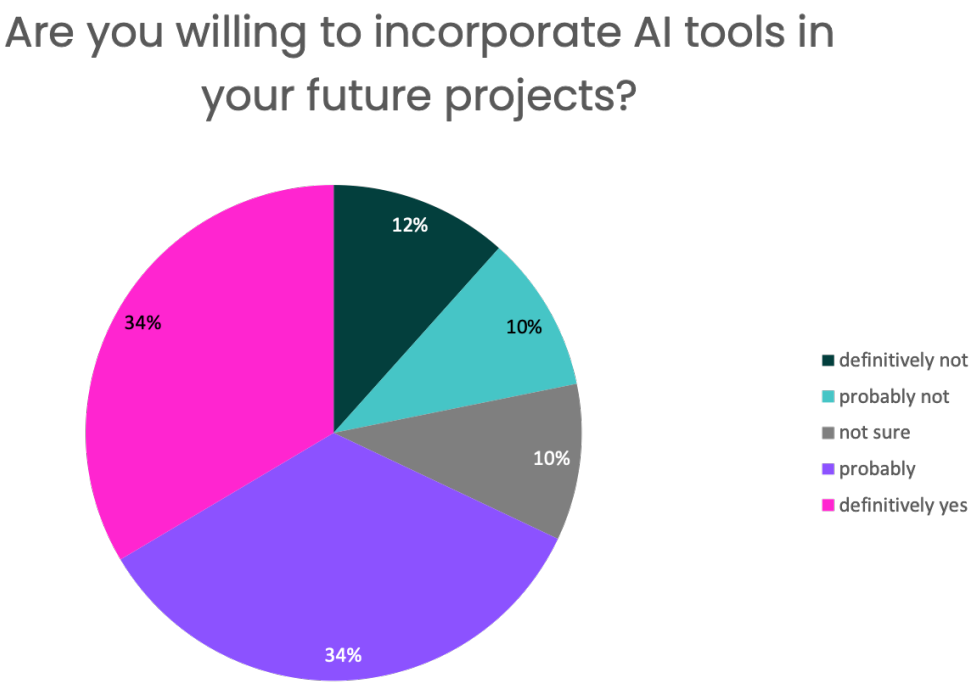

Figure 4: "Are you willing to incorporate AI tools in your future projects?" (question 50)
Answer 1 "definitively not" was given by only 25 participants (= 11.6 %)
Answer 2 "probably not" was given by 22 participants (= 10.2 %)
Answer 3 "not sure" was given by 22 participants (= 10.2 %)
Answer 4 "probably" was given by 74 participants (= 34.4 %)
Answer 5 "definitively yes" was given by 72 participants (= 33.5 %).

As we see, two third of all participants tend to use AI tools in the future, less than a quarter rejects the use of AI in the future and only a tenth is unsure. Again, we see a polarization between the participants which is interesting to look at in more detail in the following chapters.

6.7 FREE TEXT COMMENTS

At the end of the questionnaire the participants had the opportunity to give personal free text comment. This could be done anonymously or personally signed.

113 participants (= 47.1 %) made use of this opportunity, 101 anonymously (= 42.1 %) and 12 personally authorized (= 5 %).

A selection of the anonymous comments can be found in Appendix B. Appendix C refers all personally authorized comments.

7. RESULTS SPECIFIED BY AGE

The distribution of age of the participants is remarkably widespread. Counting by decade, the largest group is the Forties (= 40 to 49 years of age). But as there are only 8 participants under 20 years, they were unified with the group of 20s forming the new group of Under 30s, which now became the largest group. In the same way, the five participants with 70 years and more were unified with the group of 60s to the new group of Over 60s. Two participants did not indicate their age. Their answers were counted as well. Hence, the analysis was carried out on the basis of six age groups.

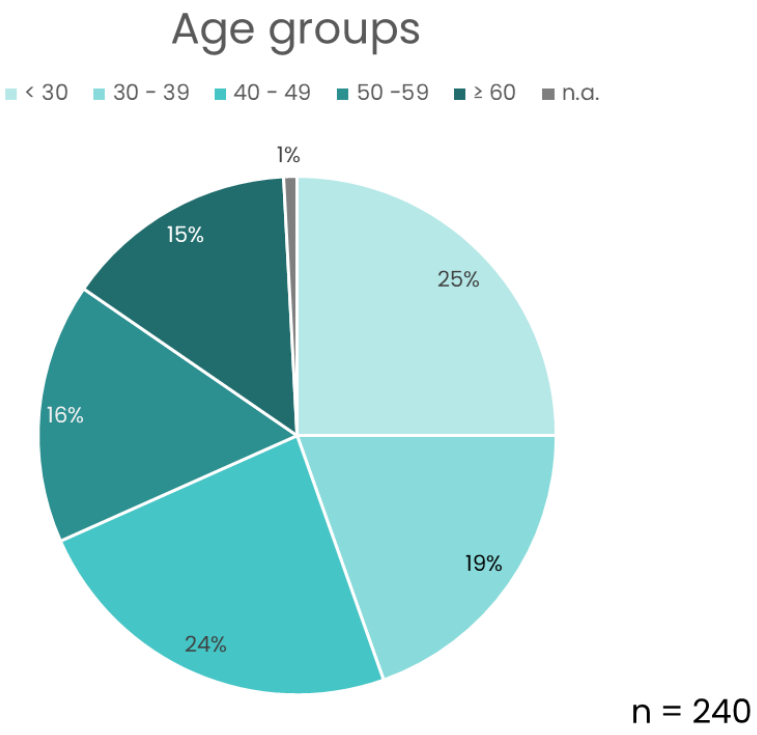

Figure 5: Age distribution of the participants (question 1)

It cannot come as a surprise that the film students are concentrated in the group of Under 30s but there are also a few film students in the group of the 30s. On the other side, the group of Over 60s consists from teachers to a higher extend.

Nevertheless, the age criterion is certainly relevant. In particular, the originally largest group of participants in their forties showed some special characteristics.

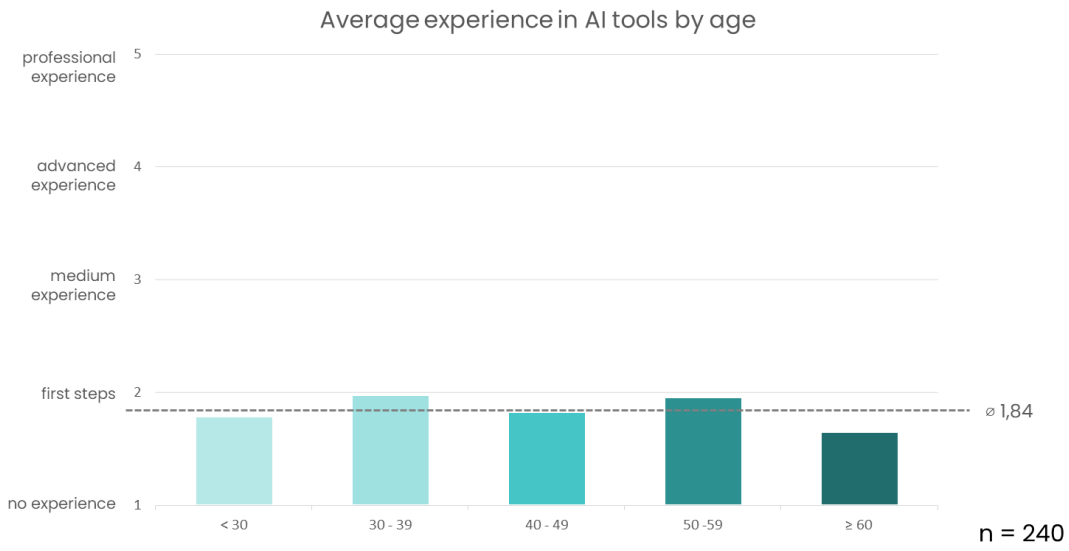

Table 2: Average experience in AI tools by age groups. Overall, the participants rated their experience with AI software as less than “first steps” (= 2) on average.

The experience varies very much according to the topic of the AI tools. The highest experience is with AI tools for text generation (2.91) and still image creation (2.35), the lowest experience is with AI tools for film montage (1.34), programming (1.45) and music generation (1.52). Experience with video generation lies in the middle (1.69). In general, the experience of the participants in the two crucial topics – AI tools for video generation and AI tools for film montage – is something between “no experience” and “first steps”.

But the experience shows significant differences with the age groups. While the Under 20s have higher experience than average in AI tools for text generation (2.91 – nearly “medium”), their experience with AI tools for other purposes goes down rapidly. In AI tools such as video generation, sound generation and film montage they have the lowest experience of all age groups. Instead, they rank their experience in AI tools for programming and other AI tools the highest of all age groups (both still at comparably low level of about “first steps”.) Interestingly, this group is the most reluctant when asked if they want to incorporate AI tools in their future projects: 2.83 means a little less than “not sure”. All other age groups were significantly more enthusiastic with an overall the average of 3.68.

On the other side, the 60+ group shows a very low experience in AI tools such as programming (1.31), film montage (1.37), music generation (1.37), sound generation (1.37) and video generation (1.69). But interestingly, this group can cope with the Under 20s in some topics.

Participants in the groups of 30s and 50s show the overall highest experience. The group of the 40s rate their experience – in all fields – significantly lower. Together with the fact that this is the largest group by decade, this result seems to be quite extraordinary. On the other hand, it is precisely this group of the 40s that is by far the most willing to use AI tools in their next project (4.14 – a little more than "probably").

8. RESULTS SPECIFIED BY GENDER

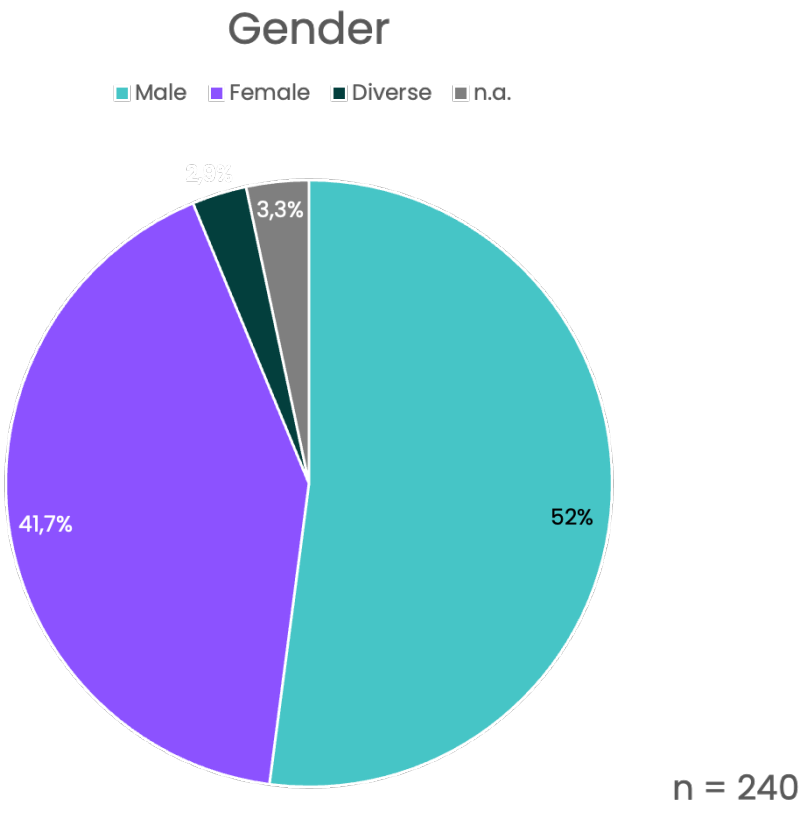

Figure 7: Distribution of the participants by gender (question 2)

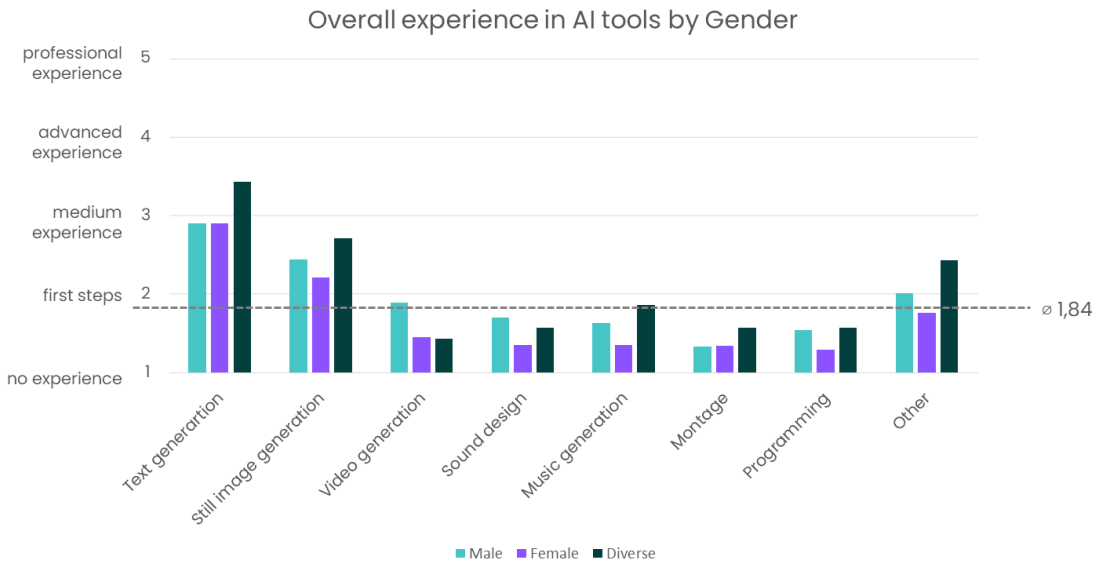

Figure 8: Experience in AI tools by gender

The results show significant differences between the genders.

While the experience with AI tools for text generation is the same for male and female participants – 2.9 to 2.9 (a little below "medium") – as well as for film montage – 1.34 to 1.33 (very little experience) – female participants state that they have significantly less experience in all other AI tools. The differences to male participants are between 0.23 and 0.44. The highest difference in the experience between female and male participants is in the crucial topic of AI tools for video generation. It is also worth noting that in questions 45 - 49, which asked what measures would be helpful to improve the understanding of AI, women responded on their average 0.2 points more positively than men.

Compared to the male participants, the female participants are almost as willing to use AI. However, the individual deviation here is significantly higher than for males.

Again, it is important to note that the survey is based exclusively on unverified self-reported data that the authors were unable to verify. Therefore, the results are strongly influenced by 'technological self-confidence' that might show significant statistical differences between the genders.

The seven participants (= 3 %) who indicate themselves as diverse form a small group on their own. This group is widely spread over the nations. Most of them are students. Their average age is 24.6 years, compared to an overall average of 42.8

years. The group of diverse participants stand out in their AI experience: In the average over all AI tools together they rank themselves 2.43 compared to 2.04 as the overall average. On the other side, they are the most critical about the consequences of AI, such as that AI will create new ethical problems within filmmaking: 4.71 compared to 4.46. Also, they think that AI will introduce more stereotypes into filmmaking: 4.00 compared to 3.67. But they also see AI less critical in imposing true diversity within filmmaking: 2.71 compared to 2.36. Instead, the group of the diverse participants are most reluctant how AI will establish itself in filmmaking in ten years' time: 2.71 compared to 3.13. So, for these reasons we may call them an avant-garde. But the diverse participants are also the most reluctant group to incorporate AI tools in their future projects: only 2.86 – a little below "neutral" – compared to 3.68.

Finally, eight participants (= 3.3 %) did not indicate their gender. Seven of them come from Germany.

9. RESULTS SPECIFIED BY NATIONALITY

The 240 participants overall came from 37 nations:

Nation	Number of participants	Percentage
Germany	95	39.6 %
Turkey	25	10.4 %
France	12	5.0 %
Netherlands	10	4.2 %
Switzerland	9	3.8 %
UK	9	3.8 %
USA	9	3.8 %
Australia	8	3.3 %
Austria	6	2.5 %
Czechia	6	2.5 %
Denmark	6	2.5 %
Colombia	4	1.7 %
Albania	3	1.3 %
Luxembourg	3	1.3 %
Poland	3	1.3 %
Costa Rica	2	0.8 %
Georgia	2	0.8 %
Hungary	2	0.8 %
Iceland	2	0.8 %
Italy	2	0.8 %
Mexico	2	0.8 %
Norway	2	0.8 %

Russia	2	0.8 %
Slovenia	2	0.8 %
Spain	2	0.8 %
Angola	1	0.4 %
Azerbaijan	1	0.4 %
Belgium	1	0.4 %
Bulgaria	1	0.4 %
Canada	1	0.4 %
China	1	0.4 %
Guatemala	1	0.4 %
India	1	0.4 %
Israel	1	0.4 %
Republic of Korea (South Korea)	1	0.4 %
Singapore	1	0.4 %
South Africa	1	0.4 %

Table 3: Distribution of the participants by Nation (question 3)

It is clear to see that, unfortunately, the survey is strongly biased by nationality. On one side, important film nations like the USA or China for example are underrepresented. On the other side, Germany is overrepresented. The same applies to Turkey, albeit on a smaller scale. Most likely, this overrepresentation goes back to communicational coincidences. As a consequence, in this survey there will be only one national comparison: Germany compared to the other nations.

First, it has to be stated that there is a very similar distribution of gender, age and status between participants from Germany and participants from the other nations.

Instead, significant differences occur in the questions about AI experiences as well as in the questions about the impact.

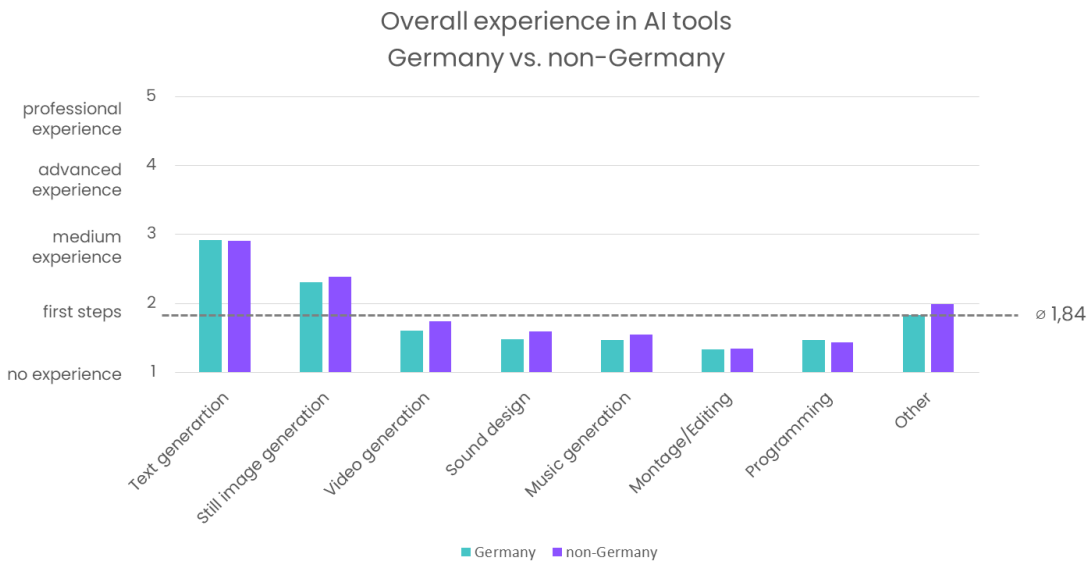

Figure 9: Overall experience in AI tools in international comparison

German participants and participants of other nationalities have more or less the same experience in the use of AI in text generation:

Text generation: 2.92 / 2.91

But German participants have significantly less experience in AI tools of nearly all other disciplines:

Image creation: 2.31 / 2.38

Video creation: 1.60 / 1.74

Sound creation: 1.48 / 1.59

Music creation: 1.47 / 1.55

Montage: 1.33 / 1.35

Other: 1.83 / 1.99

Only in the use of AI tools for programming German participants rank their own experience higher than the participants of other nationalities:

Programming: 1.47 / 1.43

For all questions on the effects of AI to different professional fields - regardless of whether they were assessed positively or negatively - the German participants consistently gave higher scores than the participants from the rest of the world.

Interestingly, they are also clearly more similar in their opinions, as shown by the standard deviation.

This is underlined by the results from question 44 "In ten years' time, AI will…": participants from Germany stated by 3.32 that AI would "…be a tool in some steps of filmmaking but not in all" to "…be an indispensable and unquestionable tool in every step of filmmaking" while participants of other nationalities only concluded on that with 3.02.

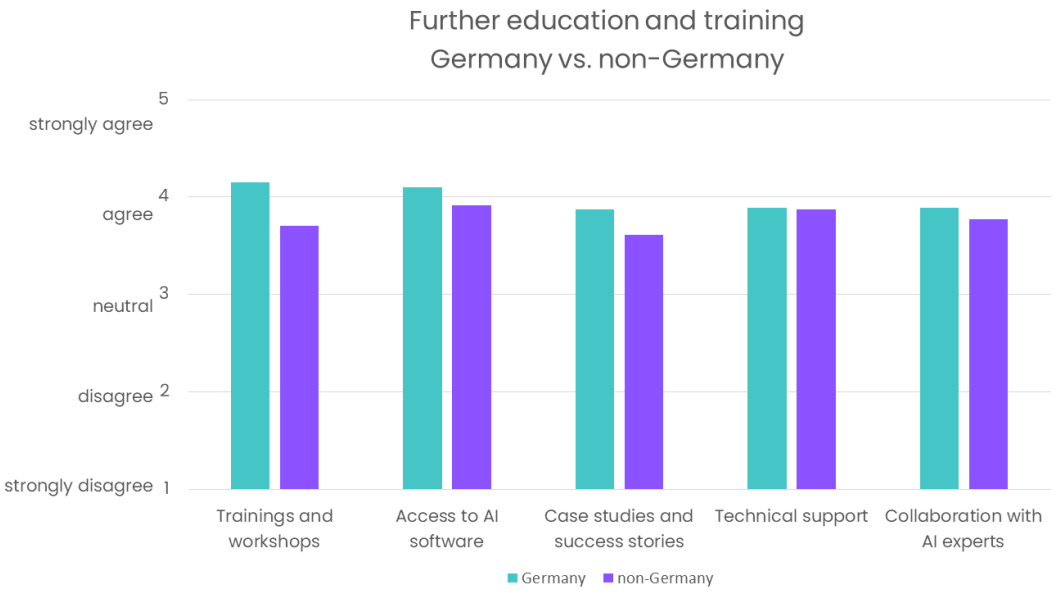

Figure 10: "What kind of support would be helpful?" (question 45 to 49) in international comparison

The German participants are much more in favor of training and other measures for further AI training than the participants of other nationalities.

Despite their previously identified lower level of expertise (or perhaps because of it?), the German participants stated that they most likely want to use AI software in their next projects, giving 0.49 points more than participants of other nationalities:

"Are you willing to incorporate AI tools in your future projects?": 3.98 / 3.49.

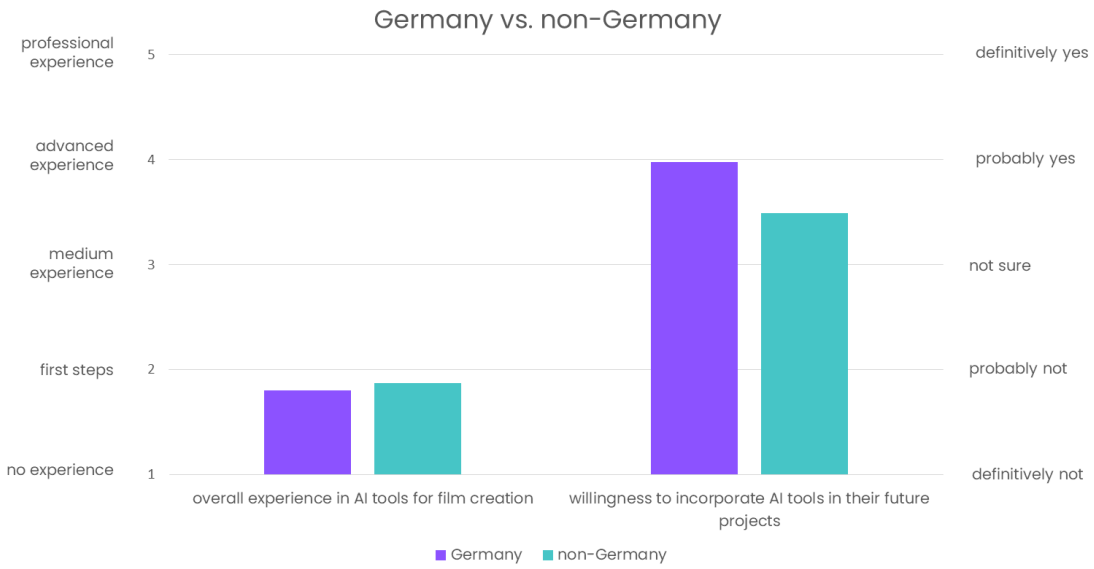

Figure 11: Overall experience in AI tools (left half) *and* willingness to incorporate them in future projects (right half) in international comparison

So, the participants from Germany – who make up about 40 % of overall participants – rate their levels of experience in AI tools for film creation generally slightly lower than participants of other nationalities, but their willingness to incorporate AI tools in their future projects significantly higher.

10. RESULTS SPECIFIED BY STATUS

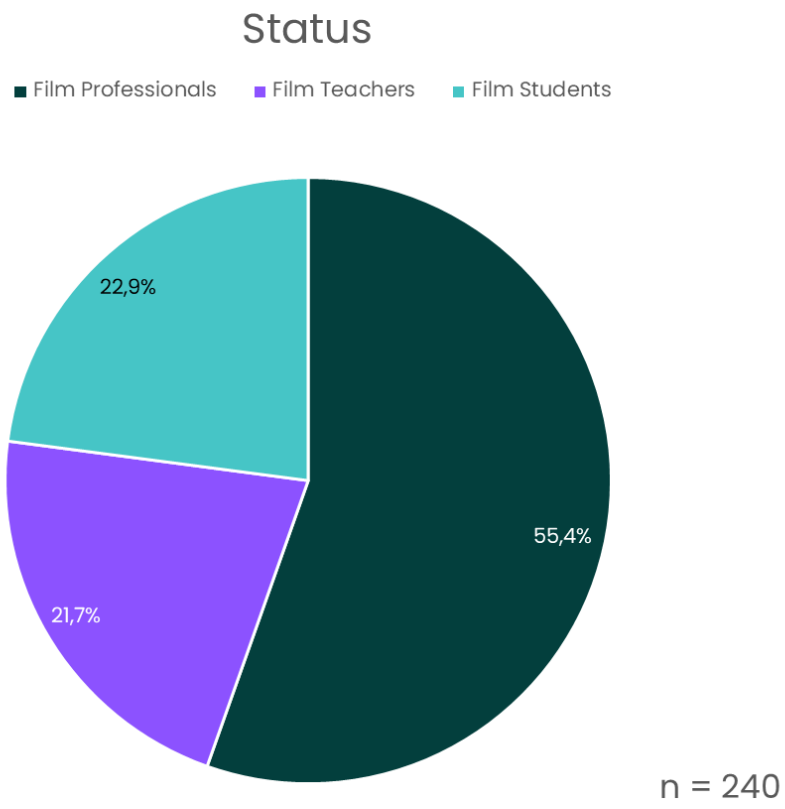

Figure 12: Distribution of participants by status (question 4)

There are significant differences between the status groups. Film students take a much more critical and negative view of the use of AI than film professionals or film teachers.

It comes as no surprise that the criterion of status overlaps with the criterion of age. Nevertheless, it has its justification – and its significance. Interestingly, the results of the status groups vary very much between the different AI tools.

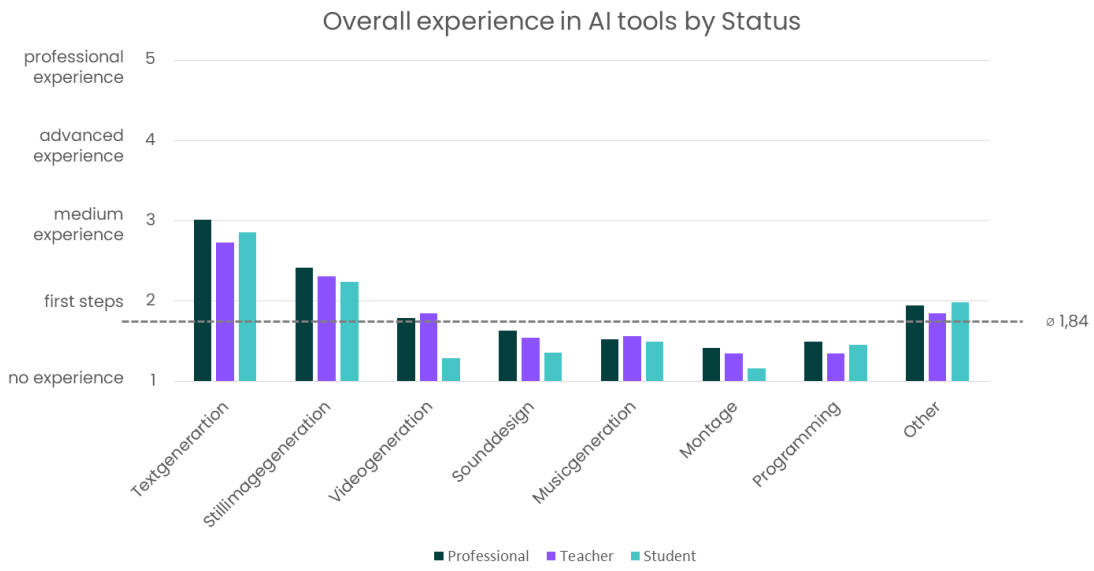

Figure 13: Experience in various AI tools by status

As seen in chapter 4, all three groups have more or less medium-level experience in the use of AI tools for text generation with 2.91, a little below "medium". The lowest ranking of experience is reached for AI tools for film montage and for programming with 1.45 respectively 1.34

In the most use cases of AI software the professionals rank their competence the highest. Film students rank their competence in some fields of AI higher than the teachers, such as in text generation, in programming or other AI tools. But they lack experience in essential film topics such as video generation (1.29), sound generation (1.36) and montage (1.16, the lowest value).

On the other side the teachers have the highest experience in AI video generation – 1.85 compared to 1.79 (professionals) and 1.29 (students) – and music generation – 1.56 compared to 1.52 (professionals) and 1.49 (students). In all other topics, the professionals state to have a higher experience as the teachers. This raises the question of whether teachers are generally more self-critical.

There was one specific question to all participants, qualified by their status (question 24).

Film professionals were asked: "How will AI-based film creation influence the value of classic film craftsmanship in your professional field in the future?"

Their average answer was 2.70, which can be interpreted as: "it will be reduced a little".

Film teachers were asked: "How will AI-based film creation influence the teaching in your professional field in the future?"

Their average answer was 3.13, which can be interpreted as: "it will be improved very slightly".

Film students were asked: "How will AI-based film creation influence the learning of filmmaking in the future?"

Their average answer was 2.67, which can be interpreted as: "it will be deteriorated a little". In their group the individual differences between each other were the highest from all three groups.

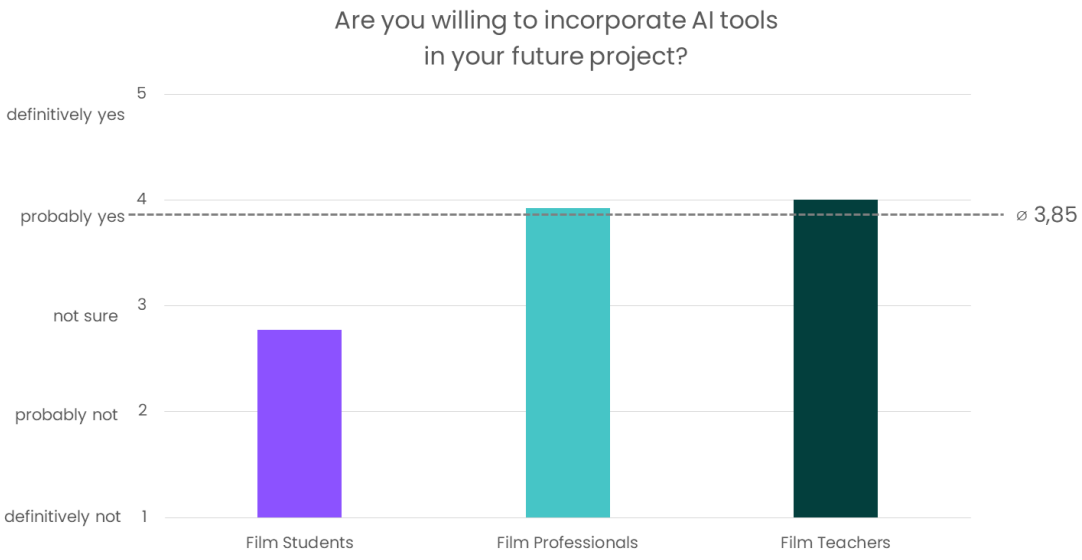

Figure 14: Willingness to incorporate AI tools in their future projects by status. It is certainly striking that students show so little disposition to make use of AI. It is worth remembering that this group is almost entirely made up of the youngest age group.

As we see film students take a much more critical and negative view of the use of AI than film professionals or film teachers. So, the students answered question 50 "Are you willing to incorporate AI tools in your future project?" with an average of **2.77**, which means something between "probably not" (= 2) and "not sure" (= 3). Film professionals voted with **3.92** (nearly "probably"), while film teachers were even more enthusiastic with a vote of **4.00** (= "probably").

11. RESULTS SPECIFIED BY PROFESSIONAL FIELD

The questionnaire offered a total of 17 professional fields, one of which had to be selected. Some fields were not represented at all and some only very weakly. For the validity of statistics, some fields were therefore subsequently merged. After this, the following 12 professional fields were analyzed.

Professional field	Number of participants	Percentage	Average Age
Acting for film	9	3.8 %	31.3
Scriptwriting movie and/or series	34	14.2 %	42.3
Directing fictional and commercial films	34	14.2 %	43.4
Directing documentary films	15	6.3 %	38.9
Cinematography	45	18.8 %	44.6
Production	25	10.4%	44.1
Film distribution, PR, marketing	9	3.8 %	38.6
Film sound	8	3.3 %	31.9
Film technology	10	4.2 %	47.7
Montage/Editing	17	7.1 %	38.5
VFX, Virtual Production, Animation	11	4.6 %	40.7
Other	23	9.6 %	41.4
Over all	**240**	**100 %**	**41.8**

Table 4: Professional fields after data consolidation. (Due to the rounding of values, the percentage sum is not exactly 100 %.)

The professional fields were analyzed for bias in terms of age, gender, nation and status.

The following professional fields are distorted in terms of gender and status:

- The professional field of “film acting” is distorted in terms of age in favor of younger participants as well as female participants and students.
- The professional field of “Cinematography” is distorted in favor of male participants and professionals.
- The professional field of “Film distribution, PR and marketing” is distorted in favor of female participants and professionals.
- The professional field of “Film sound” is distorted in age and in favor of male participants and students.
- The professional field of “Film technology” consists only of male participants and is distorted in age and in favor of professionals.

The following professional fields are distorted in gender:

- The professional field of “Scriptwriting” is distorted in favor of female participants.
- The professional field of “Directing fictional film and commercials” is distorted in favor of male participants.

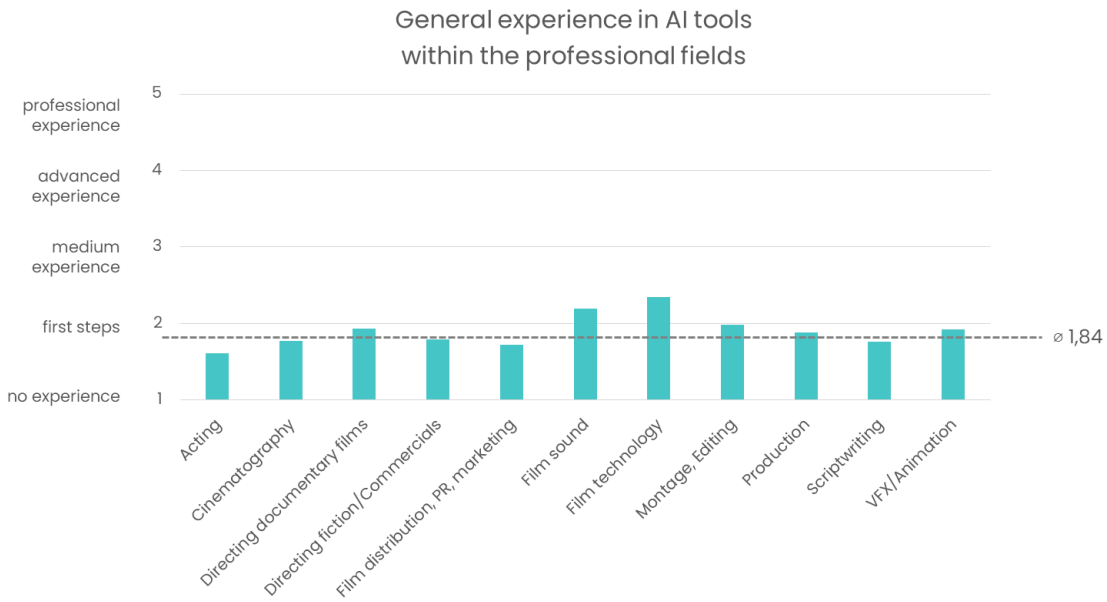

Figure 15: General experience in AI tools by professional field

The questions about the experience with AI tools show a very low level in general: The average of all participants rated their individual experience with AI tools of all kinds as 1.84. This is only a little lower than “first steps”. The results varied significantly, as well as with the professional field of the participants as with the field of the AI tools.

The participants of all professional fields had the highest experience with AI tools for text generation without exception. Their experience with all other kinds of AI tools was far below. In general, all groups had the least experience with AI tools for film editing with an average of 1.34 and for programming with an average of 1.45. In the crucial field of AI tools for video generation, the general experience was only 1.69, i.e. still below "first steps".

The highest level of general experience was stated by the participants from the professional field of film technology (which comes as no surprise). But even these experts only gave a score of more than "medium" for AI tools for text generation: 3.30. For all other types of AI tools, their experience was only between 2.70 (other AI tools) and 1.70 (AI tools for music generation). Their average experience had a value of only 2.34, a little more than “first steps”. In other words, even technology experts have little experience on average with AI tools of all kind.

Surprisingly, the group with the second highest experience turned out to be the film sound professionals with an average score of 2.19. They also had the highest experience in AI tools for text generation with 3.25. Surprisingly, their second highest experience was in AI tools is equal for still image creation as for sound generation with 2.50. Astonishingly, they have the least experience with AI tools for film editing with a score of just 1.13, just above "no experience".

Questions 25 to 38 dealt with expectations and fears regarding the use of AI in the various professional fields: “How will the different professional fields of filmmaking benefit or be harmed by AI-based film production”?

Most pessimistic about how AI tools would reduce the personal creative possibilities were the actors with 3.22 and the scriptwriters with 2.91. Interestingly, the actors think that with AI the stories will change 3.67 (a little below “I agree”) while the scriptwriters are more relaxed about that with only 2.97 (nearly “neutral”).

The participants in general think that the following three fields will benefit the most: first production and film technology with 3.53 each, second film distribution/marketing with 3.52 and third VFX with 3.43. In contrast, the following areas are more likely to suffer: first acting with 2.29, second scriptwriting with 2.45 and third film critics with 2.56.

So much for the absolute values for the expectations placed on AI. Let us now turn to a relative analysis.

Figure 16 visualizes the results to questions 25 to 38 "How will the different professional fields of filmmaking benefit or be harmed by AI-based film production?" It contains a multitude of various and differentiated information, so it is worth taking the time for its analysis and interpretation. In order to provide a differentiated analysis of the results, all opinions are listed in this diagram, not just average values. The left-hand bar chart, shown in full colours, represents the opinions of all participants regarding the respective professional field, whilst the right-hand bar chart, shown in pale colours, represents the opinions of the professional group concerned. Broadly speaking, large proportions of pink represent a perceived significant detriment caused by AI, whilst large proportions of green represent a perceived significant benefit provided by AI.

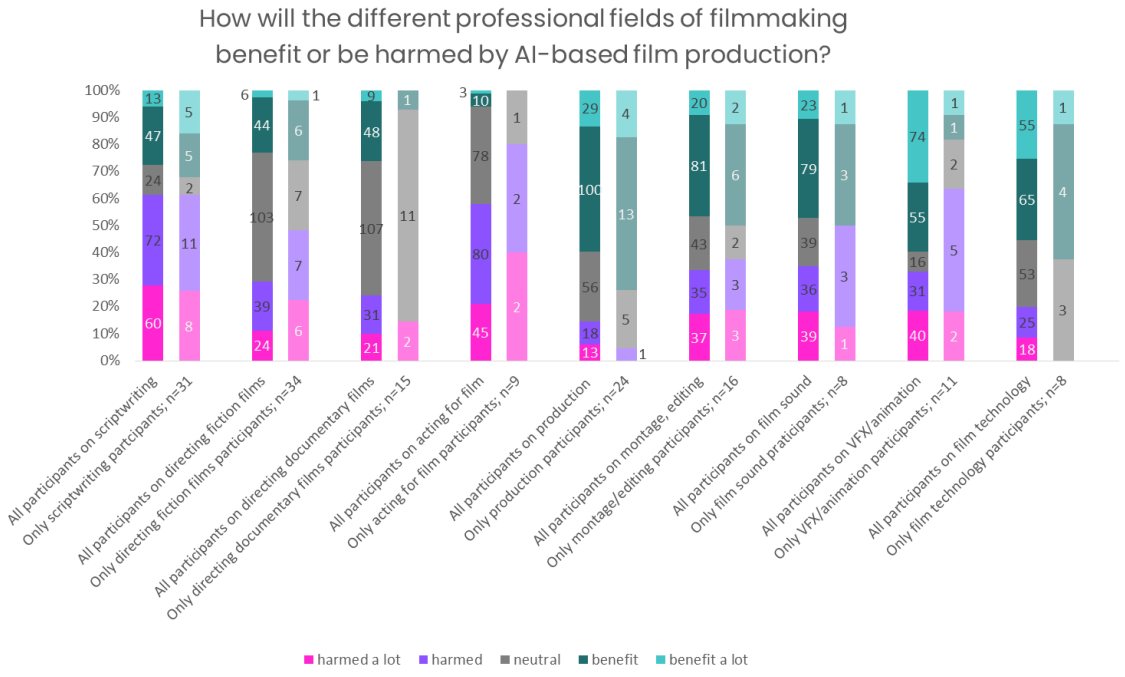

Figure 16: This chart visualizes the results to questions 25 to 38 "How will the different professional fields of filmmaking benefit or be harmed by AI-based film production?" In order to provide a differentiated analysis of the results, all opinions are listed in this

diagram, not just average values. (Average values are only stated in the main text, and only when they are meaningful.) The left-hand bar chart, shown in full colors, represents the opinions of all participants regarding the respective professional field, whilst the right-hand bar chart, shown in pale colors, represents the opinions of the professional group concerned. Broadly speaking, large proportions of pink represent a perceived significant detriment caused by AI, whilst large proportions of green represent a perceived significant benefit provided by AI.

As average values are not part of Figure 16, they are only explained in the main text in the following. If the expectations among a specific professional group are more positive than the average expectations of all participants, we can speak relatively of a more optimistic professional group. Conversely, if they are more negative, we can speak of a more pessimistic professional group. The greater the difference Δ between the expectations, the more pronounced this tendency is.

The most optimistic professional groups in this regard are production with Δ = +0,34 followed by film technology with Δ = +0,22 and – as a surprise – scriptwriting with Δ = +0,16. This result can also be expressed in terms of the average score: with a rating of 3.86 regarding the consequences of AI on their profession, producers are the most optimistic professional group, followed by film technologists with 3.75. The participants as a whole rated both groups at just 3.53. It should also be noted that, among the participants as a whole, for both professional fields all five possible ratings were given (left-hand bars), whereas the producers (with one exception) and film technologists (as a whole) gave ratings exclusively between 3 (neutral) and 5 (benefit; see right-hand bars).

The most pessimistic professional groups in this regard are – as a big surprise – VFX with Δ = -0,98 (the biggest difference by far) followed by directing commercials with Δ = -0,46, directing fictional films with Δ = -0,27 and directing documentary films with Δ = -0,18.

The example of VFX/In Camera VFX/Virtual Production/Animation illustrates this point particularly clearly: while the participants as a whole tend to see AI as having predominantly positive effects for this professional field, those from this professional field see things very differently and are much more pessimistic.

It is also quite interesting to compare the two different groups of directors. For statistic reasons, the directors of fictional films and series were consolidated with the directors of commercials. The participants as a whole rated these two groups

of directors almost identically – not only on average, but also in terms of the distribution (see the bars on the left). Documentary filmmakers rate the impact of AI on their own profession at 2.79, which is less pessimistic than the ratings given by directors of fiction films and commercial films, who rate the impact on their professions at 2.59 and 2.63 respectively. Nevertheless, both groups share the view that they are likely to suffer losses. On the other side, opinions diverge more widely within the group of fiction/commercial directors, compared to the group of documentary filmmakers (see the bars on the right).

An example of a rather large degree of agreement between the general participants and the specific professional group is that of the screenwriters. Interestingly, however, they themselves are more optimistic about the introduction of AI than the general participants (left-hand bars vs. right-hand bars).

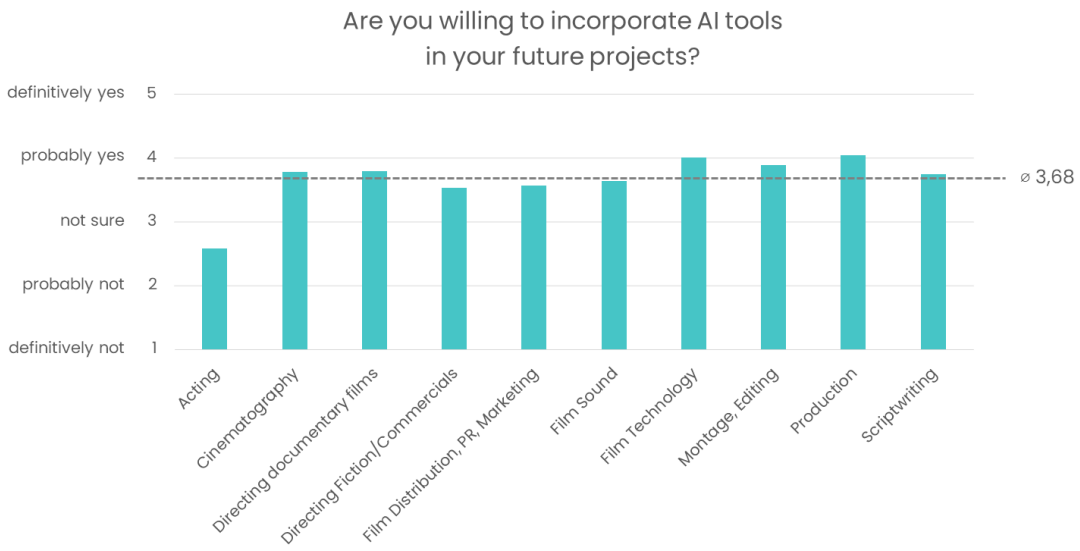

Figure 17: "Are you willing to incorporate AI tools in your future projects?" Answers specified to professional fields.

It cannot come as a surprise that actors are by far the most reluctant professional field in the willingness to use AI tools. One reason is certainly that actors regard themselves, their bodies and their personal means of expression, as the foundation of their profession. Consequently, they do not see themselves as capable of using AI independently; rather, they view AI as something that is potentially 'applied to them' from the outside. So, the actors are the only

professional group with an average below neutral; all other groups rate their willingness on an average range between “not sure” and probably yes”.

It is also no great surprise that participants from the professional fields of technology and production form the most willing group. However, the generally low level of agreement is noteworthy, as is the small difference between this group and the next groups, such as film montage/editing and directing fiction or documentary. In general, a majority of participants still seem to see the possibility of an “AI-free future” for film and cinema. (It remains an open question whether this will actually be an option.)

12. CLOSING REMARK

As stated on the beginning, Artificial Intelligence has been developing rapidly during the time span of this survey. Although the authors are convinced that most of the survey’s results are still valid the results have to be seen in this temporal context.

13. ACKNOWLEDGEMENTS

The authors want to thank all authorities from the World Association of Film Schools CILECT and from all professional corporations involved as well as all members of film schools and other institutions for their support in this survey. We would like to thank the Innovative Hochschule, funded by the German Federal Ministry of Research, Technology, and Space (BMFTR), for supporting this research. The operational support of the study has been provided by the CreatiF Center.

At last, the authors thank all participants of this survey. They hope that the results will be enlightening in any way – for professional activity, for teaching or for studying film.

Appendix A

The questions from the original questionnaire

1. What is your age?
2. What is your gender?
3. What is your home country?
4. What is your status (professional/teacher/student)
5. What is your professional field?

6. How much experience do you have in the use of AI tools for text generation?
7. How much experience do you have in the use of AI tools for still image generation?
8. How much experience do you have in the use of AI tools for video generation?
9. How much experience do you have in the use of AI tools for sound generation?
10. How much experience do you have in the use of AI tools for music generation?
11. How much experience do you have in the use of AI tools for film montage generation?
12. How much experience do you have in the use of AI tools for programming?
13. How much experience do you have in the use of other AI tools?

How will AI-based film creation influence the general creative work of filmmakers in the future?

14. "AI-based film creation tools will reduce the creative possibilities"
15. "AI-based film creation tools will extend the creative possibilities"
16. "AI-based film creation tools will change the professional process of filmmaking"
17. "AI-based film creation tools will reduce my personal creative possibilities"
18. "AI-based film creation tools will extend my personal creative possibilities"
19. "AI-based film creation tools will change my professional field"
20. "AI-based film creation will change the cinematography of movies"
21. "AI-based film creation will improve the efficiency of film production"
22. "AI-based film creation will change the stories"
23. "AI-based film creation will improve film distribution and marketing"
24. A: (for professionals only): "How will AI –based film creation influence the value of classic film craftsmanship in your professional field?"
    B: (for teachers only): "How will AI –based film creation influence the teaching in your professional field in the future?"
    C: (for students only): "How will AI –based film creation influence the learning of filmmaking in the future"

"How will the different professional fields of filmmaking benefit or be harmed by AI-based film production"

25. Scriptwriting movie and/or series
26. Directing fiction films
27. Directing documentary films
28. Directing commercials
29. Acting for film
30. Production

31. Production design
32. Costume/Mask
33. Montage, Editing
34. Film Sound
35. VFX, In Camera VFX/Virtual Production, Animation
36. Film technology
37. Film critic
38. Film Distribution, PR, Marketing

The ethical dimensions of the use of AI:

39. "AI-based film creation will create new ethical problems within filmmaking"
40. "AI-based film creation will reduce social biases within filmmaking"
41. "AI-based film creation will help to impose true diversity within filmmaking"
42. "AI-based film creation will introduce new stereotypes into filmmaking"
43. "AI-based film creation will cause issues with intellectual property"
44. "In ten years' time, AI will..." (One of five prototypic answers to be chosen)

"What kind of support or resources would help you to feel more comfortable using AI-based tools in your professional field?"

45. Trainings and workshops
46. Access to AI software and tools
47. Case studies and success stories
48. Technical support
49. Collaboration with AI experts
50. "Are you willing to incorporate AI tools in your future projects?"
51. Give us your personal view! (free text)

Appendix B

101 anonymous personal comments came from 240 participants. The following **selection** is sorted to professional fields.

1.2 ACTING

Female film acting student, 18, Netherlands:

"I feel that AI should never be used in any type of art. Art is human and it can only be achieved if there is love and effort put into it. The biggest part of making films is the process. Letting an AI do that for you completely diminishes the purpose of filmmaking and discourages filmmakers to think creatively."

Male film acting student, 28, Denmark:

"The film industry is already laden with abuse, lay-offs, mismanagement, contract-breaking, trend-chasing, cynical cash-grabs, and all the other foibles of late-stage capitalism. The last thing it needs right now is AI, further reducing the human touch."

1.3 CINEMATOGRAPHY

Male professional cinematographer, 38, Mexico:

"AI is changing entirely filmmaking industry as Hayao Miyazaki said: "It is an insult to life itself". We live in a hedonistic world that seeks to eliminate almost entirely the effort required to get it. AI will not increase efficiency of productions because work will be necessarily move to another area (the fact that we do not must to deal with it, it does not mean it has disappeared). Let's remember that one principle of innovation is the elimination of a problem not the replacement of it or passing it on to someone else."

Male cinematography teacher, 74, France:

"Cinema from the early times is to create reality through a story telling on a screen before an audience. So it has been for about a hundred years all improving with sound, colour and with constant improvement of cinematic language. Till then we only spoke of cinema. Then DIGITAL cinema came, presented as a revolution of cinema. Has it even been a progress on a screen for the audience? AI is now still presented as THE revolution. Will it be as it has been for digital cinema? Will cinema still be THE cinema creating reality on a screen? We can imagine as long as frames are going to be created by a lens on a stage filming actors and all real actions."

1.4 DIRECTING DOCUMENTARY FILMS

Male directing documentary student, 21, Norway:

"I believe AI will ruin cinema. It will leave cinema one sided. AI is a learning tool, but it also learns from us. And since then the information it takes in will then be re-reflected unto us. Our movies will never be classics again. Never be groundbreaking. And never be masterpieces. They will simply feed the capitalistic greed. And the art of cinema, together with the art of the world, will be dead."

Male professional documentary director, 38, India:

"AI is one step in the evolution of film making. Film is a technological art, it had its digital turn, now, it is having artificial intelligence turn."

Female professional documentary director, 55, Switzerland:

"As filmmaking has a lot to do with technic, it's an illusion to believe our industry can work without AI. But very important are rules for declaration of the use of AI-tools and of AI-creations and very important is also the protection of authors' rights, intellectual property and the creative act. AI without rules and ethics will destroy our film-industry and leave us all unemployed."

1.5 DIRECTING COMMERCIALS

Male film teacher for directing commercials, 55, Costa Rica:

"Things are changing, we like it or not. Better to be prepared for the change that coming. As a teacher I need a lot more information and understand better where are the areas of mayor influence of AI for the different stages of production. I guess there are a lot of improvement we can do from the Production Department in terms of breaking story, budget, suppliers and control of time, just to mention few. Thank you for this!!"

Diverse directing commercials student, 24, Germany:

"Current discussions are too focused on the ethical dilemma—it's too late. Everyone knows these talking points. We must start to talk about concrete solutions and a moral way of working with AI. It is here and will not go away."

1.6 DIRECTING FICTION FILMS

Male teacher for directing fiction films, 62, USA:

"AI will undoubtedly increase the level of centralized globalizing power on all human creative activity, reducing culturally specific points of view. A few corporate based entities will determine the nature and outcome of algorithmic based creative activity."

Female student directing fiction films, 24, France:

"AI is becoming a wide part of creativity nowadays, we have to know how to use it properly in order to use it instead of letting it replace our jobs. …."

Male professional director of fiction films, 42, Luxembourg:

"I think the question if AI will harm certain fields of filmmaking is wrong. It can be seen both ways. For example for an editor AI can help you make better images or Voice over, and makes things easier. On the other hand, more and more inexperienced editors can produce almost the same quality. So it's harmful

because you get less jobs and fewer hours to work on projects, but it's also helpful because your job gets easier."

1.7 FILM DISTRIBUTION/PR/MARKETING

Male professional for film distribution/PR/marketing, 44, Germany:

"AI will completely reshuffle or replace a lot of the 'small form' formats - think commercials, stock video, short movies, and 'amateur cinema'. Art house will ignore it, and be proud of it, and in Highend / International productions, it will be a tool among many."

Female professional for film distribution/PR/marketing, 28, Germany:

"Coming from a background in TV journalism and digital production, I've always worked at the intersection of storytelling and technology. We were used to tight turnarounds, limited budgets, and finding creative workarounds. What AI is unlocking now feels like another step in the ongoing democratization of storytelling. It might create new silos - just as VOD and social media videos did within traditional broadcasters - but hopefully, it will lead to more sustainable, diverse, and ethical outcomes. …"

1.8 FILM SOUND

Male film sound student, 21, Georgia:

"I hate AI."

Female film sound teacher, 54, Netherlands:

"AI will demand its place in cinema, if you like it or not. Find a way to embrace it and benefit of it instead of fighting it. Remember all the haters when the internet first rose?"

1.9 FILM TECHNOLOGY

Male film technology teacher, 55, Canada:

"As a professor in film for more than two decades, I have never encountered a new technology that has caused students as much anxiety as this one. In a post-pandemic, and financially uncertain time for education, this is yet another

stressor that is causing everyone to question what we do as educators in the arts."

Male film technology professional, 42, Netherlands:

"I expect that the real generative tools like image and video generation to become mostly financially unfeasible, to the extent that it just becomes an alternative version of VFX at roughly the same prices. The biggest impact of AI/ML in film creation will be in tools that will be built into existing or new software packages, just as if it were another iteration of the software. Valuable and effective, but far more energy efficient than the video generation tools we see now."

1.10 FILM MONTAGE/EDITING

Professional film editor, 53, Germany:

"AI will be a great tool but it will also lead to a bitter struggle in ethical questions. Not everything that is possible should be done. But definitively it will be tougher to make a living. Human society in capitalism must prepare itself to cope with the impact on the working Environment and must rethink its work ethics, otherwise there will be a more straighter Klassenkampf than today."

Male professional film editor, 63, Austria:

"I believe that AI will be an important tool in the whole production and post-production process. I do have some reservations about copyright issues but think that these will be resolved in the future. The current AI tools in audio post-production are helping editors and sound designers in the industry. The tools are also helping the VFX artists with creating mattes etc. ..."

1.11 PRODUCTION

Male teacher in film production, 61, Turkey:

"AI is there to stay. A personal cinema will always be a personal cinema. Independent cinema will be an island in the ocean of AI-driven content."

Male professional in film production, 43, Belgium:

"I don't have a clear view yet to give an opinion. In the last 10 years, I produced around 50 films in a classic way. By creating my own AI software, all the creative

part had disappeared. I went from a company of 10 creatives to 1 creative and 7 data scientists. We reduced the production costs by 10 and reduced the production time by 3. I am convinced that this will have a huge impact, but I don't yet know the extent and especially what needs to be done in terms of teaching. I have the deep conviction that learning to create can't be with a machine, it comes by trial and error. In addition to train students to make mistakes, I feel that we must train them to repair the machine's errors."

Female professional in film production, 65, Germany:

"It will, in some of the sections, definitely improve the quality of film making, and will help with repetitive tasks and procedures. It will not replace creativity and ideas. Those are borne of disruption, mainly – and emotions. …"

1.12 PRODUCTION DESIGN

Female professional in film production design, 27, Australia:

"I'm a graphic designer in the art department and I have serious concerns about capitalist interests in AI paving the way for the death of my profession. Graphic designers are severely undervalued as it is, and our work - and the amount of time, care, and attention it takes - is not well understood. Production companies seem to be scared of the copyright implications of AI for image generation at the moment, but an obvious way for them to circumvent this is to create data sets drawing on the archives of graphics that designers like myself hand over at the end of every project, and use these to train genAI models which will eventually be used as our replacement. If offered the opportunity to save money, these people will take it, and it's only a matter of time. … This is our livelihood and artistry at stake!"

Diverse film production design student, 24, USA:

"AI takes on the biases of its creators, most of whom are bigoted morons of the highest degree. We don't need more hatred infused in our art, thank you very much, especially when the 'creators' of the art have no idea it's there because they haven't made a single creative decision in the entire process. …"

1.13 SCRIPTWRITING

Female film scriptwriting teacher, 71, USA:

"Writing this to you from the USA and what is going on here I've struggled to be as positive as I was a year ago about the role AI will play in filmmaking. Because money and profit and control are the bottom line in this country and increasingly in most I am very pessimistic about how AI will be used. There is no going back and generally it won't be positive but as an educator it is my responsibility to learn and teach. Most film programs are very far away from thinking and dealing with it so thank you for doing this survey."

Male scriptwriting student, 39, Germany:

"Burn it"

Female professional scriptwriter, Azerbaijan:

"AI has started to significantly influence the film industry and its education. These technologies make filmmaking faster and sometimes more affordable. AI tools can help with scriptwriting, editing, creating visual effects, and even mimicking actors' voices and appearances. These changes bring positive opportunities. For example, it becomes easier to make a film with a small budget. In education, students can learn in new ways using AI. Simulations and automated feedback can make learning more engaging and personalized.

However, there are also negative sides. Classic filmmaking craftsmanship – the human-made artistic touch – may become less valued. This might weaken creative thinking. There are also concerns about copyright and ethical issues. I believe AI tools will not replace cinema. Instead, they will become helpful tools for creative people. The most important thing is to use this technology in a smart and balanced way."

Male professional scriptwriter, 39, Switzerland:

"I don't use AI to replace writing. I use it to explore ideas, get feedback on short texts or scenes, do quick research, and spellcheck – much like I once used Google or writing manuals. It helps sharpen loglines, synopses, character descriptions and arcs and application texts. I don't want AI to write for me – I want it to challenge and refine what I'm already doing. Unfortunately, most AIs are still

programmed to be agreeable – to please the user. That makes them inconsistent, sometimes lazy, and often prone to mistakes. It can overwhelm or frustrate more than it helps."

1.14 VFX/ANIMATION/VIRTUAL PRODUCTION

Male VFX student, 27, Germany:

"AI is developing exponentially and threatens the filmmaking scene. It creates a lot of fear and uncertainty. The upcoming tools will bring control and creative freedom that even professionals will appreciate. With the latest developments, however, it is becoming clear that emotional, authentic acting is more important than ever and cannot be imitated by AI. However, a large part of the VFX industry jobs will be cut. Jobs of 3D Modelling Artist will be reduced drastically, due to 'image to 3D' generations. Many concept-art jobs have already been cut."

Female VFX professional, 40, Germany:

"AI sounds to me like a technology that can be used, such as virtual production with an LED wall. But if this is going somewhere we don´t know, maybe we don´t speak about it in 10 years maybe we just work with that. It is hard to tell. I am curious about the development and look where we are heading towards."

Female VFX/animation teacher, 58, Germany:

"As a teacher in VFX & Animation, I'm fully aware of the massive technical shift AI brings to our field. While some aspects spark my curiosity and excitement, I'm equally anxious about how it might impact my students' career prospects. It's clear that we need to integrate AI extensively into our curriculum, but at the same time, we must prioritize fundamental design and craftsmanship skills. The challenge is finding the right balance — and honestly, I'm still figuring out how to make that happen."

1.15 OTHER

Male film student, 19, Denmark:

"I believe Generative AI completely defeats the purpose of filmmaking, or any creative field at all. We've seen some great technical use cases for machine learning in VFX, like for making extremely effective auto-masking and tracking tools, or voice isolation in sound. But when it comes to Generative AI, nothing

should ever try to replace the human touch. We don't make stories to be objectively good or efficient, we make them to express something. And an AI has nothing to express."

Male film teacher, 60, Republic of Korea:

"AI in cinema is not a matter of choice but an unavoidable condition. Cinema has always been technology dependent art and entertainment from its birth. Now the big challenge is coming from the uneasiness of picking up the technique of utilizing the AI tools as it involves quite a bit of continuous education and training. Old school practitioners and educators tend to lean on resistance and negative appraisal, but time will soon set new standards."

Female film teacher, 41, Netherlands:

"I think AI will have a supportive role in cinema. We have to question all the answers or results AI gives us. AI will be very helpful in the process of filmmaking and could be a time safer. In that case, there is more time to be creative. We have to see AI as a supporter/assistant."

Appendix C

All 12 personally signed comments in alphabetical order:

Amit Bhattacharya, cinematography teacher, USA:

"I believe that visual literacy is the foundation upon which cinema and film pedagogy stands. Technology, including AI, is transitory. The 'how' changes, the 'why' is eternal."

Batuhan Buldu, student of film montage/editing, Turkey:

"From making cinema cheaper and quicker to produce, to granting significantly more efficient marketing capabilities, to pushing the limits of VFX, to making cinema production more accessible, and so on, I believe the potential benefits of AI are tremendous. This does not, however, mean I am entirely comfortable with AI in cinema. My only concerns related to AI are ethical. As far as I understand, AI 'learns' by exploiting a current legal loophole that allows it to scan countless intellectual properties unhindered and without permission from the original creators, which I do not find to be acceptable. My other concern is that AI will become so capable, so cost-efficient that it will render a significant number of current or potential careers in the film industry as redundant. Once these issues are sufficiently tackled, then I would be all for AI in cinema."

Kujtim Cashku, teacher for directing fiction films, Albania:

"I believe the AI, will large the perception of culture of image as a new meaning of time, place and space. It will effluent to the information, communication and formation of new generations by changing human relation and social conditions. Sure, it will help also the diversification of the language of cinema, therefore it's necessary to be part of the teaching process and include to the program of film schools."

Thomas Coispel, professional documentary director, France

"AI is another tool in the box, but like other tools the filmmakers need to think 'what for' before using it. AI could be a powerful way to communicate the strangeness of consciousness, dreaming, hallucination, psychedelics, human-technology relationship, etc. But trying to mimic classic cinematography for a classic story is just not interesting. If you want to use AI, please don't do 'boy meets girl'."

Andrea Culkova (FAMU, ARAS), professional documentary director, Czechia:

"1) Democratic and wide training datasets are the key, ideally based not only on the cultural heritage of all kinds but on all scientific papers and books produced over hundreds of years, with great care on biases of all types. So, AI is not only trained on Western culture again and repeating the same colonialistic pattern, not picking just some 'styles', but understanding the cultural roots and origins and being able to quote them accurately.

2) The Priority then focuses strongly on the social and environmental dimensions, delivering something essential and available for everyone. Otherwise, it will be another capitalistic instrument that helps the rich become richer and repeats the same narratives that suppress society. In our times, it should help us navigate society from the abyss, not bring us closer to it."

Stephanie Falla Aroche, director of Film school at UFM and Francisco Marroquín University, Guatemala:

"As the world evolves, so does technology. Artificial Intelligence (AI) is no longer a futuristic concept; it is now an essential tool across many industries, including filmmaking and the arts. Rather than fearing its impact, filmmakers and artists should embrace AI as a valuable resource that enhances creativity and efficiency. The future of storytelling will be shaped by those who know how to integrate AI into their artistic processes while preserving the human essence of their work. AI offers numerous advantages in film production, from streamlining pre-production tasks to revolutionizing post-production. Script analysis, scene visualization, and even casting suggestions can be optimized through AI-driven

tools. In post-production, AI accelerates editing, special effects, and color grading, allowing filmmakers to focus on storytelling rather than technical limitations. Moreover, AI-generated visuals and sound design can inspire new artistic directions that were once impossible to achieve.

However, while AI can automate many tasks, it cannot replace human creativity, emotions, and intuition. The essence of cinema lies in the human experience—our ability to tell stories that resonate on a deep emotional level. AI should be viewed as a collaborator, not a competitor. The most successful filmmakers will be those who leverage AI to enhance their vision while maintaining the irreplaceable qualities that define human artistry. As technology continues to advance, it is crucial to adapt and explore new possibilities rather than resist change. Instead of fearing AI, we should focus on what makes us uniquely human: our imagination, empathy, and ability to connect through storytelling. By embracing AI as a tool rather than a threat, we can push the boundaries of filmmaking and create even more powerful, meaningful, and innovative works of art."

Peter James (ACS, ASC), professional cinematographer, Australia:

"I think the first impact will be on scripts and storylines. These will need to be supervised and controlled by creative people. Visual effects will be enhanced again. The controlling hand has to be there. The creating of images in some cases may do away with cinematography by humans. It may be images created and added to the scene or enhancing the image. Is the Cinematographer in charge of this? Music and possibly editing will also be affected. As I see it in 10 years' time nearly every role on a film will be affected. The actors' script writing the cinematography editing music visual effects post production will all have some form of AI in them."

Rainer Nigrelli, professional film editor, Germany:

"I keep telling everyone I talk to that my job as a film editor will change completely within the next ten years. Embracing this inevitability, I am excited to welcome any advancement that could help me edit better films."

Giovanna Ribes, professional director of fiction films, Spain:

"Although AI has brought advances in filmmaking and education, there are also concerns and negative aspects worth considering. In the film industry, the over reliance on AI can reduce creativity and originality. By automating processes such as editing, visual effects, or even script generation, the risk is - and we have already experienced it- that films are becoming more homogeneous and less innovative, as decisions are based on data and patterns rather than human artistic intuition.

Furthermore, AI displaces creative professionals, generating job insecurity in traditional areas of film. Regarding teaching and learning, the integration of AI also presents challenges. Personalization and the use of algorithms limit the diversity of perspectives, as systems tend to reinforce certain patterns and preferences, which reduce students' exposure to innovative or different ideas. Furthermore, reliance on technology diminishes human interaction, which is critical in creative disciplines like film, where collaboration and the exchange of ideas are essential. Access to these technologies may not be equitable, creating a gap between those with the resources to take advantage of AI and those without.

In short, while AI may offer benefits, it threatens creativity, diversity, and equity in film and education. It's important to approach these challenges with a critical and balanced approach, ensuring that technology enhances, not replaces, human talent and innovation plus artistic rights for the authors."

Dariusz Romanowski, professional scriptwriter, Poland:

"The AI technology is just the next human invention, which improve our creative possibilities. Cinema did not destroy theater, TV did not destroy radio. And AI will not destroy creativity if somebody is really creative person and not just pretend to be..."

Viktor Schimpf, professional documentary director, Germany:

"AI will change the way we see truth in pictures. At the moment most people still believe in the 'truth' of a documentary picture. When AI makes it possible for everyone to create convincing documentary footage ('deep fakes'), then nobody will believe in the truth of the documentary picture anymore. Instead, pictures will be like text, the audience will only believe in the truth of the author. Pictures will then exist as the translation of an experience or a creative force, where the not only the fantasy, but also the deep emotional truth of a person can be communicated. Therefore I think we are on the edge of a creative revolution of moving pictures."

Peter C. Slansky, film technology teacher, Germany [statement given before the analysis of this survey]:

"Today, we still speak of AI as a uniform technological phenomenon. But AI will penetrate all the different areas of film production in specific ways and permeate the respective future basic software and hardware. Very soon, it will no longer be possible to remove it from these basic software and hardware systems - just as computer technology permeated almost all technical production and communication systems a few decades ago."

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