

Understanding Visual Artists' Values and Attitudes towards Collaboration, Technology, and AI: Supplemental Document

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A. List of Survey and Interview Questions Organized by Research Question

RQ1: What are the attitudes of visual artists towards human collaboration and assistance (or the absence of it) in their art creation?

- [Survey] Are you generally interested in working with other visual artists (including assisting other artists or receiving assistance)?
 - **YES:** [Survey] Which forms of co-working interest you?
 - **NO/I don't know:** [Survey] Please briefly describe why you generally prefer to work solo (e.g., what aspects of working with others are unappealing to you)

After being asked to describe a recent experience collaborating with another artist or artists:

- [Interview] What (if anything) did you gain from the collaboration?
- [Interview] What appeals to you about that kind of human artist collaboration or assistance?
- [Interview] What challenges did the collaboration introduce?

OR (if they work solo):

- [Interview] Why do you typically create art alone? (for participants who didn't have recent examples of art collaboration)
- [Interview] Are there any challenges or limitations to creating art by yourself (for participants who didn't recently collaborate on art)?

RQ2: What are the attitudes of visual artists towards technological or AI collaboration and assistance in their art creation?

- [Survey] Are you generally open to either collaborating with or receiving assistance in your art creation from technology or automation tools?
 - **YES:** [Survey] What aspects of the creation process would you be open to assistance from technology or automation tools?
 - **NO/I don't know:** [Survey] Please briefly describe why either collaborating with or receiving assistance in your art creation from technology or automation tools does not interest you (e.g., what aspects are unappealing to you)
 - **YES:** [Interview] What appeals to you about that kind of tech collaboration, support, or assistance from tech or automation tools?
 - **NO/I don't know::** [Interview] Is there anything about tech collaboration, support, or assistance from tech or automation tools that appeals to you? (if no interest or not sure)
- [Interview] Does anything concern you about AI and other technology for art-making?

- [Interview] Do you have any additional concerns or limitations about working with technology or automation tools?

B. Additional Survey Results

“Other” responses for Table 1: Percentage of visual artists’ stated interest in types of co-working, across survey (S) and interview (I) respondents:

‘Teaming up with other artists for a group show on a shared theme’, ‘I work with autistic artists who are developing their skills’, ‘The first but also acting as a mentor for emerging artists’, ‘Artists support each other by attending each others workshops, art shows, and painting together’, ‘Conceptual agreement for an exhibition and random sharing of techniques or skills to another interesting artist’, and ‘Family and friends donating their talent, objects and ideas’.

“Other” responses for Table 2: Percentage of preferred forms of technological assistance, for survey (S) and interview (I) respondents:

‘I am interested in the curation part of this question, but it’s the answer that I am most unsure about with all of the answers’, ‘Marketing’, and ‘In 3D Art we use a wide array of algorithms to optimize workflow, for example in UVs, LOD Generation, Tree Generation, Etc.’

Table B1. Gender Identity Counts of Survey and Interview Respondents for Survey (S) and Interview (I)

| How do you self-identify in terms of gender? | S (Count) | S (Percent) | I (Count) | I (Percent) |
|--|-----------|-------------|-----------|-------------|
| Gender-fluid | 2 | 2.2% | 1 | 3.3% |
| Man | 26 | 29.2% | 12 | 40.0% |
| Non-binary | 7 | 7.9% | 0 | 0.0% |
| Trans man | 1 | 1.1% | 0 | 0.0% |
| Trans woman | 0 | 0.0% | 0 | 0.0% |
| Two-Spirit | 0 | 0.0% | 0 | 0.0% |
| Woman | 51 | 57.3% | 16 | 53.3% |
| Another gender not described above | 1 | 1.1% | 0 | 0.0% |
| Prefer not to answer | 1 | 1.1% | 1 | 3.3% |
| Total | 89 | 100% | 30 | 100% |

Table B2. Visual artists’ stated race category counts and percentages for Survey (S) and Interview (I) respondents

| Race Category | S (Count) | S (Percent) | I (Count) | I (Percent) |
|--|-----------|-------------|-----------|-------------|
| Black (African, Afro-Caribbean, African Canadian descent) | 0 | 0.0% | 0 | 0.0% |
| East/Southeast Asian (Asian and Southeast Asian; Chinese, Korean, Japanese, Taiwanese descent or Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent) | 9 | 10.1% | 4 | 13.3% |

| | | | | |
|--|----|-------|----|-------|
| Indigenous (First Nations, Métis, Inuk/Inuit descent) | 3 | 3.4% | 1 | 3.3% |
| Latino (Latin American, Hispanic descent) | 2 | 2.2% | 0 | 0 |
| Middle Eastern (Arab, Persian, West Asian descent – e.g., Afghan, Egyptian, Iranian, Lebanese, Turkish, Kurdish) | 4 | 4.5% | 2 | 6.7% |
| South Asian (South Asian descent – e.g., East Indian, Pakistani, Bangladeshi, Sri Lankan, Indo-Caribbean) | 5 | 5.6% | 2 | 6.7% |
| White (European descent) | 70 | 78.7% | 23 | 76.7% |
| Another race category not described above | 0 | 0.0% | 0 | 0.0% |
| Do not know | 0 | 0.0% | 0 | 0.0% |
| Prefer not to answer | 1 | 1.1% | 1 | 3.3% |

Participants had the option of selecting multiple categories.

We provided a caveat following institutional advice: “We know that people of different races do not have significantly different genetics. But our racial identity still has important consequences, including how we are treated by different individuals and institutions.”

Table B3. The capacity in which visual artists’ typically work for Survey (S) and Interview (I) respondents

| In what capacity do you typically create art? | S (Count) | S (Percent) | I (Count) | I (Percent) |
|---|-----------|-------------|-----------|-------------|
| As a hobby | 52 | 47.3% | 19 | 63.3% |
| Professionally (paid to do it) | 43 | 39.1% | 13 | 43.3% |
| Other | 15 | 13.6% | 4 | 13.3% |
| Prefer not to answer | 0 | 0% | 0 | 0% |
| Total | 89 | 100% | 30 | 100% |

“Other” included: ‘I sell my art’, ‘Architecture school’, ‘Professionally, but not necessarily paid’, ‘Working towards selling my art’, ‘Both hobby and paid, I have my own online art store and take commission work, but the hobby and time spent outweighs that’, ‘I am an Art Instructor for kids over the summer’, ‘Inbetween hobby & professional - beginning to make money at it’, ‘I’m primarily an art dealer’, ‘Independent Artist’, ‘Occasional commission, not dependant on wage.’, ‘To show in galleries’, ‘Mostly hobby, but occasionally take commissions’, ‘Schoolwork’, ‘both as hobby, commissioned work, vocation’

Table B4. Visual art type counts for Survey (S) and Interview (I) respondents

| What type of visual art do you typically create? Check all that apply. | S (Count) | S (Percent) | I (Count) | I (Percent) |
|---|-----------|-------------|-----------|-------------|
| Collage | 13 | 14.6% | 7 | 23.3% |
| Conceptual Art | 22 | 24.7% | 10 | 33.3% |
| Crafts (e.g. ceramics, knitting, weaving) | 25 | 28.1% | 13 | 43.3% |
| Design/Architecture | 10 | 11.2% | 5 | 16.7% |

| | | | | |
|---|----|-------|----|-------|
| Drawing – Digital | 31 | 34.8% | 12 | 40.0% |
| Drawing – Traditional (e.g., ink, pen, pencil) | 47 | 52.8% | 17 | 56.7% |
| Film/Animation | 13 | 14.6% | 4 | 13.3% |
| Generative, Algorithmic, or AI Art (e.g., text-to-image like Midjourney and Dall-e-2, GANs) | 11 | 12.4% | 3 | 10.0% |
| Painting – Digital | 23 | 25.8% | 6 | 20.0% |
| Painting – Traditional (e.g., acrylic, oil, watercolour) | 59 | 66.3% | 19 | 63.3% |
| Photography | 37 | 41.6% | 13 | 43.3% |
| Print-making | 18 | 20.2% | 8 | 26.7% |
| Sculpture | 23 | 25.8% | 6 | 20.0% |
| Other | 17 | 19.1% | 7 | 23.3% |

Participants had the option of selecting multiple categories.

“Other” included: ‘Origami’, ‘stained glass’ (2), ‘chip carving’, ‘new media art’, ‘interactive art’, ‘street art’, ‘fibre’, ‘3D’ (2), ‘wood working’, ‘paper quilling’, ‘costume’, ‘props’, ‘art dealer’, ‘encaustic’, ‘mixed media’ (2), ‘generative creative coding’, and ‘vector graphics’

Table B5. Visual artist’s stated interest in working with other visual artists for Survey (S) and Interview (I) respondents

| Are you generally interested in working with other visual artists (including assisting other artists or receiving assistance)? | S (Count) | S (Percent) | I (Count) | I (Percent) |
|--|-----------|-------------|-----------|-------------|
| Yes | 61 | 68.5% | 24 | 80.0% |
| No | 21 | 23.6% | 6 | 20.0% |
| I don't know | 7 | 7.9% | 0 | 0.0% |
| Prefer not to answer | 0 | 0.0% | 0 | 0.0% |
| Total | 89 | 100% | 30 | 100% |

Table B6. Visual artist’s stated interest in receiving support or assistance from technology for Survey (S) and Interview (I) respondents

| Are you generally open to either collaborating with or receiving assistance in your art creation from technology or automation tools? | S (Count) | S (Percent) | I (Count) | I (Percent) |
|---|-----------|-------------|-----------|-------------|
| Yes | 59 | 66.3% | 22 | 73.3% |
| No | 10 | 11.2% | 2 | 6.7% |
| I don't know | 20 | 22.5% | 6 | 20.0% |
| Prefer not to answer | 0 | 0.0% | 0 | 0.0% |
| Total | 89 | 100% | 30 | 100% |

C. Survey Questions

Art Practice Questions

Why these questions?:

- Determine eligibility (that the participant is actually a practising artist)
- Understand trends by “bucketing” artists by proficiency and comfort with computers as we analyse later responses (e.g. enjoyable or challenging aspects of art-making)
- Determine what kinds of art making are popular and whether it would make sense to support them with AI-based tools (e.g. supporting artists making sculptures might be very different from film-makers)

Age: ____ (Number in years) *Required to confirm they are 18+

On average, how many hours do you work on visual art projects in a typical week? (If 0-1, drop out from survey) ____ (Number in hours / week) *Required to confirm they meet participation criteria

What is your level of proficiency as a visual artist?

- Not at all proficient
- Somewhat proficient
- Moderately proficient
- Very proficient
- Extremely proficient
- Prefer not to answer

How comfortable are you with learning new computer tools?

- Extremely uncomfortable
- Somewhat uncomfortable
- Neutral
- Somewhat comfortable
- Extremely comfortable
- Prefer not to answer

What type of visual art do you typically create? Check all that apply.

- Collage
- Conceptual Art
- Crafts (e.g., ceramics, knitting, weaving)
- Design / Architecture
- Drawing – digital
- Drawing – traditional (pen, pencil, ink, etc.)
- Film / Animation
- Generative, Algorithmic, or AI Art (e.g. text-to-image, GANs, etc.)
- Painting – digital
- Painting – traditional (acrylic, oil, watercolour, etc.)
- Photography
- Printmaking
- Sculpture

- Other: _____
- Prefer not to answer

In what capacity/capacities do you typically create art?

- As a hobby

How much creative control do you typically have over your personal artwork?

- No creative control
- A little creative control
- A moderate amount of creative control
- A large amount of creative control
- Complete creative control
- Prefer not to answer

- Professionally (paid to do it)

How much creative control do you typically have over your professional artwork?

- No creative control
- A little creative control
- A moderate amount of creative control
- A large amount of creative control
- Complete creative control
- Prefer not to answer

- Prefer not to answer

Demographic Questions

Why these questions?:

- *Ensure data is collected from many different types of people so that future designs will be inclusive of diverse artists.*
- *Continue data collection if some groups are not at all represented.*
- *Descriptive information to include in studies (to clarify what groups of artists are/are not talking about).*

How do you self-identify in terms of gender?

- Gender-fluid
- Man
- Non-binary
- Trans man
- Trans woman
- Two-Spirit
- Woman
- Another gender not described above: _____
- Prefer not to answer

We know that people of different races do not have significantly different genetics. But our racial identity still has important consequences, including how we are treated by different individuals and institutions. Which race category best describes you? Check all that apply:

- Black (African, Afro-Caribbean, African Canadian descent)

- East/Southeast Asian (Asian and Southeast Asian; Chinese, Korean, Japanese, Taiwanese descent or Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent)
- Indigenous (First Nations, Métis, Inuk/Inuit descent)
- Latino (Latin American, Hispanic descent)
- Middle Eastern (Arab, Persian, West Asian descent – e.g., Afghan, Egyptian, Iranian, Lebanese, Turkish, Kurdish)
- South Asian (South Asian descent – e.g., East Indian, Pakistani, Bangladeshi, Sri Lankan, Indo-Caribbean)
- White (European descent)
- Another race category not described above: _____
- Do not know
- Prefer not to answer

Art Creation Process

Why these questions?:

- Determine what parts of the art-making process to preserve/maintain for human artists
- Determine what parts of the art-making process to reduce/eliminate/change via AI/tech tools

What aspects of the art creation process (if any) do you find most fulfilling, engaging, or enjoyable?

What parts of the art creation process (if any) do you find tedious, challenging, or less enjoyable?

Collaboration & Support

Why these questions?:

- Find participants who have experience getting help or collaborating in art-making
- Understand interest/willingness for collaboration (with fellow-humans or with technology)
- Determine what kinds of collaborations are appealing (roles and tasks to delegate to an AI agent or system)

Have you ever worked with other visual artist(s) on a project (including assisting other artists or receiving assistance)?

- Yes
- No
- I don't know
- Prefer not to answer

Are you generally interested in working with other visual artists (including assisting other artists or receiving assistance)?

- Yes

Which forms of co-working interest you?

- Having another artist (typically an assistant or apprentice) to whom you can delegate tasks in service of your goals

- Supporting another artist (typically acting as an assistant or apprentice) from whom you receive specific tasks in service of their goals
 - Working with other artists via informal involvement in one another's' work, low investment, short duration, e.g. occasionally providing and receiving support and feedback
 - Working with other artists by dividing up a task into separate parts, where each artist takes on a different part or parts
 - Working with other artists by merging into a unified force, melding not only skills but artistic identities
 - Other:
 - Prefer not to answer
- o No

Please briefly describe why you generally prefer to work solo (e.g., what aspects of working with others are unappealing to you)
 - o I don't know
 - o Prefer not to answer

Are you generally open to either collaborating with or receiving assistance in your art creation from technology or automation tools?

- o Yes

What aspects of the creation process would you be open to assistance from technology or automation tools?

 - Idea-generation and brainstorming
 - Preliminary sketches, thumbnails, or other early work
 - Variants or alternatives
 - Recommendations (providing feedback, suggesting areas for improvement)
 - Finished images or renderings
 - Image enhancements (lighting adjustments, noise removal)
 - Curation (identifying promising images or items based on certain criteria)
 - Other:
 - Prefer not to answer
- o No

Please briefly describe why either collaborating with or receiving assistance in your art creation from technology or automation tools does not interest you (e.g., what aspects are unappealing to you)
- o I don't know
- o Prefer not to answer

Additional Comments

Why this question?:

- *Catch any topics that are significant to artists that I haven't already captured*

Is there anything else you'd like to share about your experiences, challenges, or suggestions for improving the art creation process?

Follow-up

Why this question?:

- *Find participants who may be suitable for follow-up interviews*

Would you be willing to participate in a follow-up interview study to provide further insights on your user experience? If so, please provide your name and email address below:

Name: _____

Email Address: _____

Your email address will be kept confidential and only be used for the purpose of contacting you regarding the follow-up interview study.

D. Semi-Structured Interview Question Guide

This interview (approximately 60 minutes) will provide an opportunity to follow-up on earlier (survey) responses to get more insight into why they responded how they did.

Note: these questions are just a guide for the interview.

Introduction (5 minutes)

- Thank the participant for agreeing to meet.
- Review/confirm consent
 - Ask if they have any questions
 - Confirm permission for video/audio prior to recording the session
- Explain: the purpose of the interview is to dive deeper into your experiences as a visual artist to inform the design of new tools. There are no wrong answers.
- Explain: Because our time is limited, I may cut you off sometimes, it's not because your answers are bad or uninteresting, I just want to make sure there's time to cover all of the topics.

Art Process (25 minutes)

Can you tell me about a recent visual art project you worked on?

Question motivation: Understand what artists typically do to make art. Understand artists' implicit values by getting a better sense of 1) what they focus on when making art, and 2) what they focus on when talking about their art process.

Possible follow-up prompts:

- What was involved in creating the artwork?
- What was the inspiration for the artwork?
- What was the most valuable part of the art creation process?
- What was the most challenging part of the art creation process?
 - How did you attempt to overcome the challenge?

Can you tell me a bit about the tools or materials you typically use for art creation?

Question motivation: Understand what tools artists are using currently and why and identify strengths/weaknesses of existing tools and materials.

Possible follow-up prompts:

- What do you use them for?
- What features or characteristics do you find most helpful about those tools or materials?
- What issues have you encountered with those tools or materials?

Has your art creation changed with advancements in technology and AI?

Question motivation: Understand the sentiment towards and impact of technology and AI on artists (I imagine this will vary significantly between participants, may not be on everyone's radar)

Possible follow-up prompts:

- If so: How/in what ways?
- If not: Why not?
- Does anything concern you about AI and other technology for art-making?

Are there aspects of art creation that you believe should always remain exclusively in the hands of human artists?

Question motivation: Identify aspects of the art process that we should consider keeping in the hands of human artists (not delegating to an AI agent).

Art-Making Support (20 minutes)

If they responded yes to experience working with other artists (see survey response):

Can you tell me about the most recent time you worked with another artist or artists (or assisted another artist/received assistance from another artist)?

Question motivation: Gain insight into how artists typically work with others. Identify ways in which working together can have a positive impact on art creation and some common pitfalls.

Possible follow-up prompts:

- How did you work together
 - What were your roles? Were these formal?
- What were your goals
 - Group and personal
- What (if anything) did you gain from the collaboration?
- What challenges did the collaboration introduce?

If they responded yes to interest in collaboration question (see survey response):

You mentioned being generally interested in working with other artists, specifically <selected method(s)>:

Question motivation: Gain insight into how artists typically work with others. Identify ways in which working together can have a positive impact on art creation and some common pitfalls.

- What appeals to you about that kind of working relationship?
- **Do you have any concerns or limitations about working with other visual artists?**

If they responded no to experience or interest working with other artists (see survey response):

- Why do you typically make art alone (preference, circumstance, etc.)?
- Is there anything you want to add about things you enjoy about making art solo?
- Are there any limitations or downsides to working by yourself?

If they responded yes to interest in collaboration with technology question (see survey response):

You mentioned being generally open to either collaborating with or receiving assistance in your art creation from technology or automation tools, specifically <selected method(s)>:

Question motivation: Gain insight into how artists typically work with others. Identify ways in which working together can have a positive impact on art creation and some common pitfalls.

- What appeals to you about that kind of technological collaboration or assistance?
- Do you have any concerns or limitations about working with technology or automation tools?

If they responded no to interest in collaboration with technology question (see survey response):

- Is there any other capacity in which you currently leverage or would want to leverage technology for your work?
- What/if anything appeals to you about technological collaboration or assistance?
- Do you have any concerns or limitations about working with technology or automation tools?

Additional Comments (5 minutes)

Are there any additional insights, experiences, or suggestions you feel are important to your art-making that I haven't already asked you about?

Question motivation: Catch any topics that are significant to artists that I haven't already captured.