Evolutionary Perspectives on Art Preferences

EP theories offer explanations for certain cross-cultural gender differences in art preferences, though these vary by art form and interact with cultural influences.

Abstract

Four studies examining art preferences in diverse cultural samples show that some gender differences align with explanations offered by Evolutionary Psychology. Sorokowski et al. (2014) report that women favored red and men favored blue in both Polish and Yali groups, a pattern interpreted as reflecting sex-specific adaptive tasks. Zhang et al. (2019) found cross-cultural differences in facial attractiveness ratings—such as White UK men showing marked preferences for down-tilted, feminine female faces—that some EP theories link to mate selection strategies. In contrast, Darda and Cross (2022) observed similar preferences for representational art in Indian and Western participants, suggesting a universal adaptive bias for recognizable images, independent of gender. Meanwhile, Street et al. (2016) documented that gender predicted mid-range fractal pattern preferences, though these were also modulated by participants' cultural backgrounds.

Together, these findings indicate that EP mechanisms—for example, sex-specific adaptations in visual processing and mating cues—may help account for certain cross-cultural gender differences in art preferences. However, the adaptive explanations vary by art form and are shaped by cultural and experiential influences, so that EP theories do not offer a single, unified account across all domains of aesthetic judgment.

Paper search

Using your research question "Can EP theories explain cross-cultural gender differences in preferences for art?", we searched across over 126 million academic papers from the Semantic Scholar corpus. We retrieved the 50 papers most relevant to the query.

Screening

We screened in papers that met these criteria:

- **Gender Comparison**: Does the study explicitly examine and compare art preferences between different gender groups with clear comparative data?
- **Cross-Cultural Analysis**: Does the study compare art preferences between two or more distinct cultural groups?
- **Evolutionary Framework**: Does the study incorporate or discuss evolutionary psychology theories or explanations in its framework?
- **Study Design**: Is this an empirical study using quantitative or mixed-methods design with validated instruments or controlled experimental procedures?
- **Participant Age**: Does the study exclusively include adult participants (18 years or older)?
- **Study Focus**: Does the study examine art preferences of observers/consumers (rather than artists' preferences or art production)?

We considered all screening questions together and made a holistic judgement about whether to screen in each paper.

Data extraction

We asked a large language model to extract each data column below from each paper. We gave the model the extraction instructions shown below for each column.

- **Study Design Type**:

  Identify the primary type of study design used:

- Experimental study
- Observational study
- Cross-sectional study
- Comparative study

Look in the methods section for explicit description of study design. If multiple design elements are present, list the most specific and prominent design type. If unclear, note "design not clearly specified".

- **Cultural Contexts Studied**:

  List all distinct cultural groups/populations included in the study:

- Specify exact cultural/national groups (e.g., "Chinese residents in China", "UK-born White participants")
- Note any sub-groups or comparative populations
- If multiple cultures are compared, explicitly state the comparison groups

Locate this information in the methods section, particularly participant description or sampling details. If cultural context is not explicitly defined, note "cultural context not specified".

- **Sample Composition**:

  Extract the following details:

- Total sample size
- Number of participants per cultural group
- Gender breakdown
- Age range or mean age
- Any other relevant demographic characteristics related to art or aesthetic preferences

Prioritize information from methods/participant sections. If precise numbers are not available, use ranges or approximate values. If data is incomplete, note which specific information is missing.

- **Gender-Specific Analysis**:

  Identify how gender was analyzed in relation to art/aesthetic preferences:

- Were gender differences explicitly examined?
- What statistical methods were used to analyze gender differences?
- What were the key findings regarding gender?

Search methods and results sections. If no gender-specific analysis was conducted, clearly state "No gender-specific analysis performed".

- **Art/Aesthetic Preference Measurement**:

  Describe the specific methods used to measure art or aesthetic preferences:

- Type of stimuli used (e.g., facial images, fractal patterns, color samples)
- Measurement technique (e.g., forced choice, rating scales)
- Specific variables or dimensions measured

Locate in methods section. If multiple measurement approaches were used, list all. If measurement technique is not clearly described, note "measurement method unclear".

- **Cross-Cultural Preference Findings**:

  Extract the primary findings related to cross-cultural differences in art/aesthetic preferences:

- Specific differences observed
- Statistical significance of differences
- Any universal or consistent patterns across cultures

Prioritize results section. If findings are complex, summarize the most prominent conclusions. If no clear cross-cultural differences were found, state "No significant cross-cultural differences identified".

Results

Characteristics of Included Studies

Study	Study Type	Art Form Examined	Population Demographics	Key Variables
Darda and Cross, 2022	Experimental study	Visual art (paintings) and dance	90 participants (48 Indian, 42 Western); 79 females, 8 males, 3 non-binary; Mean age: 25.94 years	Familiarity, complexity, evocativeness, abstractness, technical competency, beauty, liking
Sorokowski et al., 2014	Comparative study	Color preferences	308 participants (108 Yali, 200 Polish); equal gender distribution; Age range: 19-59 years	Favorite and least favorite color choices
Street et al., 2016	Comparative study	Abstract monochrome fractal images	443 participants from Europe, North America, Central Asia, and Africa; 228 men, 204 women; Age range: 17-88 years	Preference choices between image pairs, demographic details (age, gender, continent)

Study	Study Type	Art Form Examined	Population Demographics	Key Variables
Zhang et al., 2019	Comparative study	Facial images	90 participants (30 Chinese China-resident, 30 Chinese UK-resident, 30 White UK); equal gender distribution; Mean age range: 21.4-24.6 years	Facial attractiveness ratings

The rough draft included information on 4 studies examining cross-cultural aesthetic preferences:

- Study types : 1 experimental study and 3 comparative studies
- Art forms examined : Each study focused on a different art form, including visual art and dance, color preferences, abstract images, and facial images
- Population demographics :
  - All 4 studies included multicultural samples
  - Gender distribution information was available for 3 studies
  - Age ranges varied across studies, spanning from late teens to late 80s
  - Total participants across all studies: 931
- Key variables :
  - Different variables were examined in each study, including aesthetic judgments (e.g., beauty, liking), color preferences, image preferences, and facial attractiveness ratings
- The studies reported in the rough draft used diverse measurement scales and methods, reflecting varied approaches to examining cross-cultural aesthetic preferences

Thematic Analysis

Patterns in Gender-Based Art Preferences Across Cultures

The studies reported some patterns in gender-based art preferences that were consistent across cultures:

1. Color Preferences :
   - Sorokowski et al. (2014) found consistent sex differences in color preferences across Polish and Yali cultures
   - Women generally preferred red and men preferred blue
2. Facial Attractiveness :
   - Zhang et al. (2019) reported some consistent patterns in facial attractiveness judgments across cultures

- Chinese women showed a stronger preference for White male faces compared to other groups

3. Representational Art :
    - Darda and Cross (2022) found a preference for representational paintings over abstract ones across both Indian and Western cultures

These consistent patterns across cultures raise questions about potential biological foundations for some gender-based art preferences, which some researchers interpret through Evolutionary Psychology (EP) frameworks. However, the interplay between biological predispositions and cultural influences appears complex and varies across different forms of art and aesthetic judgment.

Cultural Moderation of Gender Effects

The studies also revealed significant cultural moderation of gender effects on art preferences:

1. Expertise and Cultural Context :
    - Darda and Cross (2022) found that the preference for representational art was modulated by expertise, but only among Western participants
    - This finding highlights the complex interaction between expertise, cultural background, and gender in shaping aesthetic preferences
2. Industrial vs. Non-industrial Societies :
    - Sorokowski et al. (2014) compared color preferences between Polish (industrial) and Yali (non-industrial) societies
    - While gender differences were consistent, overall color preferences differed significantly between the two cultures
3. Cultural Specificity in Facial Preferences :
    - Zhang et al. (2019) found that White UK men preferred:
        - Downward-tilted, more feminine female faces
        - Female faces with Chinese face shapes more than Chinese men did
4. Fractal Complexity Preferences :
    - Street et al. (2016) reported significant cross-cultural differences in preferences for fractal complexity
    - European participants showed a higher preference for complex patterns compared to North American and Central Asian participants

These findings underscore the importance of considering cultural context when applying EP theories to explain gender differences in art preferences.

Evolutionary Psychological Mechanisms

The studies provide insights into potential evolutionary psychological mechanisms underlying gender differences in art preferences:

1. Sexual Dimorphism in Color Perception :

- Sorokowski et al. (2014) observed consistent gender differences in color preferences across diverse cultures
- Some EP theories propose these differences may relate to sex-specific adaptive tasks in ancestral environments:
  - Gathering (associated with red fruits) for females
  - Hunting or territorial behavior (associated with blue sky) for males

2. Mate Selection and Facial Preferences :
   - Zhang et al. (2019) found cross-cultural differences in facial attractiveness judgments, particularly in men's evaluations of women's faces
   - Some EP theories suggest these preferences may be linked to evolutionary adaptations for mate selection
3. Adaptive Significance of Art Preferences :
   - Darda and Cross (2022) observed a universal preference for representational art
   - Some EP theories propose that recognizable images may have had survival value in ancestral environments
4. Complexity and Environmental Adaptation :
   - Street et al. (2016) found preferences for mid-range fractal patterns across cultures
   - Some EP theories suggest this might reflect an adaptive preference for environments with a balance of complexity and order

It's important to note that while these EP mechanisms offer potential explanations for some observed patterns, they do not fully account for the cultural variations and expertise-based differences found across the studies.

Synthesis of Gender-Culture Interactions

Gender Effect	Cultural Context	EP Explanation	Supporting Evidence
Consistent gender differences in color preferences	Cross-cultural (Polish and Yali)	Evolutionary adaptations in visual perception related to sex-specific tasks	Sorokowski et al. (2014): Women preferred red, men preferred blue across both cultures
Gender differences in facial attractiveness judgments	Chinese and UK cultures	Mate selection adaptations	Zhang et al. (2019): White UK men showed stronger preferences for certain female facial features
No significant gender differences in representational art preference	Indian and Western cultures	Universal adaptive preference for recognizable stimuli	Darda and Cross (2022): Both genders across cultures preferred representational art

Gender Effect	Cultural Context	EP Explanation	Supporting Evidence
Gender differences in fractal complexity preferences	Multiple cultures (Europe, North America, Central Asia, Africa)	Adaptive preference for environmental complexity	Street et al. (2016): Gender was a significant predictor of preference for mid-range fractal patterns

The rough draft reported gender effects in 3 out of 4 studies, with 1 study reporting no significant gender differences. All 4 studies were conducted in cross-cultural contexts, including comparisons between:

- Polish and Yali cultures
- Chinese and UK cultures
- Indian and Western cultures
- Multiple cultures across Europe, North America, Central Asia, and Africa

The evolutionary psychology explanations provided for these effects varied across studies:

- 1 study attributed gender differences to evolutionary adaptations in visual perception related to sex-specific tasks
- 1 study explained gender differences in terms of mate selection adaptations
- 1 study proposed a universal adaptive preference for recognizable stimuli
- 1 study suggested an adaptive preference for environmental complexity

The rough draft did not report consistent evolutionary explanations across studies, with each study proposing a different adaptive mechanism for the observed effects.

References

K. Darda, and Emily S. Cross. "The Role of Expertise and Culture in Visual Art Appreciation." *Scientific Reports*, 2022.

Lingshan Zhang, I. Holzleitner, Anthony J. Lee, Hongyi Wang, Chengyang Han, Vanessa Fasolt, L. DeBruine, and B. Jones. "A Data-Driven Test for Cross-Cultural Differences in Face Preferences." *Perception*, 2019.

N. Street, A. Forsythe, R. Reilly, Richard P. Taylor, and M. Helmy. "A Complex Story: Universal Preference Vs. Individual Differences Shaping Aesthetic Response to Fractals Patterns." *Frontiers in Human Neuroscience*, 2016.

P. Sorokowski, A. Sorokowska, and C. Witzel. "Sex Differences in Color Preferences Transcend Extreme Differences in Culture and Ecology." *Psychonomic Bulletin & Review*, 2014.