

Peer-Review

Mogassbi, Laila. 2026. "Artistic Expertise and Multidimensional Aesthetic Engagement across Four Impressionist, Expressionist, Cubist, and Surrealist Paintings." *Journal of High School Science* 10 (2): 476–501. <https://doi.org/10.64336/001c.163667>.

The manuscript poses an interesting research question and presents potentially useful exploratory data. However, the current version substantially overclaims relative to the evidence presented and does not fully leverage the information contained within the dataset. Several conclusions extend beyond the measured outcomes, while potentially informative analyses remain unexplored. I believe the study could be considerably strengthened through major revision, including reframing the measured constructs, restricting conclusions to the specific artworks studied, reporting effect sizes and associated uncertainty measures, exploring higher-order dimensions of aesthetic engagement, and adopting a more cautious and explicitly exploratory interpretation of the findings. Addressing these concerns would substantially improve the scientific rigor and credibility of the manuscript. A major conceptual issue throughout the manuscript is the repeated use of the term "interpretation" to describe the measured outcomes. The survey instrument employed in this study primarily assesses emotional engagement, attention, immersion, perceived reward, and attempts at understanding the artwork rather than interpretation itself. Interpretation generally refers to the meanings, narratives, symbolic associations, or messages viewers derive from a work of art. Because the questionnaire does not directly measure those constructs, the manuscript would be substantially strengthened by reframing its central research question around differences in aesthetic engagement rather than differences in interpretation. Such a revision would better align the study's conclusions with the actual data collected and would improve the internal validity of the work.

The statistical presentation would also benefit from the inclusion of effect sizes and confidence intervals alongside p-values. Given the small number of art majors surveyed and the exploratory nature of the study, effect sizes are arguably more informative than significance tests alone. Reporting measures such as rank-biserial correlations, Cliff's delta, or other appropriate nonparametric effect sizes would allow readers to evaluate the magnitude of observed group differences. Confidence intervals should accompany these estimates to convey the uncertainty associated with the results. This would provide a more complete and transparent assessment of the findings than p-values alone.

The discussion and conclusions should further restrict their claims to the four specific paintings examined in this study rather than extending findings to Impressionism, Expressionism, Cubism, and Surrealism as artistic movements more broadly. Only a single self-created artwork was used to represent each style, making it impossible to determine whether the observed responses reflect characteristics of the style itself or characteristics unique to the individual painting. Consequently, conclusions should be carefully phrased as applying to the four paintings investigated rather than to entire historical art movements. This change would substantially improve the rigor and defensibility of the manuscript's claims.

The analysis could also be strengthened by organizing the questionnaire items into broader theoretical constructs rather than treating all seven items independently. For example, items relating to emotional response could be grouped into an emotion domain, while other items could be categorized under immersion, understanding, attention to detail, or perceived reward. Such an approach would reduce the number of individual statistical comparisons, provide a more coherent framework for interpreting results, and better reflect the underlying dimensions of aesthetic engagement that the questionnaire appears designed to capture.

Throughout the manuscript, the findings should be presented as exploratory rather than definitive. The combination of a small expert sample, convenience sampling from a single institution, and the use of only one painting per style necessarily limits the generalizability of the results. Framing the work explicitly as a pilot or exploratory study would establish appropriate expectations for readers and position the findings as preliminary evidence warranting future investigation rather than as conclusive demonstrations of differences between art majors and non-art majors.

Finally, the discussion would benefit from a more cautious interpretation of the results. Several passages propose cognitive or psychological mechanisms—such as expertise functioning as a cognitive filter, ambiguity being inherently rewarding for experts, or differences in symbolic processing—that were not directly measured in the present study. These interpretations may be plausible, but they remain speculative given the available data. The discussion should distinguish clearly between observed findings and potential explanations, presenting the latter as hypotheses for future research rather than established conclusions. A more restrained discussion would strengthen the manuscript's scientific rigor and improve the credibility of its contributions.

An additional analytical approach worth considering is whether the questionnaire responses naturally form distinct profiles of aesthetic engagement rather than simply differing according to the binary classification of art major versus non-art major. The current analysis evaluates each questionnaire item separately, which identifies isolated differences but does not reveal broader patterns in how participants engage with the artworks. If the individual-level response data are available, the author may consider constructing composite domains such as emotion, immersion, attention to detail, understanding, and perceived reward, and then applying an exploratory clustering approach. Such an analysis could identify whether participants naturally group into distinct engagement profiles (for example, highly engaged viewers, emotionally responsive viewers, or minimally engaged viewers) and subsequently determine whether art majors and non-art majors are disproportionately represented within particular clusters.

This approach may provide richer insight than a series of individual Mann–Whitney comparisons because it treats aesthetic engagement as a multidimensional construct rather than as a collection of independent questionnaire items. Importantly, it would also allow the author to evaluate whether expertise is associated with a qualitatively different pattern of engagement or merely a shift in the magnitude of responses. Even if formal clustering is not feasible due to sample size limitations, exploratory visualization of participant-level response patterns or composite scores could substantially strengthen the manuscript by revealing relationships that are not apparent from item-by-item hypothesis testing alone.

The manuscript currently focuses primarily on differences between art majors and non-art majors. However, the questionnaire data may also support a complementary analysis examining whether the four paintings themselves exhibit distinct profiles of aesthetic engagement. By aggregating questionnaire items into broader constructs such as emotion, understanding, visual attention, immersion, and perceived reward, the author could characterize each painting according to its engagement profile. Such an approach may reveal, for example, that one painting is associated primarily with emotional engagement whereas another is associated more strongly with understanding or attention to detail. This type of multidimensional analysis may provide richer insight into viewer responses than individual item-by-item comparisons and could help establish a more coherent framework for discussing differences among the paintings studied. Importantly, any resulting conclusions should be restricted to the specific paintings examined rather than generalized

to entire artistic movements.

something like the table below:

Painting	Emotion	Understanding	Attention	Immersion	Reward
Impressionist	Low	Moderate	High	Moderate	Moderate
Expressionist	High	Moderate	Moderate	High	Moderate
Cubist	Moderate	High	High	Moderate	High
Surrealist	High	Low	Moderate	Moderate	Low
You could then find patterns such as:					

Expressionist painting: Emotion+, Immersion+

Cubist painting: Understanding+, Visual Attention+, Reward+

Impressionist painting: Visual Attention+, subtle-detail processing+

Surrealist painting: Emotion+, Understanding–

Now the study becomes much more psychologically interesting because you are no longer simply comparing majors versus non-majors. You are asking:

What dimensions of engagement characterize each painting?

This could even become the central figure. Imagine a radar plot for each painting:

Emotion

Understanding

Attention

Immersion

Reward

The reader could immediately see that each painting occupies a different aesthetic profile. That is arguably more informative than seven separate p-values.

you could even compute an effect size (e.g., Cliff’s δ or rank-biserial correlation) for each construct comparing art majors vs non-art majors: see table below with made up effect sizes:

Painting	Emotion	Understanding	Attention	Immersion	Reward
Impressionist	0.10	0.05	0.55	0.15	0.08
Expressionist	0.40	0.15	0.60	0.70	0.20
Cubist	0.65	0.55	0.60	0.20	0.70
Surrealist	0.55	0.10	0.15	0.20	0.25

Now each painting becomes a vector in a 5-dimensional space.

You could then calculate Euclidean distances, perform hierarchical clustering, produce a dendrogram, identify paintings with similar expert–novice differentiation profiles. This may tell you something along the lines “The magnitude and pattern of expert–novice differences are similar for these two paintings.”

If the raw data are available, you could Compute composite constructs:

Emotion

Understanding

Attention

Immersion

Reward

Compute effect sizes for art-major vs non-art-major differences for each painting. Then present a heatmap (see below)

	Emotion	Understanding	Attention	Immersion	Reward
Impressionist	...	...	...	...	...
Expressionist	...	...	...	...	...
Cubist	...	...	...	...	...
Surrealist	...	...	...	...	...

A heatmap would tell me something that the current manuscript does not tell the readers very well: Where are the largest expert–novice differences occurring, and what kind of engagement are those differences associated with?

Right now the paper essentially says:

Impressionist painting → 1 significant item

Expressionist painting → 3 significant items

Cubist painting → 3 significant items

Surrealist painting → 1 significant item

But that does not reveal any higher-level structure.

A heatmap might look like this (hypothetical):

	Emotion	Understanding	Attention	Immersion	Reward
Impressionist	0.10	0.05	0.65	0.10	0.05

	Emotion	Understanding	Attention	Immersion	Reward
Impressionist					
Expressionist	0.55	0.15	0.50	0.70	0.20
Cubist	0.60	0.70	0.65	0.15	0.75
Surrealist	0.50	0.10	0.15	0.10	0.20

where the numbers are effect sizes. Immediately you would see:

Impressionist painting

The only substantial difference is: Attention to detail This would support a discussion like:

Art majors and non-art majors responded similarly overall, but art majors attended more strongly to subtle visual features. That is a far more precise statement than simply saying there was one significant item.

Expressionist painting

The differences concentrate in Emotion, Immersion and Attention. This suggests that The painting primarily differentiated groups through emotional and attentional engagement.

Cubist painting

The differences are broad and large across the constructs of Emotion, Understanding, Attention and Reward. This would support the author's observation that the Cubist painting produced the most polarized responses

Surrealist painting

The difference is mostly emotional. That would suggest that Expertise primarily affected emotional response rather than understanding or attention.

The real value is that you could begin to characterize the engagement signature of each painting.

Not: Cubism is about understanding. But: The Cubist-style painting in this study produced the strongest expert–novice divergence in understanding and reward.

Not: Surrealism evokes emotion. But: The Surrealist-style painting in this study produced the strongest expert–novice divergence in emotional engagement.

The most interesting outcome would actually be if the heatmap revealed that different paintings separate art majors and non-art majors along different dimensions. For example:

Painting	Dominant Difference
Impressionist	Attention
Expressionist	Immersion

Painting	Dominant Difference
nist	
Cubist	Understanding + Reward
Surrealist	Emotion

Now the manuscript has a coherent narrative: Different paintings do not merely differ in the magnitude of expert–novice differences; they differ in the type of engagement through which those differences emerge. That is a substantially more sophisticated result than: “Three questions were significant for Cubism and one was significant for Surrealism.”

I would find a construct-level heatmap far more informative than the current collection of individual p-values and median plots because it starts to reveal the psychological structure underlying the responses rather than treating each questionnaire item as an isolated observation.

Thank you, reviewers, for your gracious and thorough feedback. I made sure to look through it multiple times and rewrite a lot of my paper to account for it.

Comment #1: “Because the questionnaire does not directly measure those constructs, the manuscript would be substantially strengthened by reframing its central research question around differences in aesthetic engagement rather than differences in interpretation.”

Address: The word ‘interpretation’ was switched with ‘aesthetic engagement’ throughout this paper. Additionally, an explanation of how the questionnaire addresses aesthetic engagement was included in the method element.

Comment #2: “Reporting measures such as rank-biserial correlations, Cliff’s delta, or other appropriate nonparametric effect sizes would allow readers to evaluate the magnitude of observed group differences.”

Address: I calculated the rank biserial correlation effect sizes, placed them in Table 2, bolded the largest ones, and explained their significance in the results. I also explained their interpretation in the discussion.

Comment #3: “Confidence intervals should accompany these estimates to convey the uncertainty associated with the results.”

Address: I calculated 95% non-parametric confidence intervals and included them next to my effect sizes in Table 2.

Comment #4: “Consequently, conclusions should be carefully phrased as applying to the four paintings investigated rather than to entire historical art movements.”

Address: I rewrote every interpretation, suggestion, and conclusion, making sure that the statements were restricted to only the four paintings and not the general movements. This can be seen in the title, which was rephrased as being to specifically explore the four paintings rather than the general styles.

Comment #5: The analysis could also be strengthened by organizing the questionnaire items into broader theoretical constructs rather than treating all seven items independently.

Address: I reorganized all of my data into the five categories rather than the survey items. I then recalculated my Mann-Whitney p-values and used them to make new interpretations and conclusions in the discussion section.

Comment #6: “Framing the work explicitly as a pilot or exploratory study would establish appropriate expectations for readers and position the findings as preliminary evidence warranting future investigation rather than as conclusive demonstrations of differences between art majors and non-art majors.”

Address: I continuously referred to this study as a pilot study with exploratory findings. This can be seen in the literature review conclusion.

Comment #7: “The discussion should distinguish clearly between observed findings and potential explanations, presenting the latter as hypotheses for future research rather than established conclusions.” Address: I added qualifiers to all of my explanations in the discussion. I also described features of the specific art pieces in this study in my explanations rather than general features of the art movements.

Comment #8: “By aggregating questionnaire items into broader constructs such as emotion, understanding, visual attention, immersion, and perceived reward, the author could characterize each painting according to its engagement profile. Such an approach may reveal, for example, that one painting is associated primarily with emotional engagement whereas another is associated more strongly with understanding or attention to detail.”

Address: I added Table 7, which addressed patterns in aesthetic engagement with the art pieces rather than between the art majors and non-art majors.

Comment #9: “You could then calculate Euclidean distances, perform hierarchical clustering, and produce a dendrogram.”

Address: I created dendrograms for each broad idea of aesthetic engagement in Figure 5. These dendrograms were made with Euclidean distances and hierarchical clustering.

Comment #10: “A heatmap would tell me something that the current manuscript does not tell the readers very well: Where are the largest expert–novice differences occurring, and what kind of engagement are those differences associated with?”

Address: I constructed Table 2, with the effect sizes, as a heatmap. This can be seen with the bolded high numbers, as they indicate a larger effect size.

Comment #11: “All such contributions must be clearly stated in the Acknowledgments section.”

Address: I included an acknowledgements section addressing my school, the participants, and the reviewers.

Comment #12: “The authors should explain why each assumption is reasonable and discuss its impact on the results and conclusions.”

Address: The assumption on the expertise of the George Mason University students was explained in the method section.

Comment #13: “Avoid overreaching conclusions that extend beyond what is supported by the data and analysis.”

Address: I went back and made sure all conclusions only reached the four paintings made for this study.

Comment #14: “Verify that you have used past perfect tense and third person throughout the manuscript wherever applicable.”

Address: I went back and checked the tense of all of my sentences, ensuring that they are past and third person, particularly in the method section.

The manuscript has improved substantially since the previous review. The author has made a genuine effort to address the majority of the specific comments by reframing the study around aesthetic engagement, introducing broader engagement constructs, reporting effect sizes and confidence intervals, adding clustering analyses, and more clearly positioning the work as an exploratory pilot study. These revisions have strengthened the technical presentation of the manuscript and have brought the study into closer alignment with its stated objectives.

However, despite the addition of these new analyses, I am not convinced that the manuscript has yet realized the full scientific potential of the dataset. A recurring concern throughout the revision is that many of the recommendations appear to have been implemented procedurally rather than analytically. New tables, effect sizes, confidence intervals, and dendrograms have been added, but the manuscript often stops at describing these outputs rather than using them to generate new

understanding. As a result, the revised paper contains considerably more statistical information than the original version, yet only modestly more scientific insight.

The most important example concerns the aggregation of questionnaire items into broader constructs such as emotion, understanding, focus, immersion, and reward. The purpose of this recommendation was not merely to reduce the number of variables being analyzed. Rather, the purpose was to allow the author to identify higher-order engagement profiles that characterize the paintings and reveal how expertise influences aesthetic engagement. The resulting Table 7 does not accomplish this objective. Instead, the table largely converts the underlying quantitative results into qualitative labels such as “Low,” “Moderate,” and “High.” This summarizes the data but does not meaningfully analyze it. The manuscript should move beyond descriptive categorization and investigate what the multidimensional structure of engagement reveals. For example, are certain paintings primarily associated with emotional engagement while others are associated with understanding or focused attention? Are there identifiable engagement archetypes among the paintings? Does expertise alter the shape of a painting’s engagement profile or merely increase the magnitude of engagement across all dimensions? Which dimensions contribute most strongly to the separation between art majors and non-art majors? These questions appear to be directly accessible from the existing dataset, yet they are not explored in sufficient depth.

A similar concern applies to the clustering analyses. The manuscript now includes dendrograms generated from hierarchical clustering, but the discussion focuses largely on describing the branching structures themselves. The reader is not shown what new knowledge the clustering analyses provide beyond what was already apparent from the summary statistics and effect sizes. The clustering results should be used to develop a broader conceptual interpretation of the data rather than functioning as an additional set of descriptive figures. At present, the dendrograms appear somewhat disconnected from the central narrative of the manuscript.

The manuscript would also benefit from a more integrated synthesis of the various analyses. Currently, the results section presents p-values, effect sizes, confidence intervals, median responses, qualitative commentary, engagement categories, and clustering outputs largely as separate analytical products. The discussion should instead attempt to reconcile these findings into a unified interpretation. For instance, if the Cubist painting consistently exhibits large expert–novice differences across multiple engagement dimensions, what does this collectively suggest about the role of expertise when viewing ambiguity, abstraction, or geometric structure? Likewise, if the Surrealist painting produces high emotional engagement but relatively smaller expert–novice differences, what implications might this have for the accessibility of symbolic or emotionally

evocative imagery? These types of integrative interpretations would substantially strengthen the manuscript.

Several methodological and reporting issues also remain unresolved. Appendix 2 should explicitly identify which questionnaire items were assigned to each engagement category. This information is essential for readers to evaluate the conceptual validity of the aggregation procedure and to reproduce the analysis. Furthermore, the manuscript should report the Mann–Whitney U statistics associated with each comparison. Because the confidence intervals for several rank-biserial correlations appear unexpectedly narrow given the sample sizes, the author should also provide a detailed explanation of the confidence interval calculation procedure, including the software, package, and computational method used. This additional information would allow readers to verify the reported values and assess their reliability.

The presentation of the effect-size results could also be improved. Although Table 2 is described as a heat map, it functions primarily as a shaded summary table. A proper heat map using a continuous color scale would provide a clearer visual representation of where the largest expert–novice differences occur and how those differences are distributed across paintings and engagement dimensions. Such a visualization would better support the comparative analysis that the manuscript seeks to perform.

I also encourage the author to further distinguish between observed findings and speculative explanations. Although the revised discussion is more cautious than the original version, there remain several instances in which interpretations extend beyond what can be directly inferred from the data. Potential explanations should consistently be presented as hypotheses for future investigation rather than as conclusions established by the present study. Similar caution should be applied to the interpretation of the dendrograms, where substantial psychological meaning is sometimes attributed to structures derived from a relatively small exploratory sample.

Finally, while the manuscript now acknowledges that only four self-created paintings were examined, some conclusions continue to drift toward broader claims regarding Impressionism, Expressionism, Cubism, and Surrealism as artistic styles. Given that only one painting represented each style, the conclusions should remain restricted to the specific artworks investigated. Broader implications for artistic styles should be presented explicitly as tentative hypotheses that require validation using multiple representative works.

Overall, I believe the author has addressed many of the individual comments from the previous review, but has not yet fully addressed the broader scientific intent behind those comments. The revised manuscript demonstrates increased analytical activity but not yet a proportional increase in

interpretive depth. (see examples below that should be addressed to achieve this). Importantly, I believe the existing dataset contains substantially more information than is currently being extracted. I therefore encourage the author to move beyond the presentation of individual statistical outputs and develop a more comprehensive synthesis of what the collective pattern of results reveals about aesthetic engagement, artistic expertise, and the distinct characteristics of the four paintings examined in this study.

Example # 1: For example, because all four paintings depict the same subject matter, the revised manuscript provides a rare opportunity to examine how stylistic manipulation alone influences aesthetic engagement. However, the analysis never fully capitalizes on this design feature. Rather than simply reporting separate engagement scores for each painting, the manuscript could investigate which dimensions of engagement are most sensitive to stylistic variation when subject matter is controlled. Such an analysis could reveal whether changes in style primarily affect emotional engagement, understanding, attention, immersion, or perceived reward. It could also determine whether expertise amplifies sensitivity to stylistic differences or whether certain dimensions remain relatively stable across both groups. These questions lie at the heart of the study's experimental design, yet the current manuscript largely reports the measurements without extracting the broader implications of what changes when style varies but content remains constant.

Example # 2: For example, the aggregation of survey items into broader constructs creates an opportunity to examine whether expertise affects all dimensions of aesthetic engagement equally or whether certain dimensions are disproportionately influenced by artistic training. The revised manuscript reports separate results for emotion, understanding, immersion, focus, and reward, but does not investigate whether a systematic pattern exists across these dimensions. Such an analysis could reveal whether expertise primarily influences cognitive aspects of engagement (e.g., understanding and focus), affective aspects of engagement (e.g., emotion and reward), or a combination of both. This distinction is potentially more informative than the individual statistical comparisons because it speaks directly to the mechanisms through which artistic training may alter aesthetic experience. At present, the manuscript reports the dimensions separately but does not fully explore what the collective pattern across dimensions reveals about the nature of expertise itself.

Example # 3: the manuscript reports both statistical significance and effect sizes, yet little effort is made to interpret situations in which these measures tell different stories. Some engagement dimensions exhibit moderate-to-large effect sizes despite weaker statistical significance, whereas others show statistical significance with comparatively modest effect sizes. Examining these discrepancies could provide insight into which findings are likely to represent meaningful differences in aesthetic engagement versus those that may be more sensitive to sample size limitations. Such interpretation would move the manuscript beyond hypothesis testing toward a more nuanced evaluation of the practical significance of the observed patterns.

Example # 4: the qualitative commentary appears to have been treated primarily as illustrative quotations accompanying the quantitative findings. However, the comments themselves contain information that could be systematically analyzed. The manuscript repeatedly suggests that art majors focus on symbolism, technique, structure, and artistic intent, whereas non-art majors focus more on preference, familiarity, or immediate emotional reactions. Rather than presenting a small number of representative quotes, the author could develop a coding framework to determine whether distinct themes emerge consistently across participant groups and paintings. Such an analysis would provide an independent line of evidence regarding the nature of expert and novice engagement and could be integrated with the quantitative findings to develop a richer interpretation of the results.

Example # 5: the manuscript reports engagement levels for emotion, reward, immersion, focus, and understanding, but does not examine whether certain paintings exhibit balanced engagement profiles while others exhibit highly asymmetric profiles. A painting that scores highly across all dimensions may engage viewers differently from a painting that produces strong emotional responses but little understanding, or strong understanding but little emotional response. Such asymmetries could provide insight into the nature of aesthetic engagement itself and help distinguish paintings that are intellectually engaging from those that are primarily emotionally evocative. The current manuscript reports the dimensions individually but does not explore these broader patterns.

Example # 6: the analysis focuses almost exclusively on differences between art majors and non-art majors, yet the areas of agreement may be equally informative. If both groups consistently rate a

particular painting highly on emotion or focus despite differences in expertise, this may indicate that certain aspects of aesthetic engagement are robust to artistic training. Conversely, dimensions exhibiting strong divergence may be particularly dependent on expertise. Identifying where experts and novices converge versus diverge could yield a more nuanced understanding of the role of artistic training than simply cataloguing statistically significant differences.

Example # 7: once questionnaire items were aggregated into broader constructs, the manuscript could have examined whether these constructs themselves tend to co-occur. Do paintings that generate high understanding also generate high reward? Is emotional engagement associated with immersion? Does focus predict understanding? Such relationships could reveal whether aesthetic engagement is best understood as a collection of independent dimensions or as a smaller number of interconnected processes. The current analysis treats each construct separately and therefore misses the opportunity to investigate the structure of aesthetic engagement itself.

Example # 8: the manuscript does not systematically investigate situations in which the qualitative commentary appears to diverge from the quantitative findings. A painting may receive moderate numerical ratings while simultaneously eliciting highly polarized written responses. Such discrepancies may indicate that average scores are masking important variation in viewer experience. Examining these tensions between qualitative and quantitative data could provide insights that neither dataset can provide independently.

Example # 9: after presenting the statistical analyses, the manuscript could attempt to develop a conceptual model describing how expertise influences aesthetic engagement. The current discussion reports individual findings but stops short of proposing an overarching framework. The reader is left knowing that differences exist, but not how those differences fit together. A successful synthesis would explain whether expertise primarily enhances analytical processing, increases tolerance for ambiguity, promotes attention to formal artistic elements, alters emotional responses, or some combination thereof. The existing data appear capable of supporting such a discussion, yet the manuscript does not fully pursue it.

Comment #1: “For example, are certain paintings primarily associated with emotional engagement while others are associated with understanding or focused attention? Are there identifiable engagement archetypes among the paintings? Does expertise alter the shape of a painting’s engagement profile or merely increase the magnitude of engagement across all

dimensions? Which dimensions contribute most strongly to the separation between art majors and non-art majors? These questions appear to be directly accessible from the existing dataset, yet they are not explored in sufficient depth.”

Address: In the discussion, I characterized the aesthetic engagement profiles of the four paintings from the third to seventh paragraphs, comparing and contrasting them in different ways.

Comment #2: “The clustering results should be used to develop a broader conceptual interpretation of the data rather than functioning as an additional set of descriptive figures.”

Address: In the discussion, I explained a deeper interpretation of the dendrograms from the eighth to ninth paragraphs, comparing the meanings of the close and separated branches.

Comment #3: “The manuscript would also benefit from a more integrated synthesis of the various analyses.”

Address: In the discussion, I combined the various interpretations of the findings into more complex conclusions, such as how expertise may encourage greater attention to formal artistic elements, increase willingness to engage with ambiguity, and promote interpretive or symbolic thinking. I also elaborated on the meaning behind the varied differences in the engagement with the Cubist painting and the lesser differences in the engagement with the Surrealist painting.

Comment #4: “Appendix 2 should explicitly identify which questionnaire items were assigned to each engagement category.”

Address: I included the broader idea behind each question in brackets after stating the survey item.

Comment #5: “Because the confidence intervals for several rank-biserial correlations appear unexpectedly narrow given the sample sizes, the author should also provide a detailed explanation of the confidence interval calculation procedure, including the software, package, and computational method used.”

Address: In the results section, under Table 2, I explained the computational methods and softwares for the effect sizes and confidence intervals.

Comment #6: “A proper heat map using a continuous color scale would provide a clearer visual representation of where the largest expert–novice differences occur and how those differences are distributed across paintings and engagement dimensions.”

Address: I recolored Table 2 into becoming a more understandable heatmap. I used continuous shades of blue to do this.

Comment #7: “I also encourage the author to further distinguish between observed findings and speculative explanations.” Address: I added explicit statements explaining how interpretations are merely potential

hypotheses for future studies. This can be seen in the last sentence of the ninth paragraph of the discussion and within the second to last paragraph of the discussion.

Comment #8: “Given that only one painting represented each style, the conclusions should remain restricted to the specific artworks investigated. Broader implications for artistic styles should be presented explicitly as tentative hypotheses that require validation using multiple representative works.”

Address: In the discussion, I added an explicit statement explaining how the findings of this study do not apply to the general art movements within the second to last paragraph of the discussion.

Comment #9: “Rather than simply reporting separate engagement scores for each painting, the manuscript could investigate which dimensions of engagement are most sensitive to stylistic variation when subject matter is controlled”

Address: Within the first paragraph of the discussion, I added an explicit statement about the impacts of keeping the subject matter controlled.

Comment #10: “The revised manuscript reports separate results for emotion, understanding, immersion, focus, and reward, but does not investigate whether a systematic pattern exists across these dimensions.”

Address: I synthesized the graphs of emotion and focus as well as immersion, understanding, and reward based on the dendrogram graphs.

Comment #11: "Some engagement dimensions exhibit moderate-to-large effect sizes despite weaker statistical significance, whereas others show statistical significance with comparatively modest effect sizes. Examining these discrepancies could provide insight into which findings are likely to represent meaningful differences in aesthetic engagement versus those that may be more sensitive to sample size limitations."

Address: At the end of the sixth paragraph of the discussion, I included various statements interpreting this discrepancy for the presented paintings.

Comment #12: "Such asymmetries could provide insight into the nature of aesthetic engagement itself and help distinguish paintings that are intellectually engaging from those that are primarily emotionally evocative. The current manuscript reports the dimensions individually but does not explore these broader patterns."

Address: I explained asymmetries and balances in the seventh paragraph of the discussion, particularly relating to the dendrogram.

Comment #13: "Identifying where experts and novices converge versus diverge could yield a more nuanced understanding of the role of artistic training than simply cataloguing statistically significant differences."

Address: I explained convergence and divergence patterns for aesthetic engagement in the tenth paragraph of the discussion.

Comment #14: "Once questionnaire items were aggregated into broader constructs, the manuscript could have examined whether these constructs themselves tend to co-occur." Address: I explored this possibility in explaining the results of the Cubist painting in the fourth paragraph of the discussion.

Comment #15: "Examining these tensions between qualitative and quantitative data could provide insights that neither dataset can provide independently."

Address: In the fifth paragraph of the discussion, while addressing the Surrealist piece, I discussed the tension between the varied commentary and lack of statistical significance from the questionnaire.

Comment #16: "after presenting the statistical analyses, the manuscript could attempt to develop a conceptual model describing how expertise influences aesthetic engagement."

Address: In the third to last paragraph of the discussion, I described a model created based on patterns in the results. I explained how different dimensions of aesthetic engagement could interact with various aspects of the presented paintings.

Your discussion is now much richer, but I had asked you to support it with analysis; which is missing. See attached pdf file that is an excerpt from my conversation with chatgpt. That should point you in the right direction.

Comment #1: "Emotion and Focus exhibit approximately 2× larger expertise effects than Immersion."

Address: Quantitative comparisons of average rank-biserial effect sizes were added to Discussion Paragraph 2. Mean effect sizes were calculated across all four paintings, demonstrating that focus (mean r_{rb} = 0.356) and emotion (mean r_{rb} = 0.325) showed larger expertise-related effects than immersion (mean r_{rb} = 0.166), supporting the interpretation with numerical evidence rather than visual interpretation alone.

Comment #2: "Cubism forms a statistically distinct engagement profile compared with the other three paintings."

Address: Discussion Paragraph 3 was revised to include quantitative comparisons of overall engagement profiles across paintings. Mean effect sizes were calculated for each painting, demonstrating that the Cubist painting produced the largest overall expertise-related engagement

profile (mean $rrb = 0.350$), supporting the conclusion that it generated broader divergence between art majors and non-art majors than the other paintings.

Comment #3: “The revised manuscript repeatedly follows this structure: observe pattern, describe pattern, offer interpretation.”

Address: Several discussion sections were revised to incorporate quantitative summaries prior to interpretation. Numerical comparisons of mean effect sizes across dimensions and paintings were added before discussing potential implications, creating a clearer progression from observation to quantification to interpretation.

Comment #4: “Expertise affects some dimensions more than others.”

Address: Discussion Paragraph 2 was expanded to include a ranking of aesthetic engagement dimensions based on average effect size. This demonstrated that expertise-related differences were strongest for focus and emotion, moderate for reward and understanding, and weakest for immersion.

Comment #5: “Cubism shows large differences in emotion, reward, and focus and therefore may reflect ambiguity, tolerance and analytical engagement.”

Address: Discussion Paragraph 3 was revised to include quantitative evidence showing that the Cubist painting exhibited moderate-to-large effect sizes across multiple dimensions simultaneously (emotion, focus, reward, and understanding). The interpretation regarding ambiguity and analytical engagement is now supported by a broader numerical pattern rather than a descriptive observation alone.

Comment #6: “Cubism exhibits an asymmetric profile. Impressionism and Expressionism are more balanced.”

Address: Unsupported language describing engagement profiles as “asymmetric” or “balanced” was revised. Instead, the discussion now focuses on objectively reported effect-size patterns and the overall strength of engagement profiles, avoiding claims that were not directly quantified.

Comment #7: “Relationships among constructs.”

Address: A limitation was added acknowledging that correlations among aesthetic engagement dimensions (focus, reward, immersion, and understanding) were not examined thoroughly in the present study, due to its exploratory nature. Future research directions were recommended as formal correlation analyses to investigate potential relationships among broad ideas.

Comment #8: “Qualitative analysis: create codes and statistically demonstrate thematic differences.”

Address: The qualitative discussion was revised to explicitly acknowledge that a formal coding procedure was not able to be conducted due to the limited amount of qualitative data. A recommendation was added suggesting future thematic coding and frequency-based comparisons of symbolism, technique, emotional reaction, and preference-related comments to provide stronger quantitative support for qualitative observations.

Comment #9: “Quantify the pattern, test the pattern, then interpret the pattern.”

Address: The revised discussion now includes quantitative summaries of dimension-level and painting-level effect sizes prior to interpretation. These additions strengthen the evidence base for the manuscript’s conclusions and reduce dependency on surface-level interpretation alone.

Thank you for addressing my comments. The manuscript is much improved. Please address several deficiencies that persist.

1. Table 7 requires further clarification and revision. At present, the classifications of aesthetic engagement as “Low,” “Moderate,” and “High” appear subjective because the manuscript does not specify the underlying metric being categorized, the thresholds used to define each category, or the procedure by which these labels were assigned. Consequently, the table is not reproducible, and readers cannot independently verify how the classifications were derived from the reported results.

In addition, Table 7 appears internally inconsistent with other results presented in the manuscript. For example, the table classifies Focus and Understanding as “High” across all four paintings despite substantial variation in the corresponding effect sizes reported in Table 2. Similarly, the Surrealist painting is classified as exhibiting “High” emotional engagement whereas the Cubist painting is classified as only “Moderate,” despite the Cubist painting demonstrating a larger emotion effect size. These discrepancies make it unclear whether Table 7 is intended to summarize effect sizes, median engagement levels, statistical significance patterns, or some other quantity entirely.

Rather than using qualitative categories, I recommend converting Table 7 into a quantitative summary table. For example, the table could report the actual median engagement scores, mean construct scores, effect sizes, or another clearly defined quantitative metric for each painting and engagement dimension. This would make the summary reproducible, eliminate subjective categorization, and allow readers to directly compare paintings without requiring interpretation of undefined labels. Such a revision would also improve consistency with the remainder of the manuscript, which otherwise relies on quantitative analyses and numerical reporting.

2. The manuscript does not appear to include a statement regarding informed consent, ethical approval, or exemption status. Because this study involved human participants completing surveys and providing qualitative comments, the Methods section should explicitly state whether informed consent was obtained prior to participation and whether the study received institutional ethics review, IRB approval, or an exemption determination. Even if the study qualified as minimal-risk educational research, an ethics statement should be included to ensure transparency and compliance with standard reporting practices for human-subject research. (Include a copy of the written approval).

If informed consent was not obtained, we cannot publish this work. At a minimum, please get post-hoc written approval from your principal, counselor and two other teachers not connected with this work stating that the already performed study contained human interaction that could be construed to be exempted from informed consent or ethical approval.

3. The author has added numerous discussion paragraphs in response to reviewer comments, but they have largely been inserted sequentially rather than woven into a coherent narrative. As a result, the Discussion often feels like a series of independent observations:

expertise effects across dimensions,

Cubist profile,

Surrealist profile,

Impressionist/Expressionist profile,
multidimensional engagement,
dendrogram interpretation,
qualitative findings,

rather than a progressively developed argument. The manuscript therefore reads somewhat disjointedly despite containing substantially more analysis than previous versions.

A stronger structure might organize the Discussion around major analytical themes rather than individual analyses. For example:

- Overall expertise effects across dimensions

Focus, emotion, reward, immersion, understanding.

- Style-specific engagement profiles

Impressionist, Expressionist, Cubist, Surrealist comparisons.

- Convergence and divergence between art majors and non-art majors

Dendrograms and effect-size patterns.

- Qualitative interpretation and symbolic processing

Commentary data.

- Implications, limitations, and future directions

Such restructuring would help readers understand how the various analyses relate to one another and would reduce the impression that new discussion sections were added independently in response to reviewer comments.

4. Several discussion sections appear to imply relationships among aesthetic engagement constructs that were not directly examined in the present study. For example, the manuscript suggests that reduced focus and immersion may have contributed to lower reward ratings and discusses potential interplay or codependency among engagement dimensions. However, no correlation, co-occurrence, or multivariate analyses were performed to evaluate relationships among focus, reward, immersion, understanding, or emotion. As a result, these interpretations extend beyond the analyses presented. The authors should either conduct analyses examining relationships among the engagement constructs or revise the discussion to describe these patterns as co-occurring observations rather than inferred relationships. For example, statements suggesting that one dimension may influence another could be replaced with language indicating that the dimensions exhibited similar patterns and may warrant future investigation. This would ensure that the conclusions remain proportional to the analyses performed.

where language should be softened:

“This introduces the potential that the non-art majors’ recognized inability to focus and immerse in the painting may have influenced the lower level of reward seen in Figure 4, suggesting interplay and codependency between the different dimensions of aesthetic engagement.” and

"These differences emphasize that aesthetic engagement may be not a single process but rather a combination of partially independent dimensions..."

5. The dendrograms are generated from Euclidean distances, hierarchical clustering, and aggregate engagement scores. They reveal which profiles resemble each other. They do not reveal why they resemble each other. The discussion sometimes treats clustering structure as evidence for underlying psychological processes. That is a mechanistic leap. Best solution is to add a limitation sentence “Because the clustering analysis identifies similarity structures rather than causal mechanisms, interpretations regarding the psychological processes underlying cluster formation should be considered speculative.”

6. There appears to be a discrepancy between the response letter and the revised manuscript regarding the discussion of engagement profiles. In the response letter, the author states that unsupported language describing profiles as “asymmetric” or “balanced” was revised and replaced with discussion focused on objectively reported effect-size patterns. However, the manuscript continues to describe the Cubist painting as exhibiting a “relatively asymmetric profile” and the Impressionist and Expressionist paintings as appearing “more balanced across dimensions.”

This creates some ambiguity regarding the extent to which the original concern was addressed. If these terms are retained, the manuscript should explicitly define and quantify what is meant by “asymmetric” and “balanced” engagement profiles. Alternatively, the discussion should be revised to focus directly on the reported quantitative patterns without introducing qualitative profile descriptors that are not formally operationalized. Aligning the manuscript text with the description provided in the response letter would improve consistency and clarity.

7. The manuscript frequently refers to the paintings as exhibiting “distinct engagement profiles.”

However, the evidence presented appears stronger for the conclusion that the paintings exhibited differing patterns of engagement rather than clearly distinct multidimensional profiles. Several dimensions show substantial overlap across paintings, and no formal analysis is presented demonstrating that the engagement profiles are quantitatively separable from one another. For example, Table 7 suggests considerable similarity across several dimensions, while the reported effect-size patterns indicate differences in magnitude rather than unequivocally distinct profile structures.

I recommend either softening the language throughout the manuscript (e.g., “different patterns of engagement” rather than “distinct engagement profiles”) or providing additional quantitative analyses demonstrating profile distinctness. Given the exploratory nature of the study and the limited sample size, more cautious wording would likely be most appropriate.

Comment 1: “Rather than using qualitative categories, I recommend converting Table 7 into a quantitative summary table.”

Address: Table 7 was completely revised and converted into a quantitative summary table reporting mean rank-biserial effect sizes and the largest expertise-related effect for each painting. This eliminates subjective classifications and allows readers to directly verify the values derived from the reported analyses.

Comment 2: “The manuscript does not appear to include a statement regarding informed consent, ethical approval, or exemption status.”

Address: An Ethics Statement was added to the Methods section. The new subsection explicitly states that informed consent was obtained prior to participation and that the study received IRB approval. Participant consent forms were also provided.

Comment 3: “The Discussion often feels like a series of independent observations.”

Address: The Discussion was reorganized into major analytical topics rather than individual analyses. Specifically, sections were restructured around (1) overall expertise effects across dimensions, (2) style-specific engagement patterns, (3) convergence and divergence between groups, (4) qualitative interpretation, and (5) implications, limitations, and future directions.

Comment 4: “Statements suggesting that one dimension may influence another could be replaced with language indicating that the dimensions exhibited similar patterns and may warrant future investigation.”

Address: Sentences implying relationships among engagement dimensions were replaced throughout the discussion. Interpretations previously suggesting interaction or codependency between dimensions were replaced with descriptions of co-occurring patterns, and additional statements were added acknowledging that direct relationships among dimensions were not tested in the present study.

Comment 5: “Because the clustering analysis identifies similarity structures rather than causal mechanisms, interpretations regarding the psychological processes underlying cluster formation should be considered speculative.”

Address: A limitation statement was added to the dendrogram discussion clarifying that hierarchical clustering identifies similarity structures rather than causal mechanisms. Interpretations regarding underlying psychological processes are now explicitly described as speculative.

Comment 6: “The manuscript continues to describe the Cubist painting as exhibiting a ‘relatively asymmetric profile’ and the Impressionist and Expressionist paintings as appearing ‘more balanced across dimensions.’”

Address: These qualitative descriptors were removed. The discussion now refers directly to the reported effect-size patterns and quantitatively describes how expertise-related differences varied across dimensions.

Comment 7: “The manuscript frequently refers to the paintings as exhibiting ‘distinct engagement profiles.’” Address: References to “distinct engagement profiles” were altered throughout the manuscript to more cautious language such as “different patterns of engagement” or “different patterns of aesthetic engagement.”

Comment 8: “Table 7 appears internally inconsistent with other results presented in the manuscript.”

Address: The previous qualitative categorization system was removed entirely. The revised quantitative table is based directly on the reported effect sizes.

Comment 9: “No formal analysis is presented demonstrating that the engagement profiles are quantitatively separable from one another.”

Address: Wording implying quantitatively distinct profile structures was softened throughout the manuscript. Conclusions now emphasize differing patterns of engagement rather than formally distinct engagement profiles, consistent with the exploratory scope of the study and the analyses performed.

Comment 10: “The conclusions should remain proportional to the analyses performed.”

Address: Discussion sections that previously extended beyond the reported analyses were revised to distinguish findings from speculative interpretations. Additional qualifying wording was added throughout the Discussion, and future research directions were included where mechanisms or relationships could not be directly evaluated in the present study.

Thank you again for addressing my comments promptly. My last comments (and some corrections) are minor (below). The manuscript now tests content and ideas that do not appear in the published literature. You hence need to emphasize the novelty of your manuscript as well (see suggested text below).

1. The dimensions are described in the Methods section; however, because the revised manuscript now places substantial emphasis on comparing engagement dimensions, the authors may wish to provide additional discussion regarding the conceptual distinctions among emotion, reward, immersion, focus, and understanding and the rationale for treating them as separate components of aesthetic engagement. You need to show the reader why the dimensions are distinct (not redundant). Insert a paragraph like this toward the end of the ‘methods section’.

"Although the five dimensions collectively represent components of aesthetic engagement, each captures a distinct aspect of the viewing experience. Emotion reflects the affective impact of an artwork and the extent to which it evokes feelings or emotional resonance. Reward refers to the degree of enjoyment, appreciation, or subjective value derived from the viewing experience and therefore represents an evaluative response rather than an emotional one. Immersion describes the extent to which viewers become absorbed in the artwork and mentally engaged with the experience itself. Focus captures attentional engagement, including the deliberate allocation of cognitive resources toward examining visual details, compositional elements, and artistic features.

Understanding reflects the viewer’s perceived ability to interpret, comprehend, or derive meaning from the artwork. While these dimensions may interact during aesthetic experiences, they are conceptually distinct. For example, a viewer may focus intently on a painting without fully understanding it, experience strong emotions without finding the artwork rewarding, or derive considerable enjoyment from a painting despite limited immersion. Examining these dimensions separately therefore allows for a more nuanced assessment of how artistic expertise may influence different components of aesthetic engagement.

2.replace the sentence that currently reads something like:“Values near $\pm.10$ are considered small effects, values near $\pm.30$ are moderate effects, and values near $\pm.50$ are large effects.” or the entire paragraph in which those thresholds are introduced with something like

“Rank-biserial correlations were reported to provide an estimate of the magnitude of group differences. Interpretation focused primarily on the relative magnitude of the observed effect sizes rather than rigid categorical classifications. In general, larger absolute values indicate greater separation between the responses of art majors and non-art majors, whereas values closer to zero indicate greater similarity between groups.”

this avoids committing the paper to arbitrary “small/moderate/large” cutoffs while still giving readers an intuitive interpretation of what the statistic means. This would also eliminate one of the internal consistency problems that now appears in the Discussion, where effect sizes are sometimes described using labels that do not match the stated thresholds.

3.The revised manuscript has evolved from a simple expert-versus-novice comparison into a multidimensional study of aesthetic engagement. The abstract should be updated accordingly. At present, the abstract emphasizes group differences but underrepresents the comparative findings across painting styles and engagement dimensions that now constitute a major contribution of the revised manuscript. I would rewrite the abstract to something like

"Previous research has shown that individuals with artistic training often engage with visual art differently from non-experts. However, less is known about whether these differences vary across artistic styles when subject matter is held constant. This exploratory pilot study investigated whether art majors and non-art majors differed in their aesthetic engagement with four original paintings depicting the same subject—a woman holding a flower—rendered in the styles of Impressionism, Expressionism, Cubism, and Surrealism. Forty-four George Mason University students (8 art majors and 36 non-art majors) completed a survey adapted from the Aesthetic Experience Questionnaire. Responses were aggregated into five dimensions of aesthetic engagement: emotion, reward, immersion, focus, and understanding. Mann–Whitney U tests, rank-biserial correlations, qualitative commentary, and hierarchical clustering analyses were used to compare responses between groups.

Across most dimensions and paintings, art majors reported stronger aesthetic engagement than non-art majors. However, expertise-related differences varied substantially across both artistic styles and dimensions of engagement. The Cubist painting produced the largest overall divergence between groups, whereas the Impressionist and Surrealist paintings exhibited comparatively smaller expertise-related effects. Across the five dimensions examined, focus and emotion demonstrated the

strongest average associations with artistic expertise, while immersion exhibited the weakest. Qualitative responses suggested that art majors more frequently discussed symbolism, artistic techniques, compositional structure, and interpretive possibilities, whereas non-art majors more often emphasized personal preferences and immediate emotional reactions. Hierarchical clustering further indicated that patterns of aesthetic engagement differed across dimensions and participant groups, suggesting that artistic training may influence not only the magnitude of engagement but also how viewers interact with different aspects of an artwork.

To the author's knowledge, this study is among the first to compare expertise-related differences across Impressionist, Expressionist, Cubist, and Surrealist renderings of the same subject while simultaneously examining multiple dimensions of aesthetic engagement. By controlling subject matter and varying stylistic presentation, the study provides preliminary insight into how artistic style may influence emotion, reward, immersion, focus, and understanding differently for trained and untrained viewers.

Because only one self-created painting represented each artistic style and the sample size was limited, the findings should be interpreted as exploratory and restricted to the specific artworks examined rather than as representative of the broader artistic movements. Nevertheless, the results provide preliminary evidence that artistic expertise influences multiple dimensions of aesthetic engagement and that the magnitude of these effects may depend on stylistic presentation even when subject matter remains constant."

4. There remains at least one factual inconsistency between the Discussion and Table 2 (Surrealist focus vs emotion).

5. "Broader ideas" is a vague interpretive phrase. replace "broader ideas" everywhere with "dimensions," "components," or "aspects of aesthetic engagement," depending on the sentence. **Also replace in figures and tables** If you have not already done so, please upload the figures separately as individual JPEG or PNG files of sufficient resolution.

6. I recommend avoiding abbreviated painting-style labels (e.g., Imp, Exp, Cub, Sur) and instead using the full terms Impressionist, Expressionist, Cubist, and Surrealist throughout the manuscript, tables, and figures. Because only four artistic styles are examined, the space savings provided by the abbreviations are minimal, whereas the repeated need for readers to translate the abbreviations reduces readability. Using the full style names would improve clarity and make the comparisons among paintings easier to follow, particularly in the Results and Discussion sections where style-specific interpretations are emphasized.

7. recalculate Mean r_{FB} Across Dimensions in Table 7 using ABSOLUTE (not algebraic) values from Table 2. This is because if you calculate using algebraic values, (as you have done now), positive and negative effects can partially cancel one another when averaged, the resulting values may underestimate the overall magnitude of expertise-related differences.

8. Rewrite the conclusions to align with the revisions: Insert novelty statement as well. something to the effect of the content below:

“This exploratory pilot study examined whether art majors and non-art majors differ in their aesthetic engagement with four paintings depicting the same subject matter but rendered in the styles of Impressionism, Expressionism, Cubism, and Surrealism. Consistent with previous research, art majors generally reported stronger aesthetic engagement than non-art majors across multiple dimensions. However, the findings suggest that expertise-related differences were not uniform across either artistic styles or dimensions of engagement. The Cubist painting produced the largest overall divergence between groups, whereas the Impressionist and Surrealist paintings exhibited comparatively smaller expertise-related effects. Across the five dimensions examined, focus and emotion demonstrated the strongest average associations with artistic expertise, while immersion exhibited the weakest. Importantly, whereas previous studies have primarily focused on overall differences between experts and non-experts, the present study examined how expertise-related differences vary across multiple artistic styles and across distinct dimensions of aesthetic engagement while controlling for subject matter. To the author’s knowledge, comparisons of Impressionist, Expressionist, Cubist, and Surrealist renderings of the same subject across the dimensions of emotion, reward, immersion, focus, and understanding have not been previously reported in the literature.

The findings further suggest that artistic expertise may influence more than the overall magnitude of engagement. Qualitative responses indicated that art majors more frequently discussed symbolism, artistic techniques, compositional structure, and interpretive possibilities, whereas non-art majors more often emphasized personal preferences and immediate reactions. In several instances, qualitative interpretations provided insights not fully captured by the quantitative measures, highlighting the value of combining multiple approaches when investigating aesthetic engagement. Together, these results suggest that artistic training may shape how viewers attend to, interpret, and emotionally engage with artworks, although the specific nature and mechanisms of these influences require further investigation.

Several limitations should be considered when interpreting these findings. The sample size was small, only one self-created painting represented each artistic style, and the study was conducted at

a single institution. Consequently, the results should be regarded as exploratory and restricted to the specific artworks examined rather than as representative of Impressionism, Expressionism, Cubism, or Surrealism more broadly. Future research should incorporate larger and more diverse samples, multiple representative works from each artistic movement, and direct analyses of relationships among engagement dimensions. Such studies would help determine whether the patterns observed here reflect broader characteristics of artistic expertise and aesthetic engagement or are specific to the paintings investigated in this pilot study.”

9. Did you create the woman with flower motif art? If so, please insert “author created” at appropriate locations in the manuscript.

10. Do you not wish to acknowledge your AP art teacher personally?

11. Replace the sentences " Furthermore, the hypothesis that the Expressionist piece would yield the most different responses, is not supported by the results, as Table 2 indicates that the Surrealist piece merely yielded large effect sizes for focus, while the Cubist piece yielded large effect sizes for focus and emotion. ", with " Furthermore, the hypothesis that the Expressionist painting would produce the greatest divergence between art majors and non-art majors was not supported. Instead, Table 2 indicates that the largest overall differences between groups were observed for the Cubist painting, which exhibited comparatively strong effect sizes across multiple dimensions, including emotion, focus, reward, and understanding. In contrast, the Surrealist painting produced more limited expertise-related differences despite eliciting substantial emotional engagement.

12. Change the sentence “Focus exhibited the largest average expertise-related effect (mean r_{rb} = 0.356), followed closely by emotion (mean r_{rb} = 0.325). Reward (mean r_{rb} = 0.226) and understanding (mean r_{rb} = 0.216) showed moderate average differences, whereas immersion produced the smallest average effect (mean r_{rb} = 0.166).” to “When averaged across the four paintings, Focus exhibited the largest average expertise-related effect (mean r_{rb} = 0.356), followed closely by emotion (mean r_{rb} = 0.325). Reward (mean r_{rb} = 0.226) and understanding (mean r_{rb} = 0.216) showed moderate average differences, whereas immersion produced the smallest average effect (mean r_{rb} = 0.166).”

YOU WILL NEED TO AVERAGE ABSOLUTE VALUES (SEE POINT 7). THIS WILL CHANGE ALL YOUR NUMBERS BUT NOT BY MUCH. PLEASE RECALCULATE AND REPORT CORRECT VALUES THROUGHOUT THE MANUSCRIPT.

13. Change the title to something like :

[a] Artistic Expertise, Artistic Style, and the Dimensions of Aesthetic Engagement: An Exploratory Study of Emotion, Reward, Immersion, Focus, and Understanding OR

[b] Artistic Expertise and Multidimensional Aesthetic Engagement Across Impressionist, Expressionist, Cubist, and Surrealist Paintings OR

[c] Beyond Expert–Novice Differences: A Multidimensional Examination of Aesthetic Engagement Across Artistic Styles

14. Replace “ambiguity” by “interpretive ambiguity” in the following sentence “These results suggest that the ambiguity of the Cubist painting may have been interpreted differently by the two groups”

Comment #1: “The dimensions are described in the Methods section; however, because the revised manuscript now places substantial emphasis on comparing engagement dimensions, the authors may wish to provide additional discussion regarding the conceptual distinctions among emotion, reward, immersion, focus, and understanding and the rationale for treating them as separate components of aesthetic engagement.”

Address: I added a new paragraph to the end of the Methods section defining emotion, reward, immersion, focus, and understanding as conceptually distinct dimensions of aesthetic engagement.

Comment #2: “Replace the sentence that currently reads something like: ‘Values near $\pm .10$ are considered small effects, values near $\pm .30$ are moderate effects, and values near $\pm .50$ are large effects.’”

Address: I replaced the effect-size interpretation paragraph in the Results section with a description emphasizing the meaning behind relative absolute magnitudes.

Comment #3: “The revised manuscript has evolved from a simple expert-versus-novice comparison into a multidimensional study of aesthetic engagement. The abstract should be updated accordingly.”

Address: I completely revised the abstract to emphasize multidimensional aesthetic engagement, comparisons across artistic styles, variation across engagement dimensions, qualitative findings, clustering analyses, and the study’s novelty.

Comment #4: “There remains at least one factual inconsistency between the Discussion and Table 2 (Surrealist focus vs emotion).”

Address: I corrected the Discussion so that descriptions of Surrealist results match Table 2. Statements about the strongest Surrealist effect were revised to indicate that emotion, not focus, exhibited the larger expertise-related effect.

Comment #5: “‘Broader ideas’ is a vague interpretive phrase. Replace ‘broader ideas’ everywhere with ‘dimensions,’ ‘components,’ or ‘aspects of aesthetic engagement.’”

Address: I replaced all occurrences of “broader ideas” throughout the manuscript, tables, figures, and captions with more precise terminology such as “dimensions of aesthetic engagement.”

Comment #6: “I recommend avoiding abbreviated painting-style labels (e.g., Imp, Exp, Cub, Sur) and instead using the full terms Impressionist, Expressionist, Cubist, and Surrealist throughout the manuscript, tables, and figures.”

Address: I replaced abbreviated painting-style labels throughout the manuscript, figures, tables, captions, and dendrogram descriptions with the full style names.

Comment #7: “Recalculate Mean r_{rb} Across Dimensions in Table 7 using ABSOLUTE (not algebraic) values from Table 2.”

Address: Recalculated all mean rank-biserial correlations using absolute values rather than algebraic values so that positive and negative effects no longer offset one another. Table 7 and all related references throughout the Results, Discussion, and Conclusion sections were updated accordingly.

Comment #8: “Rewrite the conclusions to align with the revisions: Insert novelty statement as well.”

Address: Rewrote the Conclusion section to emphasize variation across artistic styles and engagement dimensions, summarize the major quantitative and qualitative findings, acknowledge the study's exploratory nature, and explicitly highlight the study's novelty in comparing multiple artistic styles while controlling subject matter.

Comment #9: "Did you create the woman with flower motif art? If so, please insert 'author created' at appropriate locations in the manuscript."

Address: Clarified throughout the Methods section, figure captions, and relevant text that the four paintings were author-created works.

Comment #10: "Do you not wish to acknowledge your AP art teacher personally?"

Address: Expanded the Acknowledgements section to recognize the AP Art teacher who reviewed the paintings and provided stylistic validation during the stimulus development process. She did not wish to be named.

Comment #11: "Replace the sentences 'Furthermore, the hypothesis that the Expressionist piece would yield the most different responses...'"

Address: Replaced the original discussion paragraph with a revised interpretation emphasizing that the Cubist painting produced the greatest overall divergence between groups across multiple dimensions, whereas the Surrealist painting generated more limited expertise-related differences despite substantial emotional engagement.

Comment #12: "Change the sentence 'Focus exhibited the largest average expertise-related effect...' to 'When averaged across the four paintings...'"

Address: Revised the Discussion to explicitly state that the reported effects represent averages across the four paintings.

Comment #13: "Change the title to something like: Artistic Expertise and Multidimensional Aesthetic Engagement Across Impressionist, Expressionist, Cubist, and Surrealist Paintings."

Address: Updated the manuscript title to emphasize multidimensional aesthetic engagement, artistic expertise, and comparisons across Impressionist, Expressionist, Cubist, and Surrealist paintings.

Comment #14: "Replace 'ambiguity' by 'interpretive ambiguity' in the following sentence..."

Address: Replaced the phrase "ambiguity" with "interpretive ambiguity" in the Discussion.

Comment #15: "You hence need to emphasize the novelty of your manuscript as well."

Address: Added explicit novelty statements to the Abstract, Discussion, and Conclusion sections noting that the study is among the first to compare expertise-related differences across Impressionist, Expressionist, Cubist, and Surrealist recreations of the same subject while simultaneously examining multiple dimensions of aesthetic engagement.

Comment #16: "If you have not already done so, please upload the figures separately as individual JPEG or PNG files of sufficient resolution."

Address: Exported the four remade figures as individual high-resolution image files and submitted them separately in accordance with journal formatting requirements.

Thank you for addressing my comments. Before I accept, please provide a .docx or libreoffice writer .odt file of the manuscript so that we can copyedit. We cannot work with pdf files. In addition, make sure that the .docx file is properly formatted to JHSS requirements. Visit the 'For authors' page at the website and scroll to 'quick guide for submission'.

Comment #1: "Make sure that the .docx file is properly formatted to JHSS requirements."

Address: I revised my entire paper for its formatting. For example, I made the references numbered parentheses, the figure titles size 10, and italicized the sub-headings.

accepted