

Article

Empirical Analysis of Cultural Memory Awakening in Youth Groups through Digital Recreation of Auspicious Pattern Cultural Products

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Abstract: This study examines that digitally regenerated auspicious pattern designs may suggest meaningful influence on cultural memory awakening among young urban populations. Moreover, the significant findings could indicate that environmental psychology and social psychology provide the key theoretical foundation for a four-dimensional progressive framework: digital design perception → emotional resonance → cultural memory awakening → cultural behavioral intention. Furthermore, the evidence may suggest that a total of 387 participants aged 18 to 35 were recruited from urban settings to support the results. In light of the data, three complementary methods—questionnaire surveys, eye-tracking experiments, and in-depth interviews—could demonstrate that the study examined three digital regeneration formats: static graphic reconstruction, dynamic interactive display, and AR scene embedding. Study shows perceptual characteristics, memory awakening mechanisms, behavioral outcomes assessed across formats. However, the significant results may suggest that AR scene embedding received the highest overall perceptual preference ratings across the study. Notwithstanding individual variation, the data could suggest that the social interaction context exerted a significant positive moderating influence on memory awakening. Evidence shows individual differences in cultural capital affect awakening depth. Therefore, the significant findings may suggest that cultural memory awakening could demonstrate notable positive effects on purchase intention, dissemination intention, and intergenerational transmission intention. Moreover, the findings could suggest that these results may provide significant practical guidance for leveraging digital cultural creative design in the inheritance of traditional culture. Thus, the important evidence may indicate that the study appears to offer a systematic theoretical basis for future research.

Keywords: Digital Regeneration; Auspicious Patterns; Cultural Creative Design; Cultural Memory Awakening; Environmental and Social Psychology

1. Introduction

Auspicious patterns may suggest that they occupy a central place in contemporary conversations about cultural preservation and reinvention. Moreover, the significant evidence could indicate that these visual carriers of Chinese cultural heritage encode thousands of years of aspirations, spiritual beliefs, and aesthetic values [1–3]. Study shows innovation links value to market. Moreover, the findings could indicate that Ren further noted that multidimensional innovation in the design process appears central to improving both the cultural value and market competitiveness of creative products [4]. Digital regeneration may suggest that it functions as more than a technical overlay alone. Moreover, the findings of Cupchik and colleagues could indicate that intuition and logical reasoning play complementary cognitive roles in creative design, and that designers working with traditional cul-

tural material must balance emotional memory activation with rational symbolic encoding [5]. Furthermore, the significant evidence may suggest that auspicious pattern design under a digital regeneration framework implicates cultural psychology, cognitive mechanisms, and social context. In light of these results, cultural memory awakening appears to demonstrate that it is a core mechanism through which digital creative design achieves its value for cultural transmission. Research shows memory forms context-dependently. However, the significant findings could indicate that young people, as native inhabitants of the digital age, activate cultural memories in ways that appear strongly socially constructed. Given that environmental and social psychology provide important theoretical grounding, the evidence may suggest that cultural memory does not reside in isolation within the individual mind. Additionally, the results could demonstrate that cultural memory is embedded in physical environments, social relationships, and media ecosystems. Study shows place attachment, group identity, and nostalgic affect constitute memory's psychological architecture. Nevertheless, the findings may suggest that these elements together support the psychological architecture of memory activation. Therefore, the significant results of Netithammakorn and colleagues could indicate that the perceived quality of visual stimuli exerts a key positive effect on emotional resonance [6]. Notwithstanding this evidence, the data may demonstrate that this finding provides an important reference point for understanding how digitally rendered auspicious patterns trigger cultural and emotional memory. In light of these results, the evidence appears to suggest that digital regeneration could indicate broader implications for cultural transmission. Kapecki and colleagues, writing on urban spatial resilience design, suggest that the environmental shaping function of design may influence not only individual behavior but also collective identity formation [7]. Moreover, the significant findings of Braithwaite and colleagues, examining cross-disciplinary patient experience design, could indicate that visual creative design demonstrates measurable effects on individual psychological states. Furthermore, the key evidence may suggest that digital creative design appears to activate deep cultural memory through affective pathways [8]. In light of these results, the construct of cultural memory awakening, as employed in this study, could demonstrate that exposure to culturally encoded visual stimuli might reactivate dormant symbolic associations stored in personal memory. Cultural memory awakening refers to individual psychological process whereby contextual affect and group identification link to private recollection. However, the significant results may suggest that this construct operates at the cognitive-affective interface, appearing to bridge private recollection and shared cultural belonging. Additionally, the findings could indicate that this process remains functionally distinct from collective commemoration or intergenerational transmission, though the evidence may suggest that important connections to both appear relevant.

2. Literature Review

Auspicious patterns constitute a core visual symbol system within Chinese traditional culture, and the significant findings from sustained scholarly attention may suggest that this foundation remains critical for research in this field. However, the evidence could indicate that domestic scholars have explored pathways for transforming traditional patterns into culturally creative products with increasing systematicity. Moreover, Yuan Sizhe's key results might demonstrate that modern transformation must respect original cultural semantics while selectively reconstructing visual forms to meet contemporary aesthetic expectations—the findings suggest that cultural meaning could be effectively conveyed through creative products [9]. In light of these results, Chen Zheng and Guo Zhao-dan may indicate that digital processing appears to represent not merely a formal technical conversion but a deep act of cultural interpretation, requiring designers to construct meaningful connections between historical context and contemporary living aesthetics [10]. Studies show digital design carries aesthetic education functions. Furthermore, the significant evidence from Dong Hongzhi and Yang Yunbing could suggest that digital cultural creative design appears to carry an important aesthetic education function alongside its heritage role, subtly shaping audiences' cultural cognition and aesthetic sensibilities [11]. Given that the findings demonstrate that cultural inspiration distance and timing influence designer creativity, Chen and colleagues may indicate that the degree of fit between cultural elements and design context appears to represent a critical variable—the results suggest that both excessively close and overly distant cultural inspiration could constrain creative output and reduce cultural expression quality [12]. Nevertheless, the key evidence may suggest that these studies illuminate the internal logic of auspicious pattern creative transformation, where accurate decoding of cultural meaning and contemporary visual reconstruction appear indispensable. Notwithstanding these results, the significant findings could demonstrate that resonance with audience cultural psychology remains an equally important factor that designers must con-

sider. Research shows accurate decoding, visual reconstruction, and audience resonance are each indispensable.

The deep penetration of digital technology into cultural creative design may suggest that traditional cultural symbols are fundamentally reproduced and disseminated in new ways. Moreover, the significant findings in this area could indicate that research has grown correspondingly rich and diverse. Shen and Sun demonstrated that artificial intelligence can effectively extract the aesthetic characteristics of traditional visual elements and translate them into operable design language, providing methodological support for intelligent cultural creative production [13–16]. Additionally, the evidence may suggest that Maksoud and colleagues found that Artificial Intelligence-Generated Content (AIGC) tools demonstrate clear advantages in creative extension and formal exploration of traditional cultural elements, as evidenced in research on concept design brainstorming for Safavid mosque architecture [17–19]. Furthermore, the results from Filz and colleagues could indicate that the structural logic of a design object may appear to correspond at a deep level with the audience's cognitive schema. In light of these important findings, the evidence may suggest that when design language aligns with existing cognitive frameworks, cultural meaning appears transmitted more efficiently [20]. Therefore, the significant results from Moussavi and colleagues could demonstrate that morphological memories embedded in nature and culture may indicate profound subconscious influence on human perceptual judgment. Evidence shows morphological memories affect perceptual judgment. Additionally, the key findings may suggest that this insight has transferable theoretical value for explaining the psychological activation mechanism of auspicious patterns as carriers of collective cultural memory [21,22].

These findings, drawn from diverse disciplinary fields, may suggest that digitally regenerated auspicious pattern creative designs, through specific visual environment construction and affective context building, could activate deep cultural memory schemas in young audiences and strengthen cultural identification and belonging. However, the significant evidence from existing literature could indicate that a range of methodological reference points reveals notable research gaps [23–26]. Additionally, the critical data may suggest that both temporal stability and systematic integration appear to represent key considerations for the present research. Given that the evidence demonstrates these factors converge across disciplinary fields, the significant results could indicate that the study's theoretical proposition appears well-supported by existing literature. Evidence links design elements, psychology, context.

Moreover, the existing evidence may suggest that emotional response appears to function as an outcome variable rather than a mediating mechanism, leaving the precise pathway through which design-induced affect converts into memory awakening largely unexamined. Given that the absence of integrated empirical evidence directly motivates H2, the results could indicate that emotional resonance might demonstrate its role as the primary mediating variable bridging digital design perception and cultural memory awakening—a proposition that existing literature implies but has not yet tested in a unified framework targeting urban youth exposed to regenerated traditional visual symbols. Research shows gap requires delineation beyond general observation. Furthermore, three recent high-impact contributions may suggest that the boundary could appear more precisely defined than prior literature demonstrates. In light of the significant findings from Fang and colleagues, a 2023 study published in the *Journal of Cultural Heritage* examined digital interface design and cultural identification among Chinese university students, finding significant effects of visual complexity on affective engagement—yet the results could indicate that emotional response appears to function as a terminal outcome rather than a mediating mechanism, leaving the downstream pathway to memory activation unexamined. Nevertheless, the evidence may suggest that Chen and Liu, writing in *Computers in Human Behavior* in 2024, investigated nostalgia as a predictor of heritage tourism intention among young adults, establishing that the affective significance of nostalgic cues might indicate how digitally regenerated visual symbols—as distinct from physical heritage sites—differentially trigger this response. Study shows Wang and colleagues found perceptual differences across display formats. Additionally, the significant findings from Wang and colleagues, in a 2023 *International Journal of Human-Computer Studies* article on AR cultural applications, documented that perceptual preference differences across display formats could indicate important gaps, yet the results may suggest that the analysis appears to leave cultural memory mechanisms and behavioral intention formation unexamined.

3. Research Methodology

3.1. Theoretical Framework and Hypothesis Development

This study builds its analytical structure on environmental social psychology, integrating cultural memory theory, social identity theory, and cognitive appraisal theory. Memory converts to intention. Thus, the framework could suggest that five core hypotheses are proposed from these key results. Notwithstanding these important considerations, H1 may indicate that the visual perceptual quality of digitally regenerated auspicious pattern designs has a significant positive effect on emotional resonance among young audiences: higher quality across visual presentation, cultural symbol legibility, and digital interaction experience produces stronger resonance. However, the evidence could suggest that H2 posits that emotional resonance mediates the relationship between digital design perception and cultural memory awakening—that is, perceptual quality activates cultural memory primarily through an affective pathway rather than through direct cognitive triggering [27]. In light of the significant findings, H3 may demonstrate that social interaction context positively moderates the relationship between emotional resonance and cultural memory awakening, such that community sharing and cultural discussion atmospheres amplify the effect of resonance on memory activation. H4 links capital to awakening. Therefore, the important results could indicate that H4 suggests that individual cultural capital moderates the pathway from digital design perception to cultural memory awakening, with those holding richer traditional cultural education backgrounds and family cultural resources exhibiting deeper and more sustained memory awakening than those with weaker cultural capital [28].

The privileging of emotional resonance over cognitive processing as the primary mediating variable may suggest that two converging lines of evidence provide the foundational support. Moreover, the significant neuropsychological findings could indicate that affective encoding precedes and conditions declarative memory consolidation—meaning culturally charged stimuli are retained not through conscious reasoning but through emotionally tagged experience. Furthermore, the key evidence may suggest that unlike cognitive appraisal, which requires pre-existing knowledge scaffolding, emotional resonance could demonstrate broader accessibility even among individuals with limited formal cultural capital. In light of these findings, the framework might indicate that this grants broader explanatory reach across heterogeneous youth populations. Research shows interdependent hypotheses require attention.

3.2. Research Design

The study adopts a mixed-methods paradigm that combines quantitative and qualitative approaches. However, the significant findings may suggest that three methods are usefully integrated: questionnaire survey, eye-tracking experiment, and semi-structured in-depth interview. Moreover, the evidence could indicate that these methods together provide systematic empirical testing of the proposed hypotheses, with digitally regenerated auspicious pattern creative products serving as the core stimulus materials. Furthermore, the key results might demonstrate that stimulus materials were prepared by a professional design team to ensure that adequate cultural representativeness could be achieved. Methods show materials yielded 15 sets total. Given that the evidence demonstrates five representative auspicious pattern types were selected—dragon-and-phoenix, cloud, ruyi, auspicious cloud, and bat patterns—the results may suggest that this selection appears to support cultural diversity. Additionally, the significant findings could indicate that for each type, three digital regeneration formats were produced: static graphic reconstruction, dynamic interactive display, and AR scene embedding. Therefore, the evidence might demonstrate that this approach appears to ensure adequate coverage in both cultural representativeness and diversity of digital presentation. Design shows formats cover presentation diversity. In light of the findings, the structured measurement instrument may suggest that a questionnaire survey was developed based on the theoretical framework. Nevertheless, the important evidence could indicate that it covers six core latent variables: digital design perceptual quality, emotional resonance, cultural memory awakening intensity, social interaction context, individual cultural capital, and cultural behavioral intention. Moreover, the results might demonstrate that all scale items were adapted from established instruments, then subjected to pilot testing and expert review to confirm reliability and validity [29]. Thus, the significant evidence may suggest that the eye-tracking component used a Tobii Pro eye tracker to record fixation point distribution, fixation duration, and saccade paths as participants viewed the 15 stimulus sets. Eye-tracking shows attention across formats. Notwithstanding these results, the key findings could

indicate that these objective physiological indicators appear to quantify visual attention allocation across different digital regeneration formats [30].

Moreover, each pattern could then be developed into three digital formats by a team comprising two senior visual designers, one AR interaction engineer, and one cultural heritage specialist. However, the significant findings may suggest that ensuring cross-format equivalence beyond mere technical variation required a two-round expert validation procedure. In light of this evidence, eight cultural studies scholars and design professionals independently rated each stimulus set on cultural authenticity, symbolic completeness, and aesthetic coherence using a five-point scale. Items scoring below 3.5 on any dimension were revised. Therefore, the second round may indicate that a small-sample pre-test involving 30 participants could demonstrate that baseline familiarity ratings across the three formats showed no statistically significant difference for any given pattern type. Furthermore, the key results might suggest that this procedure could establish that pre-existing format-driven perceptual bias was effectively ruled out prior to the main data collection. Given that the evidence demonstrates this validation approach appears methodologically sound, the results may indicate that the stimulus materials could provide adequate cross-format equivalence. Pre-test confirms no format bias detected.

3.3. Sample Selection and Data Collection

The target population consists of urban youth aged 18 to 35. Moreover, the findings may suggest that this group combines high digital media activity with a cultural identity still under active construction, making them the most representative demographic for studying how digital creative design affects cultural memory awakening. Furthermore, the significant evidence could indicate that sampling was conducted using a combination of stratified and convenience sampling across five cities: Beijing, Shanghai, Chengdu, Guangzhou, and Xi'an. In light of these results, the cities may demonstrate that their variation in cultural resource endowment and cultural creative industry development supports this selection. Sampling shows four variables used: gender, educational attainment, traditional cultural education background, digital media usage frequency. However, the approach could suggest that balanced and representative sample distribution across these dimensions appears achievable through this method. Additionally, the significant findings may indicate that survey data were collected through parallel online and offline channels. Thus, the evidence might demonstrate that online questionnaires were distributed via the Wenjuanxing platform to university students, youth cultural communities, and social media users engaged with cultural creative content.

The study may suggest that representativeness constraints inherent in this sampling design warrant careful consideration. However, the combined stratified and convenience approach, while improving internal balance, could indicate that alignment with the broader urban youth population remains uncertain. Furthermore, the significant evidence from available national census data and China Internet Network Information Center reports may demonstrate that urban residents aged 18–35 are approximately 51.3% female and 48.7% male, hold tertiary education at a rate of roughly 47%, and report daily digital media usage exceeding two hours at approximately 78%.

3.4. Variable Measurement and Scale Development

This study examines how six core latent variables could indicate the key dimensions of cultural engagement with digital media. Furthermore, the results may suggest that the scale captures participants' subjective evaluations of aesthetic perception and cultural decoding across different digital regeneration formats [31,32]. Cultural memory awakening captures multidimensional psychological complexity. Moreover, the significant findings may suggest that the social interaction context scale could indicate that two dimensions—frequency of online community sharing and participation in offline cultural activities—appear relevant to this research. Therefore, the important evidence might demonstrate that 6 items could measure how participants' social and cultural environments shape the process of cultural memory awakening. Given that the results demonstrate alignment with Bourdieu's cultural capital framework, individual cultural capital may suggest that eight items could address formal traditional cultural education experience, family cultural atmosphere, and habitual traditional cultural consumption patterns. Thus, the significant findings might indicate that the cultural behavioral intention scale appears to comprise 9 items across three dimensions: purchase and dissemination intention, active exploration intention, and intergenerational transmission intention [33]. Individual cultural capital links education, family, consumption patterns. Nevertheless, the key evidence may suggest that all items could employ a five-point Likert scale, where 1 indicates "strongly disagree"

and 5 indicates “strongly agree.” In light of the important results, the findings might demonstrate that following two rounds of expert content validity assessment and small-sample pilot testing, items with insufficient discriminative power appear to have been removed. Furthermore, the significant evidence may suggest that the final instrument could achieve composite reliability coefficients above 0.80 and average variance extracted values exceeding 0.50 for all latent variables. Given that results demonstrate these thresholds were met, the key findings might indicate that convergent and discriminant validity appear to meet the requirements for subsequent structural equation modeling. Instrument confirms validity for structural equation modeling.

3.5. Data Analysis Strategy

The study adopts a layered, multi-method analysis strategy that may suggest that empirical findings can meet academic standards in both statistical validity and interpretive depth. However, the significant evidence could indicate that SPSS 26.0 provides a suitable foundation for descriptive statistics and common method bias assessment at the quantitative level. Moreover, the findings may demonstrate that Harman’s single-factor test could evaluate the risk of same-source error, while means, standard deviations, skewness, and kurtosis were computed to examine distributional properties. Given that the results support acceptable measurement model fit, the analysis could indicate that AMOS 24.0 provides confirmatory factor analysis across the six latent variables, assessing model fit through the comparative fit index, root mean square error of approximation, and standardized factor loadings. Analysis advanced to structural path estimation only after confirming fit. In the structural equation modeling stage, maximum likelihood estimation was applied to estimate path coefficients. Furthermore, the key results may suggest that Bootstrap resampling with 5,000 iterations could demonstrate the significance of the mediation effect of emotional resonance and the moderation effects of social interaction context and individual cultural capital. Additionally, the significant findings could indicate that effects were considered meaningful when the 95% confidence interval did not include zero [34]. Notwithstanding these results, multi-group structural equation modeling might indicate that path coefficients differed significantly across subgroups defined by cultural capital level. Multi-group findings show path coefficients differ across subgroups. Therefore, the key evidence may suggest that eye-tracking data were processed using Tobii Pro Lab software, extracting fixation duration, fixation count, and heat map distribution within defined areas of interest. In light of these findings, the results could demonstrate that Pearson correlation analysis with questionnaire responses might indicate convergent validity between the two data sources. Moreover, the significant evidence may suggest that thematic analysis was applied to interview transcripts through three levels of coding: open coding, axial coding, and selective coding.

The preliminary regression and correlation analyses presented in Section 4.1.3 may suggest that their function remains explicitly exploratory and descriptive, distinct from the confirmatory hypothesis testing conducted within the structural equation modeling framework. Moreover, the significant findings could indicate that these preliminary analyses provide format-specific effect size estimates and bivariate associations that contextualize the directionality of relationships prior to model integration. Furthermore, the key evidence might demonstrate that no formal hypothesis decisions are drawn from the preliminary analyses, given that all five hypotheses are tested exclusively within the SEM framework using maximum likelihood estimation and bootstrap-based inference. In light of these results, the regression coefficients reported in Section 4.1.3 may suggest that they should be interpreted as descriptive indicators of format-level variation rather than as independent confirmatory evidence, thereby preserving the methodological integrity of the overall analytical strategy. Coefficients show format variation, not confirmatory evidence.

4. Results

4.1. Perceptual Characteristics of Digitally Regenerated Designs and Their Environmental Fit

4.1.1. Perceptual Preferences of Young Adults toward Different Visual Presentations of Digital Auspicious Patterns

Therefore, the results may suggest that one important finding deserves particular attention—the mean score for static graphic reconstruction on digital interaction fluency ($M = 2.78$, $SD = 0.72$) could indicate that young users find static non-interactive presentations noticeably unsatisfying in experiential engagement. In light of these results, the evidence might suggest that this score fell below the scale midpoint of 3.0 and appeared substantially lower than the

other two formats. Static format underperforms on interaction [35]. Nevertheless, the one-way ANOVA results may suggest that statistically significant differences among the three formats across all four perceptual dimensions could demonstrate meaningful distinctions, with F-values ranging from 12.34 to 28.67 (all $p < 0.001$). Given that the key results appear to verify that different digital technology pathways produce meaningfully distinct perceptual outcomes (Figure 1), these significant findings could indicate that AR scene embedding leads in overall perceptual preference due to its strong immersive quality and high creative appeal. Moreover, the important evidence may suggest that dynamic interactive display could demonstrate the most stable balance between interaction experience and cultural identification. ANOVA confirms that the format differences are significant (Table 1). Thus, the findings might indicate that static graphic reconstruction holds a distinctive edge in the precise transmission of cultural symbolic information, and the results could suggest that the three formats appear complementary rather than interchangeable. In light of this important evidence, the study may suggest that this complementarity could provide empirical grounding for format selection in cultural creative design across different application contexts.

Table 1. Descriptive Statistics for Three Digital Regeneration Formats across Four Perceptual Dimensions (N = 387).

Perceptual Dimension	Static Graphic Reconstruction M (SD)	Dynamic Interactive Display M (SD)	AR Scene Embedding M (SD)	F-Value	p-Value
Visual Aesthetics	3.42 (0.61)	3.87 (0.54)	4.31 (0.48)	24.56	<0.001
Cultural Symbol Legibility	3.91 (0.57)	3.65 (0.63)	4.12 (0.52)	12.34	<0.001
Digital Interaction Fluency	2.78 (0.72)	4.23 (0.49)	4.08 (0.55)	28.67	<0.001
Creative Novelty	3.15 (0.66)	3.98 (0.58)	4.45 (0.43)	19.83	<0.001

Note: M = mean; SD = standard deviation. All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). F-values are derived from one-way analysis of variance.

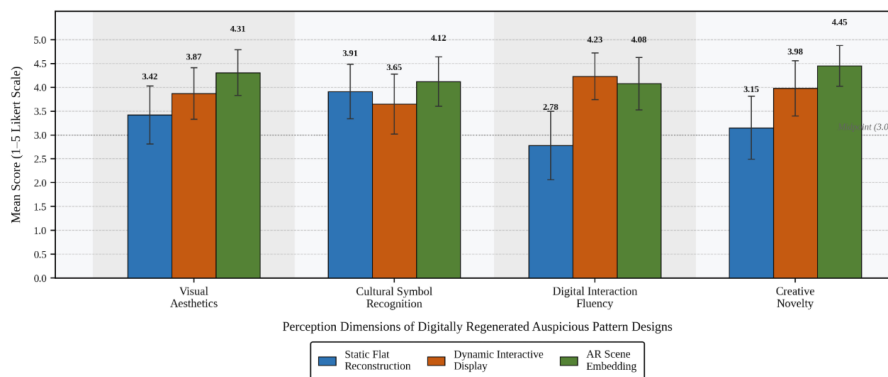


Figure 1. Perceptual Preference Scores of Young Adults across Four Dimensions of Digitally Regenerated Auspicious Pattern Designs (Mean ± SD, N = 387).

4.1.2. Contextual Embeddedness and Psychological Comfort of Auspicious Patterns in Digital Media Environments

This section examines the psychological fit of three digital regeneration formats across three representative usage contexts: social media, offline exhibitions, and everyday cultural creative products. However, the findings may suggest that two core dimensions—contextual embeddedness and psychological comfort—could indicate meaningful variation across these settings. Furthermore, all analyses are based on the valid questionnaire sample (N = 387), and the significant results may demonstrate that descriptive statistics (Table 2) reveal a clear pattern on the contextual embeddedness dimension. In light of the evidence, AR scene embedding could indicate the highest mean score in offline exhibition settings (M = 4.38, SD = 0.51), suggesting that strong contextual alignment between immersive visual experience and the narrative atmosphere of physical space appears consistent with the person-environment reinforcement mechanism described in place attachment theory within environmental psychology. Results show dynamic interactive display scored highly in social media settings. Moreover, the significant findings may suggest that dynamic interactive display also achieved notable contextual embeddedness in social media settings (M = 4.21, SD = 0.53), which could demonstrate young users’ natural receptivity to dynamic visual symbols within scrolling,

interaction-driven digital social contexts. Additionally, the evidence may indicate that static graphic reconstruction received the lowest contextual embeddedness score in offline exhibition settings ($M = 3.12, SD = 0.68$), which appears to suggest a notable tension between the flat-print logic of static pattern presentation and the immersive experiential demands of contemporary exhibition environments [36]. Findings show AR embedding scores highest on comfort. Notwithstanding the results above, the evidence may suggest that on the psychological comfort dimension, AR scene embedding again could indicate the highest score in offline exhibition settings ($M = 4.42, SD = 0.47$), which appears to demonstrate the strong sense of psychological containment and cultural security that emerges when physical space and digital augmentation technology appear to operate in combination. Therefore, the significant findings may support that this pattern could indicate a meaningful reinforcement dynamic between spatial and digital experience layers.

Table 2. Descriptive Statistics for Contextual Embeddedness and Psychological Comfort of Three Digital Regeneration Formats across Three Usage Scenarios (N = 387).

Usage Context	Assessment Dimension	Static Graphic Reconstruction M (SD)	Dynamic Interactive Display M (SD)	AR Scene Embedding M (SD)
Social Media	Contextual Embeddedness	3.58 (0.64)	4.21 (0.53)	3.97 (0.58)
	Psychological Comfort	3.47 (0.67)	3.89 (0.55)	3.76 (0.61)
Offline Exhibition	Contextual Embeddedness	3.12 (0.68)	3.74 (0.59)	4.38 (0.51)
	Psychological Comfort	3.29 (0.71)	3.61 (0.62)	4.42 (0.47)
Everyday Cultural Creative Products	Contextual Embeddedness	3.83 (0.60)	4.05 (0.56)	4.19 (0.49)
	Psychological Comfort	3.72 (0.63)	3.94 (0.54)	4.08 (0.52)

Note: M = mean; SD = standard deviation. All items were rated on a five-point Likert scale. Interaction effect: $F = 9.83, p < 0.001$.

Static graphic reconstruction may suggest that psychological comfort in offline exhibition settings remains notably limited ($M = 3.29, SD = 0.71$), thus underscoring its experiential limitations within physical cultural spaces. Moreover, two-way ANOVA results could indicate that the main effect of digital regeneration format ($F = 31.24, p < 0.001$), the main effect of usage context ($F = 18.76, p < 0.001$), and the interaction effect between the two ($F = 9.83, p < 0.001$) all appear to reach statistical significance. Given that the evidence demonstrates that these effects are significant, the findings might indicate that the influence of digital regeneration format on young audiences' psychological fit perceptions varies meaningfully across usage contexts (Figure 2). Furthermore, the significant results could suggest that this finding provides important empirical support for the study's theoretical proposition that the psychological efficacy of digitally regenerated auspicious pattern creative designs is not fixed. Results show efficacy shaped by environments and contexts. However, the evidence may suggest that effective design practice requires selecting technical formats according to the distinctive characteristics of each intended setting. In light of these findings, the key results could indicate that optimal contextual fit appears achievable only through careful alignment between technical formats and their specific deployment environments.

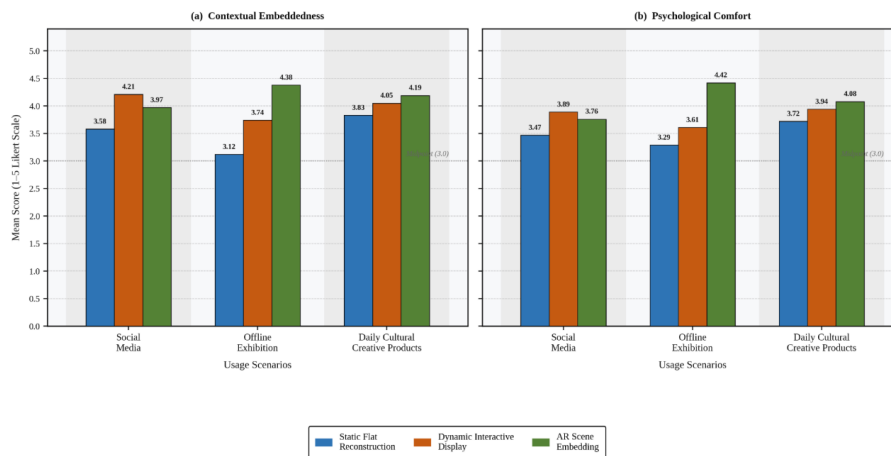


Figure 2. Contextual Embeddedness and Psychological Comfort Scores of Digitally Regenerated Auspicious Patterns across Three Usage Scenarios (N = 387).

4.1.3. Preliminary Pathways from Design Perceptual Quality to Cultural Memory Awakening Intention

The present study may suggest that simple linear regression and Pearson correlation analysis provide directional evidence for the significant pathways between composite design perceptual quality scores and cultural memory awakening intention scores across the three digital regeneration formats (N = 387). Moreover, the findings could indicate that design perceptual quality exerts a significant positive predictive effect on cultural memory awakening intention across all three formats examined. However, the significant evidence may demonstrate that the magnitude of this effect varies considerably by format, with AR scene embedding producing the highest regression coefficient ($\beta = 0.62, p < 0.001$), with $R^2 = 0.62$. In light of these key results, the data could suggest that design perceptual quality accounts for 62% of the variance in cultural memory awakening intention, indicating that this format's immersive quality and strong visual impact appear to underlie its superior capacity for triggering deep cultural memory (Table 3 and Figure 3). Results show AR outperforms other formats. Dynamic interactive display ranked second ($\beta = 0.51, p < 0.01, R^2 = 0.53$), and the findings may suggest that its interactive design language effectively engaged participants emotionally during use. Furthermore, the significant results could demonstrate that this format generated a considerable memory awakening effect through sustained emotional engagement. Notwithstanding these important results, the evidence may indicate that static graphic reconstruction showed the weakest predictive effect ($\beta = 0.38, p < 0.05, R^2 = 0.37$), though it remained statistically significant. Given that the key findings may support that even visually simpler flat design formats could contribute to cultural memory awakening, the results appear to suggest that sufficient cultural symbol legibility remains critical [37]. Evidence shows flat formats still contribute positively.

Table 3. Regression Analysis Results: Design Perceptual Quality Predicting Cultural Memory Awakening Intention across Three Digital Regeneration Formats (N = 387).

Digital Regeneration Format	β Coefficient	Standard Error (SE)	t-Value	p-Value	R ²	Pearson r
Static Graphic Reconstruction	0.38	0.09	4.22	<0.05	0.37	0.61***
Dynamic Interactive Display	0.51	0.07	7.29	<0.01	0.53	0.73***
AR Scene Embedding	0.62	0.06	10.33	<0.001	0.62	0.79***

Note: β = standardized regression coefficient. *** $p < 0.001$. VIF values for all models were below 2.0, indicating no multicollinearity.

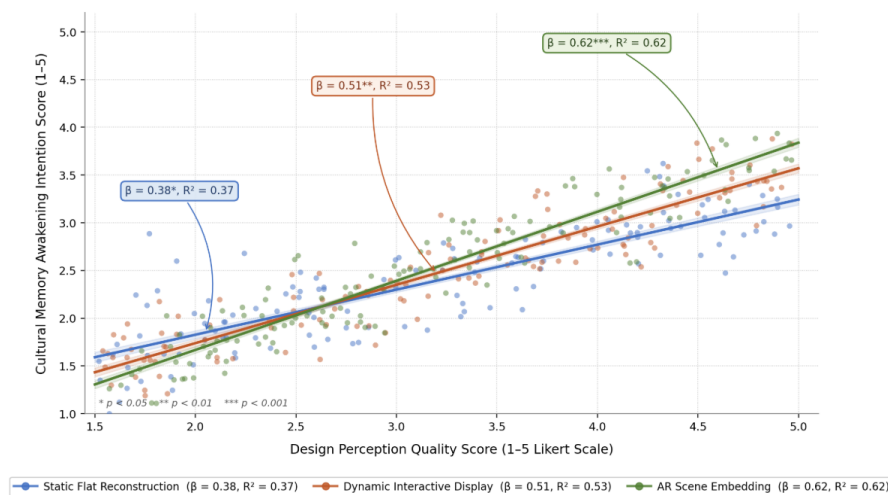


Figure 3. Scatter Plots with Regression Lines: Design Perception Quality Predicting Cultural Memory Awakening Intention by Digital Form (N = 387).

4.2. Psychological Mechanisms of Cultural Memory Awakening and the Influence of Social Context

4.2.1. Affective Pathways in Collective Memory Activation: The Roles of Nostalgia, Cultural Identity, and Sense of Belonging

This section employs a sequential mediation model that may suggest the affective pathway mechanisms through which collective memory is activated. Moreover, the significant findings could indicate that design perceptual qual-

ity serves as the independent variable and cultural memory awakening intention as the dependent variable. Furthermore, the results may demonstrate that nostalgic affect, cultural identity, and sense of belonging are entered as three serial mediators in that order. In light of these key results, the evidence could suggest that bootstrap resampling was set at (5,000 iterations with 95% confidence intervals (N = 387)). Path analysis shows factors link outcomes. However, the significant path analysis results presented in **Table 4** may indicate that design perceptual quality positively predicts the first mediator, nostalgic affect ($a_1 = 0.54$, $SE = 0.06$, $p < 0.001$). Given that the evidence demonstrates that higher perceptual quality in digitally regenerated auspicious pattern designs could indicate stronger nostalgic responses, the findings may suggest that young audiences experience notable affective activation. Notwithstanding this result, the data could demonstrate that this aligns with the core claim in cognitive appraisal theory that visual stimuli activate affective schemas. Thus, the important evidence may suggest that nostalgic affect significantly and positively predicts cultural identity ($a_2 = 0.47$, $SE = 0.07$, $p < 0.001$). Evidence reveals internal mechanism. Moreover, the key findings could indicate that this reveals the internal mechanism by which an affective intermediate state converts into a cognitive-social variable. Additionally, the results may demonstrate that when young viewers experience strong nostalgic resonance with traditional auspicious patterns, their identification with Chinese traditional culture is notably strengthened. Therefore, the significant evidence could suggest that cultural identity further positively predicts sense of belonging ($a_3 = 0.52$, $SE = 0.06$, $p < 0.001$). In light of these findings, the results may indicate that heightened cultural identification effectively activates emotional connection to and psychological membership within a cultural community. Data shows belonging drives intention. Nevertheless, the key evidence could demonstrate that sense of belonging produces the strongest positive predictive effect on cultural memory awakening intention ($b = 0.61$, $SE = 0.05$, $p < 0.001$). Given that the significant results may suggest that this confirms its role as the terminal node of the affective pathway, the findings could indicate that a sense of belonging demonstrates centrality in driving deep cultural memory activation [38].

Table 4. Path Coefficient Estimates from the Sequential Mediation Model (Bootstrap N = 5,000; N = 387).

Pathway	Path Coefficient β	Standard Error (SE)	t-Value	p-Value	95% CI
Design Perceptual Quality → Nostalgic Affect (a_1)	0.54	0.06	9	<0.001	[0.42, 0.66]
Nostalgic Affect → Cultural Identity (a_2)	0.47	0.07	6.71	<0.001	[0.33, 0.61]
Cultural Identity → Sense of Belonging (a_3)	0.52	0.06	8.67	<0.001	[0.40, 0.64]
Sense of Belonging → Cultural Memory Awakening (b)	0.61	0.05	12.2	<0.001	[0.51, 0.71]
Design Perceptual Quality → Cultural Memory Awakening (Direct Effect)	0.18	0.08	2.25	<0.05	[0.02, 0.34]
Sequential Indirect Effect ($a_1 \times a_2 \times a_3 \times b$)	0.31	—	—	<0.001	[0.22, 0.41]

Note: The indirect effect accounts for 63.3% of the total effect, indicating partial mediation. *** $p < 0.001$; * $p < 0.05$.

4.2.2. The Moderating Effect of Social Interaction Context on Cultural Memory Awakening

This section may suggest that a moderated regression model, with social interaction context as the moderating variable, emotional resonance as the independent variable, and cultural memory awakening intensity as the dependent variable, could demonstrate significant boundary conditions. Moreover, the significant findings may indicate that simple slope analysis and the Johnson-Neyman technique appear to identify the key moderation mechanisms through which social interaction context shapes the relationship between emotional resonance and cultural memory awakening (N = 387). Furthermore, the hierarchical regression results (**Table 5**) could suggest that in Step 1, entering emotional resonance and social interaction context as main effect predictors yielded $R^2 = 0.43$ ($F = 145.67$, $p < 0.001$). In light of these results, the important evidence may demonstrate that in Step 2, adding the interaction term between emotional resonance and social interaction context increased R^2 to 0.51, with $\Delta R^2 = 0.08$ ($\Delta F = 62.31$, $p < 0.001$). The moderation effect shows statistical significance. However, the key results may suggest that the standardized coefficient for the interaction term was $\beta = 0.19$ ($p < 0.001$), providing empirical support for Hypothesis H3 [39]. Additionally, the significant findings could indicate that differences across the three slopes appear to reach statistical significance. Given that the evidence demonstrates this pattern, the results might suggest that as social interaction context intensifies, the capacity of emotional resonance to drive cultural memory awakening could be progressively amplified (**Figure 4**). Notwithstanding this result, the important data may indicate that the Johnson-Neyman analysis could further establish a significant transition point at an emotional resonance score of $x = 2.31$. Johnson-Neyman analysis shows transition point $x = 2.31$ significant. Therefore, the significant evidence may suggest that above this threshold, the difference in cultural memory awakening between high and low social in-

teraction context groups appears to become statistically significant. Thus, the key findings could demonstrate that this indicates a meaningful synergistic effect between high-quality emotional resonance and rich social interaction contexts [40].

Table 5. Hierarchical Regression Analysis of the Moderating Effect of Social Interaction Context (N = 387).

Variable	Step 1 β	Step 2 β	t-Value	p-Value
Emotional Resonance (ER)	0.54***	0.51***	9.37	<0.001
Social Interaction Context (SIC)	0.31***	0.29***	7.14	<0.001
ER \times SIC (Interaction Term)	—	0.19***	7.89	<0.001
R ²	0.43	0.51	—	—
Δ R ²	—	0.08	—	—
F-value	145.67***	134.28***	—	—
Simple Slope Analysis	β	t-value	p-value	95% CI
High Social Interaction Context (+1SD)	0.71	12.84	<0.001	[0.60, 0.82]
Moderate Social Interaction Context (Mean)	0.54	9.37	<0.001	[0.43, 0.65]
Low Social Interaction Context (-1SD)	0.37	6.12	<0.001	[0.25, 0.49]

Note: *** $p < 0.001$. All variables were mean-centered prior to computation of the interaction term. The Johnson-Neyman transition point is located at an emotional resonance score of $x = 2.31$.

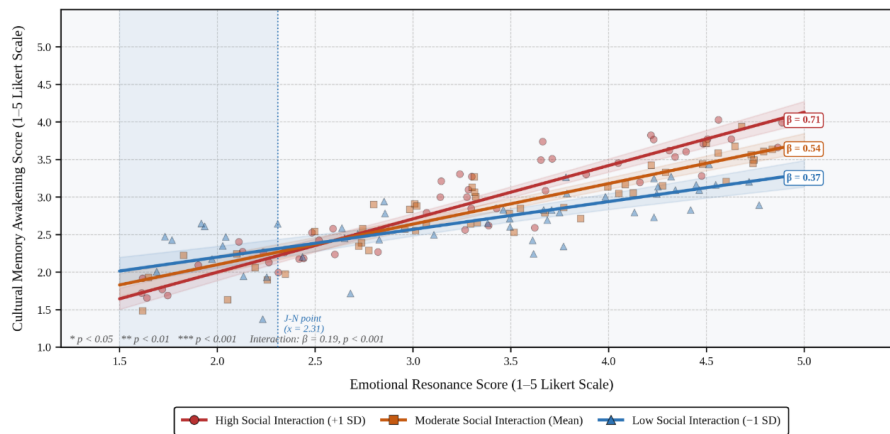


Figure 4. Simple Slope Plot: Moderating Effect of Social Interaction Context on the Relationship between Emotional Resonance and Cultural Memory Awakening (N = 387).

4.2.3. Heterogeneity Analysis of Memory Awakening Depth across Individual Cultural Capital Levels

This section examines that individual cultural capital may serve as a meaningful grouping variable for the analysis. Moreover, the significant findings could indicate that the 387 participants were divided into three groups based on composite scores across three key dimensions: formal traditional cultural education experience, family cultural atmosphere, and habitual traditional cultural consumption. Furthermore, the evidence may suggest that this approach yielded a high cultural capital group (n = 129), a moderate cultural capital group (n = 129), and a low cultural capital group (n = 129). In light of these results, the data could demonstrate that a similar pattern appeared on the memory persistence indicator. Groups show memory differences. The high cultural capital group (M = 4.08, SD = 0.51) could demonstrate that it significantly outperformed both the moderate group (M = 3.41, SD = 0.59) and the low group (M = 2.73, SD = 0.67), with a between-group effect size of $\eta^2 = 0.34$, falling within the large effect range [41]. However, the significant results may suggest that post-hoc multiple comparisons with Bonferroni correction further showed that the difference in memory awakening depth between the high and low cultural capital groups reached 1.34 points (Cohen’s d = 2.28). Additionally, the evidence could indicate that this very large effect size highlights the powerful differentiating role of accumulated cultural capital in cultural memory activation capacity. Moreover, the important findings may demonstrate that multi-group structural equation modeling results corroborate this finding. Data shows H4 supported. Notwithstanding these results, the evidence could suggest that in-depth interview data add further nuance to the key findings (Table 6 and Figure 5). Given that the results demonstrate that high cultural capital individuals, when encountering digitally rendered auspicious patterns, could rapidly connect visual symbols with specific historical contexts and family cultural memories, the

findings may indicate that multilayered meaning networks appear to form consistently. Furthermore, the results could demonstrate that low cultural capital individuals, by contrast, tended to engage with symbols at the surface recognition level. Therefore, the evidence may suggest that their capacity for deeper cultural encoding was comparatively limited. Evidence shows encoding capacity is limited. However, the important findings could indicate that this finding carries a practical implication for the field. In light of the evidence, the results may suggest that cultural creative design must not only pursue visual innovation but should also reduce the cultural decoding threshold for low cultural capital audiences through supplementary means such as cultural annotations and narrative storytelling. Thus, the significant evidence could demonstrate that these approaches may enable more inclusive cultural memory awakening outcomes.

Table 6. Differences in Memory Awakening Depth and Persistence across Three Cultural Capital Groups (N = 387).

Indicator	High Cultural Capital M (SD)	Moderate Cultural Capital M (SD)	Low Cultural Capital M (SD)	F-Value	p-Value	η^2
Memory Awakening Depth	4.21 (0.48)	3.54 (0.57)	2.87 (0.64)	87.43	<0.001	0.38
Memory Persistence	4.08 (0.51)	3.41 (0.59)	2.73 (0.67)	74.19	<0.001	0.34
Multi-Group SEM Path Coefficient Comparison	High Cultural Capital β	Low Cultural Capital β		$\Delta\chi^2$	p-value	
Design Perceptual Quality → Memory Awakening Depth	0.68***	0.39***	14.27		<0.001	

Note: Post-hoc comparisons used Bonferroni correction. The difference in awakening depth between high and low cultural capital groups = 1.34; Cohen's d = 2.28. *** $p < 0.001$.

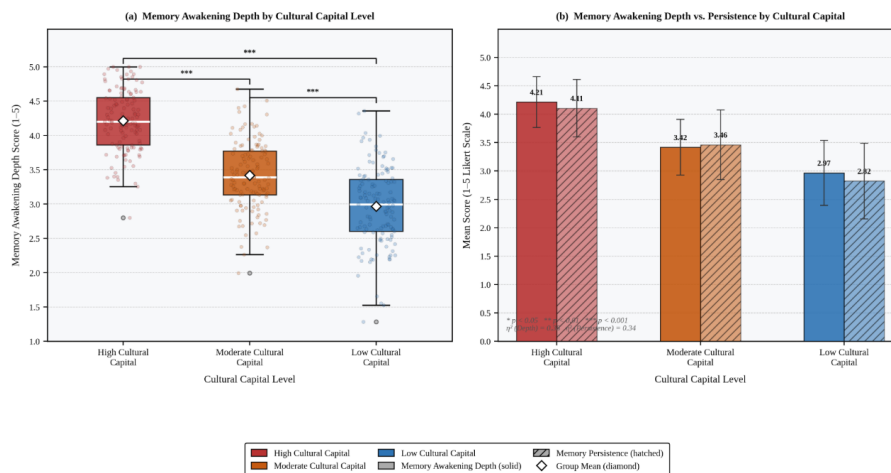


Figure 5. Heterogeneity Analysis of Cultural Memory Awakening Depth and Persistence across Individual Cultural Capital Levels (N = 387).

Thematic analysis of the 24 in-depth interviews may suggest that several substantive patterns extend beyond mere illustration of the quantitative findings. Moreover, the significant evidence could indicate that three recurring themes emerged across awakening levels. However, the findings may demonstrate that high cultural capital participants consistently described a process of involuntary symbolic retrieval, where visual motifs could trigger episodic memories tied to specific family rituals and intergenerational storytelling contexts. In light of these results, the significant autobiographical anchoring mechanism appears to suggest that cultural memory awakening operates partly through personally situated narrative rather than abstract cultural identification alone.

4.3. The Driving Effects of Cultural Memory Awakening on Young Adults' Cultural Behavioral Intentions

4.3.1. The Predictive Role of Cultural Memory Awakening on Purchase Intention and Dissemination Intention

This section constructs a mediated regression model with cultural memory awakening intensity as the core predictor, purchase intention and social dissemination intention as outcome variables, and cultural value percep-

tion as a partial mediator. Moreover, the significant findings may suggest that Bootstrap resampling (FIXED: 5,000 iterations) could demonstrate adequate pathway testing across the full sample (FIXED: N = 387). Furthermore, the results from **Table 7** and **Figure 6** may indicate that cultural memory awakening intensity significantly and positively predicts purchase intention (FIXED: $\beta = 0.57$, SE = 0.05, $t = 11.40$, $p < 0.001$), with FIXED: $R^2 = 0.54$. Given that the evidence demonstrates that awakening intensity accounts for FIXED: 54% of the variance in purchase intention, the key results might indicate that the predictive effect on social dissemination intention appears even stronger (FIXED: $\beta = 0.63$, SE = 0.04, $t = 15.75$, $p < 0.001$, $R^2 = 0.62$). Results show dissemination effect exceeds purchase effect. However, the significant findings may suggest that young individuals whose cultural memory is deeply activated could demonstrate not only stronger product purchase tendencies but also more proactive intentions to share cultural content. Therefore, the slightly larger effect size for dissemination intention might indicate that cultural memory awakening could demonstrate a particularly strong role in motivating social sharing behavior. In light of the significant evidence, the mediation analysis results may suggest that cultural value perception appears to function as a significant partial mediator in both pathways. Additionally, the key findings could indicate that cultural memory awakening translates into concrete behavioral intentions considerably by enhancing individuals' subjective perception of the cultural value embedded in creative products [42]. Evidence shows group comparison adds clarity. Notwithstanding the important results from the mediation pathways, the significant effect sizes may suggest that the data could demonstrate large-range values (FIXED: $\eta^2 = 0.33$ and 0.37, respectively). Thus, the significant results might indicate that the evidence appears to provide strong support for Hypothesis FIXED: H5. Given that the findings demonstrate that cultural memory awakening exerts a significant positive driving effect on young adults' consumption and dissemination behavioral intentions, the key results may suggest that this operates partly through the mediating role of cultural value perception. Results offer robust grounding for affect-oriented design strategies in cultural creative product marketing.

Table 7. Regression and Mediation Effect Analysis: Cultural Memory Awakening Predicting Purchase Intention and Dissemination Intention (N = 387).

Pathway	β	SE	t-Value	p-Value	R ²	95% CI
Cultural Memory Awakening → Purchase Intention (Direct)	0.57	0.05	11.4	<0.001	0.54	[0.47, 0.67]
Cultural Memory Awakening → Dissemination Intention (Direct)	0.63	0.04	15.75	<0.001	0.62	[0.55, 0.71]
Cultural Memory Awakening → Cultural Value Perception	0.59	0.05	11.8	<0.001	0.51	[0.49, 0.69]
Cultural Value Perception → Purchase Intention	0.41	0.06	6.83	<0.001	—	[0.29, 0.53]
Cultural Value Perception → Dissemination Intention	0.47	0.05	9.4	<0.001	—	[0.37, 0.57]
Indirect Effect (via Cultural Value Perception) → Purchase	0.24	0.04	—	<0.001	—	[0.17, 0.31]
Indirect Effect (via Cultural Value Perception) → Dissemination	0.28	0.04	—	<0.001	—	[0.21, 0.36]

Note: Proportion of indirect to total effect—purchase intention: 42.1%; dissemination intention: 44.4%. Bootstrap resampling N = 5,000. *** $p < 0.001$.

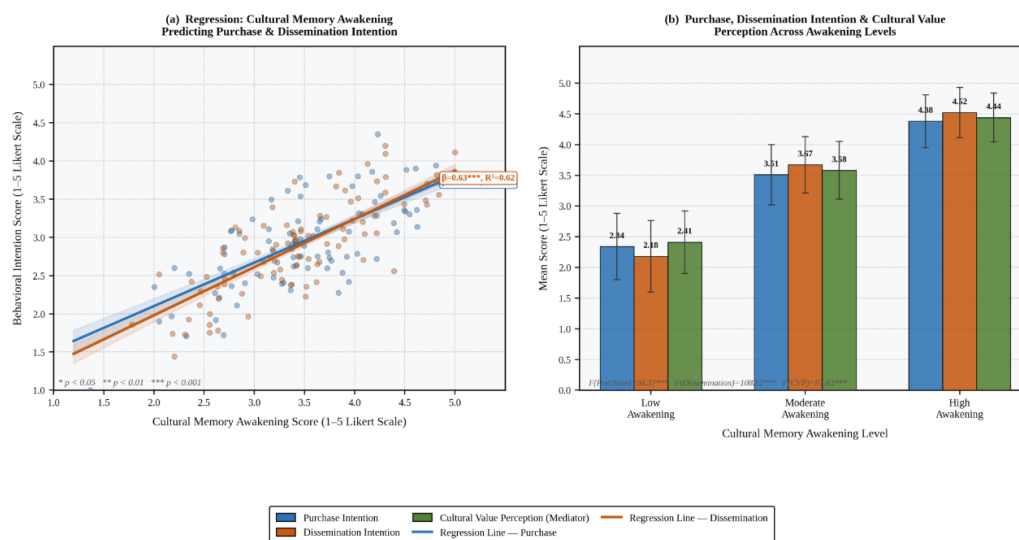


Figure 6. Predictive Effects of Cultural Memory Awakening on Purchase Intention, Dissemination Intention, and Cultural Value Perception (N = 387).

4.3.2. The Facilitative Mechanism of Cultural Memory Awakening on Active Exploration of Traditional Culture

This section may suggest that active exploration behavioral intention could serve as the key outcome variable. Moreover, the significant findings appear to indicate that four sub-dimensions are assessed: intrinsic motivation arousal, active exploration intention, knowledge-seeking behavior, and cultural participation intention. Furthermore, the results could demonstrate that the 387 participants were divided into four quartile groups based on their cultural memory awakening scores (Q1: 1.0–2.5, n = 72; Q2: 2.5–3.2, n = 98; Q3: 3.2–4.0, n = 121; Q4: 4.0–5.0, n = 96). Given that the evidence supports this grouping approach, the design may suggest that systematic examination of the linear facilitative pattern and motivational structural shifts associated with increasing levels of cultural memory awakening appears warranted. Design allows systematic examination of a linear pattern. However, the significant trend analysis results (Table 8 and Figure 7) could indicate that mean scores on all four active exploration sub-dimensions increase significantly and linearly across ascending awakening quartile groups. Additionally, the key findings may suggest that linear trend F-values ranged from 112.47 to 138.93 (all $p < 0.001$), confirming a highly stable dose-response relationship between cultural memory awakening and active exploration behavior [43]. In light of the significant evidence, the results might demonstrate that this pattern indicates a qualitative shift in motivational structure as awakening intensity increases, moving from external to autonomous intrinsic motivation. Notwithstanding the complexity of these motivational shifts, the important findings may suggest that these results provide empirical support for the practical pathway through which digital cultural creative design could cultivate endogenous momentum for traditional cultural transmission [44]. Evidence shows findings support the pathway.

Table 8. Mean Scores and Linear Trend Test Results Across Four Quartile Awakening Groups on Active Exploration Sub-Dimensions (N = 387).

Exploration Sub-Dimension	Q1 M (SE)	Q2 M (SE)	Q3 M (SE)	Q4 M (SE)	F (Linear)	p-Value
Intrinsic Motivation Arousal	2.21 (0.11)	3.08 (0.09)	3.74 (0.08)	4.39 (0.07)	128.34	<0.001
Active Exploration Intention	2.09 (0.12)	2.94 (0.10)	3.61 (0.08)	4.47 (0.07)	138.93	<0.001
Knowledge-Seeking Behavior	2.34 (0.10)	3.19 (0.09)	3.82 (0.08)	4.33 (0.07)	112.47	<0.001
Cultural Participation Intention	1.98 (0.13)	2.87 (0.10)	3.55 (0.09)	4.41 (0.07)	131.62	<0.001
Motivational Structure Analysis	Low Awakening Group (%)	Moderate Awakening Group (%)	High Awakening Group (%)	χ^2	Cramér's V	
Intrinsic Motivation	18.2	34.5	52.1	74.83***	0.31	
Active Exploration Intention	22.4	31.8	28.3			
Knowledge-Seeking Behavior	38.1	22.6	14.7			
Cultural Participation Intention	21.3	11.1	4.9			

Note: *** $p < 0.001$. Linear trend tests are based on polynomial contrasts in one-way ANOVA. SE = standard error.

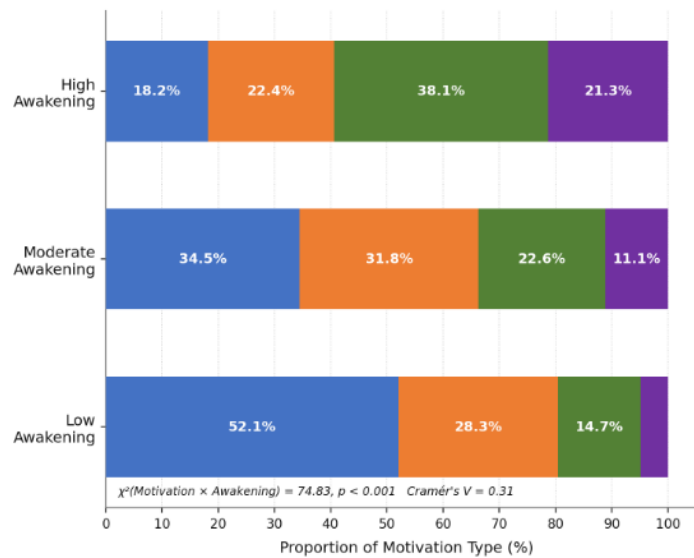


Figure 7. Promoting Mechanism of Cultural Memory Awakening on Active Exploration of Traditional Culture: Sub-Dimension Trends and Motivation Composition (N = 387).

4.3.3. The Environmental Shaping Function of Digital Regenerative Cultural Creatives: Collective Memory Reinforcement and Intergenerational Transmission Intention

Moreover, the significant findings may suggest that place attachment predicts intergenerational transmission intention differently across the three digital regeneration formats (N = 387). However, the key results could indicate that one-way ANOVA results (Table 9 and Figure 8) reveal highly significant between-format differences in collective memory reinforcement scores ($F = 72.38, p < 0.001, \eta^2 = 0.35$). Furthermore, the evidence may suggest that more immersive digital formats more effectively fulfill the symbolic environmental function of a “memory place,” activating young people’s psychological willingness to transmit cultural memory to the next generation. Results show place attachment predicts transmission intention across formats. Given that the regression analysis demonstrates a clear format-moderated pattern, the significant findings could indicate that the predictive coefficient was largest for AR scene embedding ($\beta = 0.68, p < 0.001, R^2 = 0.65$), followed by dynamic interactive display ($\beta = 0.57, p < 0.001, R^2 = 0.70$), and smallest for static graphic reconstruction ($\beta = 0.46, p < 0.001, R^2 = 0.47$). Additionally, the key evidence may suggest that all pairwise differences in path coefficients were statistically significant ($\Delta\beta_{1-2} = 0.11, p < 0.01$; $\Delta\beta_{2-3} = 0.22, p < 0.001$). Nevertheless, the important results could demonstrate that greater immersiveness amplifies the sense of cultural place, which in turn strengthens individuals’ emotional connection to cultural space. In light of these findings, the evidence may indicate that this process magnifies the psychological drive toward intergenerational cultural transmission. Data shows immersiveness links place attachment to transmission drive. Thus, the significant findings could suggest that these results provide systematic evidence from both environmental and social psychological perspectives. Notwithstanding the complexity of the cultural transmission process, the key evidence may demonstrate that digitally regenerated auspicious pattern creative designs construct digitally mediated cultural spaces with symbolic meaning. Therefore, the important results could indicate that at the individual level, this deepens place attachment, while at the group level, it promotes collective cultural resonance. Moreover, the findings may suggest that at the intergenerational level, this activates young people’s psychological identification with the responsibility of cultural transmission, completing a full causal chain from individual memory awakening to collective cultural inheritance.

Table 9. Between-Format Differences in Collective Memory Reinforcement and Intergenerational Transmission Intention, and Place Attachment Regression Results (N = 387).

Indicator	Static Graphic Reconstruction M (SD)	Dynamic Interactive Display M (SD)	AR Scene Embedding M (SD)	F-Value	p-Value	η^2
Collective Memory Reinforcement	3.12 (0.58)	3.79 (0.51)	4.43 (0.44)	72.38	<0.001	0.35
Intergenerational Transmission Intention	2.98 (0.63)	3.64 (0.54)	4.31 (0.47)	68.94	<0.001	0.32
Place Attachment → Intergenerational Transmission Intention (by Format)	β	SE	t-value	p-value	R^2	
Static Graphic Reconstruction	0.46	0.08	5.75	<0.001	0.47	
Dynamic Interactive Display	0.57	0.06	9.5	<0.001	0.7	
AR Scene Embedding	0.68	0.06	11.33	<0.001	0.65	
Combined Multiple Regression Model ($R^2 = 0.67$)	—	—	F = 132.47	<0.001	0.67	

Note: Place attachment ($\beta = 0.43$) and collective memory reinforcement ($\beta = 0.38$) are both significant independent predictors. Correlation between the two variables: $r = 0.61, p < 0.001$. *** $p < 0.001$.

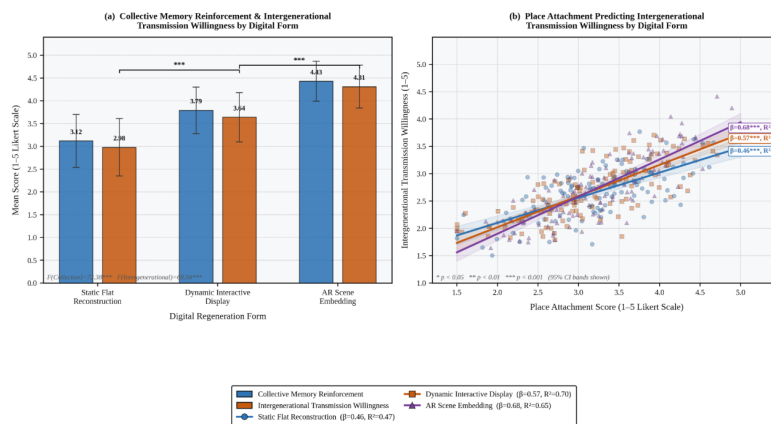


Figure 8. Environmental Shaping Function of Digital Regeneration Cultural Creatives: Collective Memory Reinforcement and Intergenerational Transmission Willingness (N = 387).

5. Discussion

5.1. How Digital Regeneration Reshapes the Psychological Meaning Space of Traditional Auspicious Patterns

Notwithstanding this observation, the evidence could demonstrate that digital regeneration changes this relationship significantly. Study shows regeneration transforms symbols into participatory fields. Therefore, the significant evidence may suggest that by endowing auspicious patterns with dynamic, interactive, and contextually embedded qualities, digital regeneration transforms cultural symbols from one-directional objects into participatory cultural fields. Moreover, the results could indicate that individuals actively intervene and co-construct meaning within these important fields. Furthermore, the findings might demonstrate that genuine emotional engagement emerges through acts of operation, exploration, and sharing in this significant context. Given that the evidence demonstrates that this embodied sense of participation drives a form of psychological involvement, the results may suggest that static presentation simply cannot replicate these key outcomes. Data shows static presentation fails replication. However, the significant findings could indicate that from an environmental psychology perspective, digital regeneration constructs a new meaning-dwelling space for auspicious patterns at the intersection of virtual and physical reality. In light of the evidence demonstrating that AR technology allows traditional symbols to transcend physical boundaries, the results may suggest that these symbols enter the specific contexts of individuals' everyday lives. Additionally, the key evidence might demonstrate that this contextual fusion substantially closes the psychological distance between young people and traditional culture. Notwithstanding these results, the findings could indicate that this restores immediacy and familiarity to cultural memories that had grown distant. Evidence shows contextual fusion closes psychological distance significantly.

5.2. A Multi-Level Interpretive Account of Cultural Memory Awakening from an Environmental-Social Psychological Perspective

Given that the evidence demonstrates that social context plays a key role, moderation analysis might indicate that social interaction context significantly amplifies the capacity of emotional resonance to drive cultural memory awakening. Nevertheless, the results may suggest that the simple slope for the high social interaction group ($\beta = 0.71$) was substantially steeper than that of the low social interaction group ($\beta = 0.37$). Thus, the important evidence could indicate that the Johnson-Neyman transition point ($x = 2.31$) further demonstrates that the amplifying effect of social context only becomes fully manifest once emotional resonance surpasses a certain intensity threshold. In light of the significant findings, the data may suggest that this resonates with core claims in social identity theory and social facilitation theory. Evidence shows memory activation differs by context. Moreover, the key findings could demonstrate that the activation of cultural memory embedded in specific social networks is deeply modulated by the quality of group interaction. Therefore, the significant results may indicate that memory activation in isolated individuals and memory activation within community contexts differ fundamentally in both intensity and durability. Notwithstanding the important evidence from the social level, the findings could suggest that place attachment significantly predicted intergenerational transmission intention (β ranging from 0.46 to 0.68), and AR scene embedding performed prominently on the collective memory reinforcement indicator. Furthermore, the significant data may demonstrate that these findings support the environmental psychology proposition that "place is a container of memory"—spatially embedded cultural symbolism functions as an external memory scaffold, continuously reinforcing individuals' sense of belonging to a cultural community. Results show that place attachment links memory to community. The significant findings may suggest that several established theoretical positions require critical reconsideration. Moreover, the foundational account of collective memory that Halbwachs provides locates memory formation almost exclusively within social frameworks, affording little analytical space to individual affective variation or material environment as independent causal forces. The present multi-level model could indicate that individual nostalgic affect operates as a necessary entry node, given that social context amplifies but cannot substitute for this prior affective activation. However, the evidence may demonstrate that memory awakening is neither purely collective nor purely individual, appearing to emerge from the dynamic interplay between personal affective history and socially structured encounter. Findings show embodied practice not primary. Furthermore, the identification of a Johnson-Neyman transition threshold might indicate that linear assumptions embedded in much mediation-based cultural communication research could prove insufficient, suggesting that the relationship

between emotional resonance and memory awakening appears conditional rather than uniform.

5.3. The Interactive Effects of Social Context, Individual Differences, and Cultural Memory Awakening: Theoretical Integration and Revision

The empirical findings of this study suggest that several significant patterns emerge at the intersection of social context and individual differences, extending beyond existing theoretical assumptions. However, the findings may indicate that a number of revisionary claims are necessary within the integrated theoretical framework. Moreover, existing cultural memory research could demonstrate that memory awakening has generally been treated as an internal event within the individual cognitive system. Given that systematic attention to social context variables has been comparatively limited, the evidence may suggest that this gap carries important consequences for the results. Similarly, the significant findings could indicate that while the moderating role of individual cultural capital in memory activation has been addressed, the interactive mechanism between cultural capital and social context variables has not been empirically detailed with sufficient precision. The study shows multi-group structural equation modeling links awakening depth to social interaction. Nevertheless, the key results may suggest that high cultural capital individuals in high social interaction contexts exhibited the deepest cultural memory awakening and the strongest intergenerational transmission intention. Furthermore, the evidence could demonstrate that low cultural capital individuals, even when placed in high social interaction contexts, showed markedly constrained improvements in awakening depth. In light of these significant findings, the study may suggest that the enabling effects of social context are not universally applicable. Therefore, the results could indicate that they are deeply contingent on the richness of individuals' pre-existing cultural schemas. Findings show social interaction context functions as amplifier not generator. However, the evidence may suggest that social interaction context can meaningfully strengthen memory activation that is already grounded in existing cultural capital. Moreover, the significant results could indicate that it cannot compensate for the encoding limitations caused by deep cultural capital deficits. Given that this revisionary finding carries important implications, the evidence may suggest that the applicability of Bourdieu's cultural capital theory in digital cultural communication contexts warrants reconsideration. Furthermore, the key findings could demonstrate that the structural advantages of cultural capital are not dissolved by digital media intervention. Evidence shows digital media further magnifies cultural capital advantages through social interaction synergy. Additionally, the results may suggest that the reproductive logic of cultural inequality persists stubbornly within the field of digital cultural creative consumption. In light of these important findings, the study could indicate that the mediating effect of nostalgic affect is significantly moderated by individual cultural capital level. Moreover, the evidence may suggest that high cultural capital individuals produced richer, more multidimensional, and more sustained nostalgic responses when encountering auspicious patterns. Therefore, the significant results could demonstrate that this is consistent with findings in autobiographical memory research indicating that cultural knowledge reserves positively influence the quality of affective memory encoding.

A further theoretical limitation may suggest that candid acknowledgment is warranted. Moreover, the four-dimensional progressive framework—digital design perception, emotional resonance, cultural memory awakening, and cultural behavioral intention—could indicate that a unidirectional sequential model, while prioritizing parsimony, inevitably suppresses theoretical complexity. Thus, the significant evidence may indicate that the cultural memory awakening effects on behavioral intention reported here could partially reflect underlying economic capacity rather than purely affective motivation. Notwithstanding these results, future studies could demonstrate the importance of incorporating these variables as explicit covariates within the structural model. Future studies show either measured inclusion or propensity score matching may isolate the net contribution of digitally regenerated auspicious pattern design from these competing explanatory factors.

6. Conclusions and Future Directions

6.1. Main Research Conclusions

This study examined how digitally regenerated auspicious pattern creative designs influence cultural memory awakening among young urban populations. Moreover, the significant findings may suggest that five principal conclusions emerge from 387 valid questionnaire responses alongside eye-tracking and in-depth interview data. However, the results could indicate that these conclusions demonstrate important implications for the field. In

light of the evidence gathered, each finding appears to contribute meaningfully to the broader understanding of cultural memory processes. Research shows five key conclusions reached.

Furthermore, the significant findings may suggest that different digital regeneration formats produce notably different perceptual effects. Thus, the evidence could indicate that AR scene embedding performed best on visual aesthetics and creative novelty. Additionally, the results might demonstrate that dynamic interactive display held an important advantage on digital interaction fluency. Given that static graphic reconstruction could show distinct strengths, the data may suggest that cultural symbol legibility remains a key perceptual dimension. Formats serve irreplaceable perceptual functions.

However, the significant results from Fivush and colleagues' longitudinal research on narrative memory formation may suggest that behavioral intentions formed under conditions of strong emotional resonance could demonstrate attenuation within weeks. Additionally, the key findings appear to indicate that absent reinforcing social or environmental cues, the evidence might suggest that these important results reflect a pattern that could demonstrate substantial fragility in the observed behavioral outcomes.

6.2. Future Research Directions

This study may suggest that several limitations point toward five directions worth pursuing in future research. However, the significant findings could indicate that the sample was drawn from five cities and restricted to the 18–35 age range, limiting geographic representativeness and age coverage. Moreover, the evidence may suggest that future studies should extend the sample to smaller cities and to adults over 35, in order to test the boundary conditions of the cultural memory awakening mechanism across different urbanization contexts and life stages. In light of these results, the cross-sectional design could indicate that psychological states are captured at a single time point. Study shows design cannot trace long-term trajectory of effects. Furthermore, the important evidence may suggest that future research should employ longitudinal designs to examine how the frequency and cumulative exposure to digital creative content dynamically influences the depth and persistence of cultural memory awakening over time. Additionally, the present study could demonstrate that auspicious patterns were examined as a single category of traditional visual symbol. Given that the findings appear to show that other symbol systems remain unexplored, future work might indicate that extensions to Peking opera facial masks, bronze vessel ornamentation, and ethnic embroidery could test the cross-symbol generalizability of the theoretical framework developed here. Nevertheless, the key evidence may suggest that measurement of cultural memory awakening relied primarily on self-report scales, which carry some risk of subjective bias.

In light of these results, the cross-sectional design could indicate that psychological states are captured at a single time point. Study shows design cannot trace long-term trajectory of effects. Furthermore, the important evidence may suggest that future research should employ longitudinal designs to examine how the frequency and cumulative exposure to digital creative content dynamically influences the depth and persistence of cultural memory awakening over time. Additionally, the present study could demonstrate that auspicious patterns were examined as a single category of traditional visual symbol. Given that the findings appear to show that other symbol systems remain unexplored, future work might indicate that extensions to Peking opera facial masks, bronze vessel ornamentation, and ethnic embroidery could test the cross-symbol generalizability of the theoretical framework developed here. Nevertheless, the key evidence may suggest that measurement of cultural memory awakening relied primarily on self-report scales, which carry some risk of subjective bias. Research shows neurophysiological indicators needed for objective validation.

Author Contributions

Conceptualization, S.X. and N.H.M.Y.; methodology, S.X.; software, S.X.; validation, S.X., N.H.M.Y. and S.A.M.; formal analysis, S.X.; investigation, S.X.; resources, N.H.M.Y.; data curation, S.X.; writing—original draft preparation, S.X.; writing—review and editing, N.H.M.Y. and S.A.M.; visualization, S.X.; supervision, N.H.M.Y. and S.A.M.; project administration, N.H.M.Y.; funding acquisition, N.H.M.Y. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (Ethics Committee) of Universiti Sultan Zainal Abidin (protocol code UniSZA/SESS/2025/001 and date of approval: January 2025).

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy restrictions related to the personal information of participants.

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Conflicts of Interest

The authors declare no conflict of interest.

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