

# Generative AI-supported Interior Concept Design: An Assessment of End Product Creativity Between Designers and Non-designers

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## Abstract

Interior designers are professionals with experience to deal with functional and aesthetic aspects of interiors. From the concept to the final product, they are in charge of the entire design process. In this process, the concept is the seed of a design. A good concept arises from a designer's creativity, tacit knowledge, and explicit knowledge. Developing a proper concept is an arduous task. However, the recent developments of the Artificial intelligence (AI) platforms have made interior concept design more simplified, regardless of subject-specific creativity and professional expertise. The key is in the text-to-image ability of generative AI. In this context, this research examines the differences in creativity between interior designers and others in developing generative AI-supported interior concept designs. It ascertains if there is a significant difference in creativity between interior designers, other designers and non-designers when using generative AI to produce interior design concepts.

The investigation seeks to determine task satisfaction and overall creativity in terms of novelty, resolution and elaboration and synthesis among the three types of designers using valid assessment tools. For this, nine graduate students in three groups comprised of interior designers, other designers such as graphic and textile designers and non-designers were subjected to a quantitative study. They were assigned a 45-minute brief design activity to create a conceptual interior space using Midjourney AI. The creativity of the final output was graded by a panel of experts using the Creative Product Semantic Scale (CPSS).

Results reveals that interior design concept designed by other designers are more creative than the non-designers and that there was no significant difference in creativity between the interior

designers and the other designers. Furthermore, other designers had the highest task satisfaction of working with generative AI over interior designers and non-designers. Indeed, the results show that the domain-specific expertise is not significant in terms of creativity in the presence of generative AI.

**Keywords:** Generative AI, Interior design, Conceptual design, Creative Product Semantic Scale.

## Introduction

According to Baghaei Daemei & Safari (2018), designing is an intentional process of conceiving, planning, and shaping based on creativity, aimed at a successful final product in terms of form, function, aesthetics, and usability. Moreover, design involves solving an ill-defined problem (Piotrowski, 2000). The development of AI and its natural language processing with machine learning comprehension have made it possible for anybody to use AI for design. Therefore, many AI platforms are now being used to generate designs, mostly at the conceptual level (Radhakrishnan, 2023; Kavakoglu et al., 2022).

A concept is considered as the seed of a successful design. As Foster & Kesselman (2003) show, creativity supported by knowledge and skills of a designer is a precursor for a successful concept formulation. According to Plucker et al., creativity is

“The interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context”.

Plucker et al., 2004:90

Daemei & Safari (2018) point out that creativity is a vital aspect in the design process. The creative work is a novel work that is accepted as tenable or useful or satisfying by a group at some point in time (Stain, 1953). However, creativity, as a human cognitive capability could be surpassed by AI, as it works with an immense amount of data processed via advanced algorithms (Miller, 2019). In this context, the role of a human designer might be questioned and would become a critical consideration in the near future (Hearn, 2020).

In this context, this study examines the differences in creativity between three groups; interior designers, other designers and non-designers with regard to conceptual interior design executed using generative AI. Within the aforementioned three groups, interior designers are qualified persons in the creative domain with experience to deal with functional and aesthetical aspects of interior spaces (Beck, 1982). Other designers represent qualified personal in the creative domain excluding interior designers (Ex. Graphic design, textile design, etc.). Individuals without formal training and experiences in design related fields form the non-designer group.

This study aims to ascertain creativity among the Interior Designers (ID), Other Designers (OD) and Non-Designers (ND) through a generative AI supported interior concept design activity.

Its objectives are as follows.

1. To evaluate the end product creativity of AI supported interior concept designs done by ID, OD and ND based on Creative Product Semantic Scale (CPSS)
2. To assess the statistical significances of creativity between ID, OD and ND in terms of novelty, resolution and elaboration and synthesis and
3. To determine the overall differences in creativity between ID, OD and ND with regard to AI supported interior concept designs.

## Theorizing Interior Design and the Creative Domain

As known, interior design is a sub domain in the main design domain made up with product design, architecture, urban design and urban planning. It is defined as a “professional and comprehensive practice of creating an interior environment that addresses, protects, and responds to human needs” (International interior design association, n.d.). Its process associates creativity starting from the concept formulation, space planning, customization, communication and construction (Lawson, 2006; Edwards, 2011).

## Creativity, Concept Formation and Task Satisfaction

Two forms of knowledge called tacit knowledge and explicit knowledge are required to be a competent designer. Tacit knowledge is gained through experience which is hard to express, articulate, or teach to others. Explicit knowledge is formalized knowledge which can be documented, and easily expressible (Smith, 2001). Both forms of knowledge can enhance creativity as lack of multi-disciplinary knowledge can reduce the creative ability (Chen et al., 2012).

According to Low et al. (2000), experience is one of the most vital factors of creativity. Creativity is a core aspect in the design process common to all the design disciplines which have an impact on decision making, problem solving and innovation (Daemei & Safari, 2018). According to Cross (1990), there are arguments whether creativity is domain-specific or is a general domain. In this connection, some argue that creative performances are domain-general whilst others argue that creativity is domain-specific (Qian et al., 2019; An & Runco, 2016; Bear, 2016; Palmiero et al., 2015).

Schon & Wiggins (1992) describes the creative process being comprised of five stages from insight followed by preparation, incubation, illumination, and verification. Creativity is linked with concept formulation. Concept is the DNA of a design and the success of the product rely on the potential of the concept (Eilouti, 2018). A concept is the foundation of a design that inspires the entire design process (Dorst & Cross, 2001).

According to the Royal Institute of British Architects (RIBA) plan of work, the design process consists of seven (07) major stages. Concept design is the third stage of the RIBA plan of work, preceded by strategic definition (client’s requirements) and the preparation and briefing stage (RIBA, 2020). Creativity is a catalyst for a good concept. It helps to understand the holistic nature of an architectural problem and approach the problem-solving process with a sound concept (Idi, 2015). Fulfillment or satisfaction attained by achieving or completing a particulate task is called task satisfaction (Marley & Kersting, 2020). Task satisfaction also called job satisfaction is going together with creativity which is supported by self-determination of an individual (Sacchetti & Tortia, 2013).

## Assessment of Creativity

There are several methods of assessing creativity. Torrance Tests of Creative Thinking (TTCT), Remote Associates Test (RAT), Guilford's Alternative Uses Task, Creative Achievement Questionnaire (CAQ), Creative Personality Scale (CPS), Consensual Assessment Technique (CAT), Wallach-Kogan Creativity Tests, Test of Creative Thinking-Drawing Production (TCT-DP), Creative Product Semantic Scale (CPSS) and Biographical Inventory of Creative Behaviors (BICB) are some of those.

Torrance Tests of Creative Thinking (TTCT) is a psychometric test that assesses creativity in terms of flexibility, originality, fluency, and elaboration (Torrance, 2012). Remote Associates Test (RAT) measures creativity using a word selection exercise (Lee et al., 2014). Guilford's Alternative Uses Task assesses creativity and divergent thinking through object - based activities (Stevenson et al., 2022). Creative Achievement Questionnaire (CAQ) is a self-report questionnaire to measure creativity of individuals across different domains (Carson et al., 2005). Creative Personality Scale (CPS) assesses creativity associated with personalities (Gough, 1979). Consensual Assessment Technique (CAT) is a method of evaluating creativity of a product by the consensus of experts (Kaufman et al., 2009). Wallach-Kogan Creativity Tests assesses creativity of children in terms of fluency, flexibility, and originality (Cheung et

al., 2004). Test of Creative Thinking-Drawing Production (TCT-DP) uses to measure creativity through drawings (Urban, 2005). Biographical Inventory of Creative Behaviors (BICB) uses structured interview or questionnaire to assess creative behaviors (Silvia et al., 2021). Creative Product Semantic Scale (CPSS) is a 05-point Likert scale questionnaire that measures creativity of products based on 03 attributes: Novelty, Resolution, and Elaboration and Synthesis which refers to the newness, functionality and aesthetics of a product and a process involved in the creation of that particular product (Besemer, 1998). CPSS is Applicable to multiple domains and tests for reliability and validity (O'Quin & Besemer, 1989). In fact, it gives more objective measurements (Cropley, 2006).

### **Generative AI and Design**

AI stands for artificial intelligence, which refers to a technology that machines can use to replace people in cognitive tasks that were only possible for human minds before (Hassani et al., 2020).

There are two main goals of AI. The first is to build intelligent machines, and the second is to find out about the nature of intelligence (Schank, 1987). In current practice, machines are predominantly involved in architecture, interior design and also in other disciplines of the construction industry to plan, manage, control, and optimize work without human involvement (Hamed, 2023). Machine learning and automated reasoning are two main aspects of AI. Machine learning involves data for making predictions and automated reasoning involves mathematical proofs for assuring a behavior of a system (Sacchetti & Tortia, 2013), (Rafsanjani & Nabizadeh, 2023).

Generative AI is a subset that comes under machine learning and can be classified according to its application as Image Generation and Manipulation, Text Generation and Language Modeling, Music and Sound Synthesis and Video Synthesis and Deepfakes (Learning, 2023). Generative AI can produce text, images, and other content in high-quality with its Image Generative capabilities based on the data they were trained on (IBM, 2021). The early-stage design development in architecture related subjects is now becoming possible with the capabilities of this generative AI. Midjourney, DALLE 2, and Stable Diffusion are some of the pioneering current generative AI platforms made for high quality image generation (Ploennigs, 2023). Basic function of a generative AI platform is to generate images using a text-to-image model (Hanafy, 2023). With their unique functionality, these platforms can convert text queries into realistic still images, making the initial design takeoff easier (Hanafy, 2023).

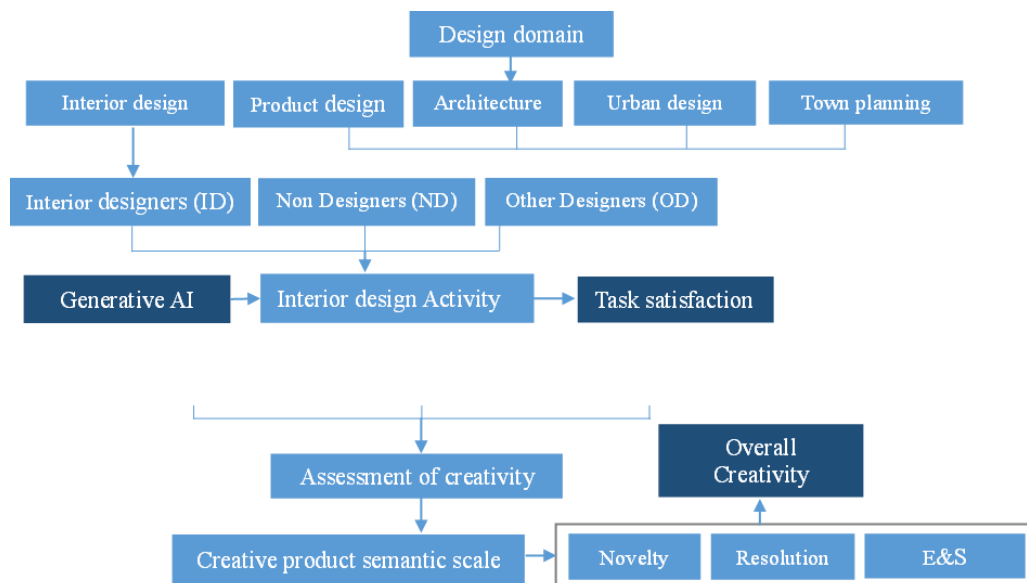
Trabucco explains the impact of AI on the field of architecture when he reports that:

“the present study analyses the application of AI to architecture by reviewing the most recent achievements in the automation of architectural design. The study then adapts existing methodologies to predict AI's impact on work-related activities carried out by architects. The results show that some disciplines will experience a massive impact of AI technologies, with the need to adapt the way architects are trained at universities.”

Trabucco, 2021:12

Given this, the AI invasion of architecture related disciplines has emerged as a probable threat to the professionals in the field. However, applications of AI have not yet been fully developed to accommodate all the architectural semantics. Nevertheless, the rapid development of AI may fix all those issues in the near future (Ploennigs, 2023). Therefore, many studies are being done to analyze the role of designers in the machine-driven design process to ensure the future of architects and design in the light of AI.

Following diagram shows the relationships that exist among these theoretical notions. It is employed in this research as the theoretical framework to examine creativity among the Interior Designers (ID), Other Designers (OD) and Non-Designers (ND) through a generative AI supported interior concept design activity.

**Fig. 01:** Theoretical Framework

Source: Author

## Research Methodology

This is a quantitative study. It is made up of five steps: selecting a generative AI platform, formulating a suitable design task, recruiting subjects, planning the design activity and data analysis.

### Selecting a Generative AI platform

According to Frew (n.d) Midjourney, Adobe Firefly, Night café, and Dall-E2 are some of current pioneering generative AI platforms employed for producing conceptual designs. Midjourney is one of the best and most popular diffusion-based generative AI platforms in current use, which is being explored in many AI related studies. (Cousins, 2023; Sætra, 2023; Pearson, 2023). Indeed, as Radhakrishnan (2023) says, it is considered as a better tool for creating realistic architectural outcomes. However, considering its capabilities, Midjourney AI platform was used for this study.

### Recruitment of the Subjects

After receiving the IRB approval, 09 graduate students from a mid-south US university who follow the interior design program were selected for the study through convenient sampling method. The composition was as follows.

(Group 01; n=03) Interior designers

(Group 02; n=03) Designers from other design programs and

(Group 02; n=03) Designers from non-design programs

### Design Activity

Delphi method was adopted to plan a suitable design activity. Delphi is a technique of group-decision making that involves experts for complex problem solving (Turoff & Linstone, 2002). Therefore, the content of the activity was decided by a two-member panel of experts. They considered 03 aspects as follows.

- Common theme : A familiar theme for both designers and non-designers
- Pragmatic task : Achievable within less 45 minutes
- Less cognitive load : Simple design brief without complex semantics

### Design Activity

This involved the development of a concept design for a bedroom interior excluding toilet space. A 05 item Likert scale questionnaire used to collect demographic data and the task satisfaction of participants, after the design activity. Total time for the procedure was limited to 45 minutes. To eliminate individual differences in operating Generative AI, each participant was assisted by an experienced AI user. Final outcome consisted solely of Interior images (See sample outcomes: Fig. 02, Fig. 03 and Fig. 04)



Fig. 02: Concept (ID)



Fig. 03: Concept (OD)



Fig. 04: Concept (ND)

### Assessment Criteria

A 05 item Likert scale questionnaire containing three (03) attributes named Novelty, Resolution and Elaboration and synthesis based on Creative Product Semantic Scale (CPSS) was used for the assessment. In the questionnaire, each attribute was divided in to 05 subscales based on a previous study by Besemer (1998) on creative product analysis matrix (Table. 01). Two International chartered members of RIBA voluntarily participated in the assessment. Final design outcomes were sent to the jurors anonymously. The assessment was completed remotely powered by Qualtrics.

**Table 01**  
Assessment of Creativity: Creative Product Semantic Scale

Novelty	Resolution	Elaboration and synthesis
Distinctive	Relevance	Arrangement
Innovative	Impotence	Attractiveness
Unconventional	Logical	Depiction
Emotional	Functional	Meaning
Evolutional	Safe	Detailing

CPSS attributes and sub-scales  
Source: Author

### Data Analysis

MS excel 2013 used for the data analysis. Analysis of Variance (ANOVA) was used for the assessment of the task satisfaction and the assessment of creativity between the 03 groups (ID, OD and ND). Post-hoc-T-test was used for the Pairwise Assessment of task satisfaction and creativity between each group.

### Results & Discussion

03 Interior designers (ID), 03 other designers (OD) and 03 non-designers (ND) participated in the study. Participants were in the age groups of: ID: 18y-44y, OD 30y-34y and ND: 18y-29y.

Each participant had <6-month previous experiences in Midjourney txt-to-image function and all completed the study within the allocated time.

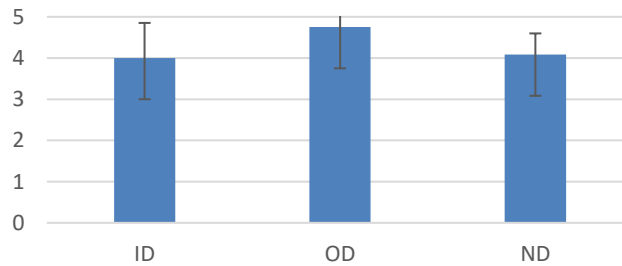
**Assessment: Task Satisfaction (TS)**

Task satisfaction was measured through a five item Likert questionnaire with 03 questions; the level of enjoyment, easiness of the design and the willingness of the design for own use.

Analysis of variance (ANOVA) indicates a statistical significance between 03 groups ( $0.05 > p$ ). Consequent post-hoc T-test indicates a statistical significance in TS between ID - OD ( $0.05 > p$ ) and OD-ND ( $0.05 > p$ ). Post-hoc T-test results and the comparison in the Fig. 05 indicates that the task satisfaction of OD is higher than ID and ND.

**Table 02:** Comparison: Task satisfaction

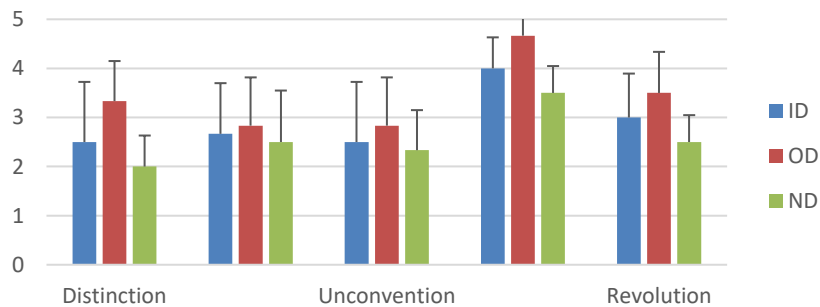
Table 02			
Post-hoc T-Tests: Task Satisfaction			
	ID	OD	ND
ID	-	-	-
OD	0.01	-	-
ND	0.38	0.001	-



**Fig. 5:** Comparison: Task satisfaction

**Assessment: Subscales of Novelty**

Analysis of variance (ANOVA) indicated a statistical significance between 03 groups regarding the subscale “emotional” ( $0.05 > p$ ). However, the post-hoc t-test indicated statistical significances between OD - ND ( $0.05 > p$ ) in “emotional” and “distinctive” subscales (Table.03 & Table 06). The comparison in the Fig. 06 shows that the interior concept design of OD is significantly distinctive and emotional than ND.



**Fig. 06:** Comparison: Individual subscales of Novelty

Table 03				Table 04				Table 05				Table 06				Table 07			
Post-hoc t-tests: distinctive				Post-hoc t-tests: Innovative				Post-hoc t-tests: Unconventional				Post-hoc t-tests: Emotional				Post-hoc t-tests: Revolutionary			
	ID	OD	N D		ID	OD	N D		ID	OD	N D		ID	OD	N D		ID	OD	N D
ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-
OD	0.1	-	-	OD	0.7	-	-	OD	0.6	-	-	OD	0.0	-	-	OD	0.3	-	-
ND	0.4	<b>0.01</b>	-	ND	0.7	0.5	-	ND	0.7	0.3	-	ND	0.1	<b>0.003</b>	-	ND	0.2	0.2	-

**Assessment in Subscale of Resolution**

Analysis of variance (ANOVA) indicates no statistical significance ( $0.05 < p$ ) between 03 groups for all the subscales under the “Resolution” attribute. Further Post-hoc T-test for all subscales shown similar results indicating the interior concept designs of ID, OD and ND were equally relevant, important, logical, functional and safe (Table 08 to 12).

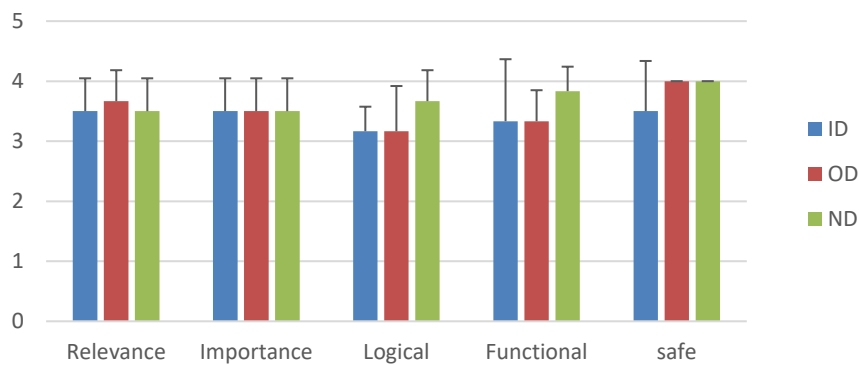


Fig. 07: Assessment in Subscale of Resolution

Table 08				Table 09				Table 10				Table 11				Table 12			
Post-hoc t-tests: Relevance				Post-hoc t-tests: Importance				Post-hoc t-tests: Logical				Post-hoc t-tests: Functional				Post-hoc t-tests: Safety			
	ID	OD	ND		ID	OD	ND		ID	OD	ND		ID	OD	ND		ID	OD	ND
ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-
OD	0.59	-	-	OD	1.0	-	-	OD	1.0	-	-	OD	1.0	-	-	OD	0.20	-	-
ND	1.0	1.0	-	ND	1.0	1.0	-	ND	0.09	0.2	-	ND	0.3	0.09	-	ND	0.20	0.20	-

**Comparison: Subscales of Elaboration and Synthesis**

Analysis of variance (ANOVA) indicated a statistical significance in the subscale “attractiveness” between 03 groups ( $0.05 > p$ ). Post-hoc t-test indicated a statistical significance between OD-ID and OD-ND in Attractive subscale ( $0.05 > p$ ) (Table 14). The comparison in the Fig 08 indicates that the interior concept design of OD is significantly attractive than ID and ND.

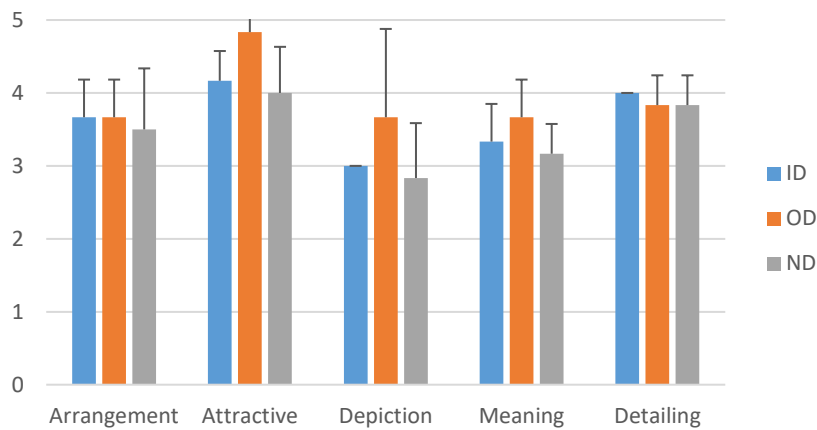


Fig. 08: Comparison: subscales of elaboration and synthesis

Table 13				Table 14				Table 15				Table 16				Table 17			
Post-hoc t-tests : Organized				Post-hoc t-tests : Attractive				Post-hoc t-tests : depiction				Post-hoc t-tests : Meaningful				Post-hoc t-tests : Detailing			
	ID	OD	ND		ID	OD	ND		ID	OD	ND		ID	OD	ND		ID	OD	ND
ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-	ID	-	-	-
OD	1.0	-	-	OD	0.01	-	-	OD	0.23	-	-	OD	0.28	-	-	OD	0.36	-	-
ND	0.6	0.6	-	ND	0.60	0.02	-	ND	0.61	0.6	-	ND	0.55	0.55	-	ND	0.36	1	-

**Comparison: Novelty, Resolution and Elaboration and synthesis**

According to the analysis of variance (ANOVA), there is no significant statistical significance between the three groups ( $0.05 < p$ ). However, Post-hoc T-tests indicated a statistical significance between OD and ND in terms of novelty ( $0.05 > p$ ), and in terms of elaboration and synthesis ( $0.05 > p$ ) (Table 18 and Table 20). The comparison of the Fig. 09 indicated that the interior concept design of OD is novel, elaborative and well synthesized than ND.

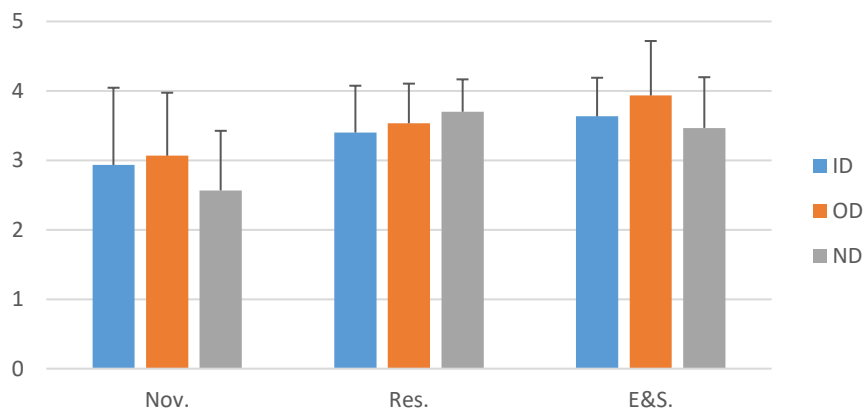
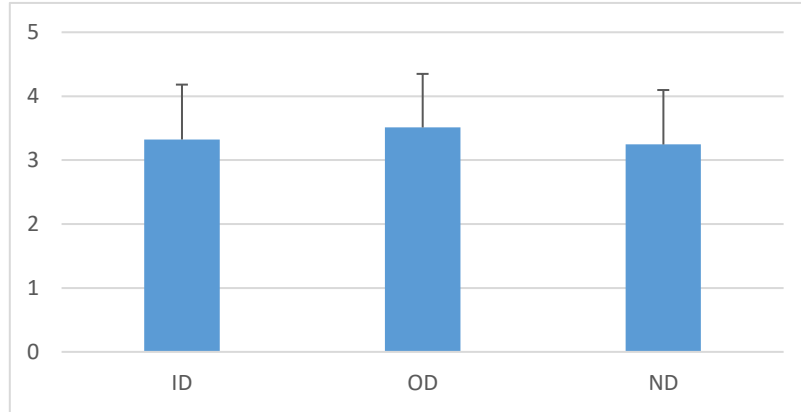


Fig. 09: Comparison: Novelty, Resolution and Elaboration and synthesis

Table:18				Table:19				Table:20			
Post-hoc t-tests : Novelty				Post-hoc t-tests : Resolution				Post-hoc t-tests : Elaboration and synthesis			
	ID	OD	ND		ID	OD	ND		ID	OD	ND
ID	-	-	-	ID	-	-	-	ID	-	-	-
OD	0.61	-	-	OD	0.41	-	-	OD	0.09	-	-
ND	0.15	0.03	-	ND	0.05	0.22	-	ND	0.32	0.02	-

### Overall Level of Creativity

There is no statistical difference in Overall creativity between groups ( $0.05 < p$ ) as per the analysis of variance (ANOVA). However, the post-hoc t-test indicates a statistically significant difference in creativity between ND and OD ( $0.05 < p$ ). Thus, it can be concluded that the interior concept design of OD is creative than ND.



**Fig. 10:** Comparison: Overall Level of Creativity

	ID	OD	ND
ID	-	-	-
OD	0.13	-	-
ND	0.5	0.03	-

According to Teng et al. (2022), domain-specific creativity of designers is higher than the domain-specific creativity of the non-designers. In a comparative study of 3D designers, 2D designers, and Non-designers on creativity and mental synthesis, 3D designers were found with the highest creativity and the non-designers were found with the lowest (Kokotovich & Purcell, 2000). In both the cases, the designers were found to be more creative than the non-designers. This is similar to the overall findings of the study that the other designers produced interior concept designs better than the non-designers.

However, this study revealed that there is no significant difference in the overall creativity of the interior designers against other designers and non-designers. This results contrasting with Teng et al. (2022) and reveals that domain-specific creativity has not been displayed in the AI supported interior concept designs.

### Conclusions

The purpose of this research was to understand the differences in the creativity of AI supported conceptual interior designs between interior designers, other designers and non-designers. The study set out to reveal the impact of generative AI on the interior design profession.

The findings indicate that AI supported interior concept design of other designers are more creative than the non-designers, and interior designers displayed no significance in the end-product-creativity than the other designers and the non-designers. Further, other designers displayed a greater task satisfaction and came up with a more attractive interior concept design than the interior designers and the non-designers. However, given the small samples, this cannot be concluded. Nevertheless, based on this, the relationship between task satisfaction and the attractiveness of the product can be investigated in future research.

Assessment in subscales of creativity revealed that AI supported Interior concept designs of the other designers is significantly distinctive, emotionally novel, elaborative and well synthesized than the non-designers. Moreover, regarding the other attributes and subscales, all groups were at the same level statistically. Therefore, in the light of the findings, it can be concluded that the other designers possess more creativity than the non-designers and the domain specificity of creativity is not significant in AI-supported interior concept design.

Limited experience of participants on Midjourney AI was a limitation to the study. Moreover, neither professional interior designers nor other professional designers participated in this study. At the same time, the sample size was small, and the findings can be only indicative. Thus, the results cannot be generalized to the entire design profession everywhere in the world. Further research is thus needed, although this provides a useful starting point.

## References

- Akcaay Kavakoglu, A., Almac, B., Eser, B. & Alacam, S. (2022) *AI Driven Creativity in Early Design Education—A pedagogical approach in the age of Industry 5.0*. 133–142. <https://doi.org/10.52842/conf.ecaade.2022.1.133>
- An, D. & Runco, M. A. (2016) General and Domain-Specific Contributions to Creative Ideation and Creative Performance. *Europe's Journal of Psychology*, 12(4), 523–532. <https://doi.org/10.5964/ejop.v12i4.1132>
- Baghaei Daemei, A. & Safari, H. (2018) Factors affecting creativity in the architectural education process based on computer-aided design. *Frontiers of Architectural Research*, 7(1), 100–106. <https://doi.org/10.1016/j.foar.2017.09.001>
- Bear, J. (2016, May 13). *The Creativity Post | Domain Specificity of Creativity: Theory, ...* [Blog]. <https://www.creativitypost.com/>. [https://www.creativitypost.com/article/domain\\_specificity\\_of\\_creativity\\_theory\\_research\\_and\\_practice](https://www.creativitypost.com/article/domain_specificity_of_creativity_theory_research_and_practice)
- Beck, Willion. C. (1982) *Health Care Environment: The User's Viewpoint* (1st Edition). London: Boca Raton.
- Besemer, S. P. (1998). Creative Product Analysis Matrix: Testing the Model Structure and a Comparison Among Products--Three Novel Chairs. *Creativity Research Journal*, 11(4), 333–346. [https://doi.org/10.1207/s15326934crj1104\\_7](https://doi.org/10.1207/s15326934crj1104_7)
- Carson, S. H., Peterson, J. B. & Higgins, D. M. (2005) Reliability, Validity, and Factor Structure of the Creative Achievement Questionnaire. *Creativity Research Journal*, 17(1), 37–50. [https://doi.org/10.1207/s15326934crj1701\\_4](https://doi.org/10.1207/s15326934crj1701_4)
- Chen, Y., Liu, Z.-L. & Xie, Y.-B. (2012) A knowledge-based framework for creative conceptual design of multi-disciplinary systems. *Computer-Aided Design*, 44(2), 146–153. <https://doi.org/10.1016/j.cad.2011.02.016>
- Cheung, P. C., Lau, S., Chan, D. W. & Wu, W. Y. H. (2004) Creative Potential of School Children in Hong Kong: Norms of the Wallach-Kogan Creativity Tests and Their Implications. *Creativity Research Journal*, 16(1), 69–78. [https://doi.org/10.1207/s15326934crj1601\\_7](https://doi.org/10.1207/s15326934crj1601_7)
- Cousins, S. (2023) The rapid rise of AI art. *Engineering & Technology*, 18(2), 20–25. <https://doi.org/10.1049/et.2023.0208>
- Cross, N. (1990) The nature and nurture of design ability. *Design Studies*, 11(3), 127–140. [https://doi.org/10.1016/0142-694X\(90\)90002-T](https://doi.org/10.1016/0142-694X(90)90002-T)
- Csikszentmihalyi, M. (1997, October) Happiness and creativity—ProQuest. *The Futurist; Washington*, 31(05), 8–12.
- Dorst, K. & Cross, N. (2001) Creativity in the design process: Co-evolution of problem-solution. *Design Studies*, 22(5), 425–437. [https://doi.org/10.1016/S0142-694X\(01\)00009-6](https://doi.org/10.1016/S0142-694X(01)00009-6)
- Edwards, C. (2011) *Interior design: A critical introduction*. London: Berg. <https://cir.nii.ac.jp/crid/1130282268922013056>
- Eilouti, B. H. (2018) Concept as the DNA for Morphogenesis: A Case Study of Contemporary Architecture, in *Handbook of Research on Form and Morphogenesis in Modern*

- Architectural Contexts* (283–309). IGI Global. <https://doi.org/10.4018/978-1-5225-3993-3.ch014>
- Foster, I. & Kesselman, C. (2003) *The Grid 2: Blueprint for a New Computing Infrastructure*. London: Elsevier.
- Frew, S. (n.d.) *15 Top AI Tools for Architects and Designers—Architizer Journal*. Retrieved October 12, 2023, from <https://architizer.com/blog/practice/tools/top-ai-tools-for-architects-and-designers/>
- Gough, H. G. (1979) A creative personality scale for the Adjective Check List. *Journal of Personality and Social Psychology*, 37(8), 1398–1405. <https://doi.org/10.1037/0022-3514.37.8.1398>
- Hanafy, N. O. (2023) Artificial intelligence’s effects on design process creativity: “A study on used A.I. Text-to-Image in architecture.” *Journal of Building Engineering*, 80, 107999. <https://doi.org/10.1016/j.job.2023.107999>
- Hearn, G. (2020) *The Future of Creative Work: Creativity and Digital Disruption*. London: Edward Elgar Publishing.
- IBM. (2021, February 9) *What is generative AI?* IBM Research Blog. <https://research.ibm.com/blog/what-is-generative-AI>
- Idi, D. (2015) Concept of Creativity and Innovation in Architectural Design Process. *International Journal of Innovation, Management and Technology*, 6(1). <https://doi.org/10.7763/IJIMT.2015.V6.566>
- International interior design association. (n.d.). *What is Interior Design?* IIDA. Retrieved November 26, 2023, from <https://iida.org/about/what-is-interior-design>
- Kaufman, J. C., Baer, J. & Jackson, Cole. C. (2009) Expertise, Domains, and the Consensual Assessment Technique—KAUFMAN - 2009—The Journal of Creative Behavior—Wiley Online Library. *Journal of Creative Behaviour*, 43. [https://onlinelibrary.wiley.com/doi/abs/10.1002/j.2162-6057.2009.tb01316.x?casa\\_token=6oh\\_JHTblEMAAAAA:i-8f9vgL1HdUuMoQzlbWIIMsk4LTVsjhkpZN0\\_\\_sD5UXLX8ji2Qpuqa4GkYcgt1vNtJ81\\_doczuga5n5](https://onlinelibrary.wiley.com/doi/abs/10.1002/j.2162-6057.2009.tb01316.x?casa_token=6oh_JHTblEMAAAAA:i-8f9vgL1HdUuMoQzlbWIIMsk4LTVsjhkpZN0__sD5UXLX8ji2Qpuqa4GkYcgt1vNtJ81_doczuga5n5)
- Kaufman, J. C. & Sternberg, R. J. (2010) *The Cambridge Handbook of Creativity*. Cambridge: Cambridge University Press.
- Kokotovich, V. & Purcell, T. (2000) Mental synthesis and creativity in design: An experimental examination. *Design Studies*, 21(5), 437–449. [https://doi.org/10.1016/S0142-694X\(00\)00017-X](https://doi.org/10.1016/S0142-694X(00)00017-X)
- Lawson, B. (2006) *How Designers Think: The Design Process Demystified*. Routledge.
- Learning, G. (2023, June 16) *Generative AI Models*. Great Learning Blog: Free Resources What Matters to Shape Your Career! <https://www.mygreatlearning.com/blog/generative-ai-models/>
- Lee, C. S., Huggins, A. C. & Therriault, D. J. (2014) A measure of creativity or intelligence? Examining internal and external structure validity evidence of the Remote Associates Test. *Psychology of Aesthetics, Creativity, and the Arts*, 8(4), 446–460. <https://doi.org/10.1037/a0036773>
- Low, M. K., Lamvik, T., Walsh, K. & Myklebust, O. (2000) Product to service eco-innovation: The TRIZ model of creativity explored. *Proceedings of the 2000 IEEE International Symposium on Electronics and the Environment (Cat. No.00CH37082)*, 209–214. <https://doi.org/10.1109/ISEE.2000.857650>
- Marley, R. & Kersting, L. (2020) Task satisfaction: The effect of relative performance information versus outcome feedback. *International Journal of Productivity and Performance Management*, 70(8), 2281–2293. <https://doi.org/10.1108/IJPPM-08-2019-0378>
- Miller, A. I. (2019) *The Artist in the Machine: The World of AI-Powered Creativity*. Massachusetts: MIT Press.
- Mitton, M. (2012) *Interior Design Visual Presentation: A Guide to Graphics, Models and Presentation Techniques*. London: John Wiley & Sons.

- Nabizadeh Rafsanjani, H., & Nabizadeh, A. H. (2023). Towards human-centered artificial intelligence (AI) in architecture, engineering, and construction (AEC) industry. *Computers in Human Behavior Reports*, 11, 100319. <https://doi.org/10.1016/j.chbr.2023.100319>
- Palmiero, M., Nori, R., Aloisi, V., Ferrara, M. & Piccardi, L. (2015). Domain-Specificity of Creativity: A Study on the Relationship Between Visual Creativity and Visual Mental Imagery. *Frontiers in Psychology*, 6(1), 17-22. <https://www.frontiersin.org/articles/10.3389/fpsyg.2015.01870>
- Pearson, A. (2023). The rise of CreAltives: Using AI to enable and speed up the creative process. *Journal of AI, Robotics & Workplace Automation*, 2(2), 101–114.
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why Isn't Creativity More Important to Educational Psychologists? Potentials, Pitfalls, and Future Directions in Creativity Research. *Educational Psychologist*, 39(2), 83–96. [https://doi.org/10.1207/s15326985ep3902\\_1](https://doi.org/10.1207/s15326985ep3902_1)
- Qian, M., Plucker, J. A. & Yang, X. (2019) Is creativity domain specific or domain general? Evidence from multilevel explanatory item response theory models. *Thinking Skills and Creativity*, 33, 100571. <https://doi.org/10.1016/j.tsc.2019.100571>
- Radhakrishnan, M. (2023). *Is Midjourney-Ai the New Anti-Hero of Architectural Imagery & Creativity?* 11, 94–114. <https://doi.org/10.11216/gsj.2023.01.102270>
- Sacchetti, S., & Tortia, E. C. (2013). Satisfaction with Creativity: A Study of Organizational Characteristics and Individual Motivation. *Journal of Happiness Studies*, 14(6), 1789–1811. <https://doi.org/10.1007/s10902-012-9410-y>
- Sætra, H. S. (2023). Generative AI: Here to stay, but for good? *Technology in Society*, 75, 102372. <https://doi.org/10.1016/j.techsoc.2023.102372>
- Schon, D. A. & Wiggins, G. (1992) Kinds of seeing and their functions in designing. *Design Studies*, 13(2), 135–156. [https://doi.org/10.1016/0142-694X\(92\)90268-F](https://doi.org/10.1016/0142-694X(92)90268-F)
- Silvia, P. J., Rodriguez, R. M., Beaty, R. E., Frith, E., Kaufman, J. C., Loprinzi, P., & Reiter-Palmon, R. (2021) Measuring everyday creativity: A Rasch model analysis of the Biographical Inventory of Creative Behaviors (BICB) scale. *Thinking Skills and Creativity*, 39, 100797. <https://doi.org/10.1016/j.tsc.2021.100797>
- Smith, E. A. (2001) The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, 5(4), 311–321. <https://doi.org/10.1108/13673270110411733>
- Stain, Morris. I. (1953) Creativity and Culture: The Journal of Psychology: Vol 36, No 2. *The Journal of Psychology*, 35(03). <https://doi.org/10.1080/00223980.1953.9712897>
- Stevenson, C., Smal, I., Baas, M., Grasman, R. & van der Maas, H. (2022) *Putting GPT-3's Creativity to the (Alternative Uses) Test* (arXiv:2206.08932). arXiv. <https://doi.org/10.48550/arXiv.2206.08932>
- Teng, J., Wang, X., Lu, K., Qiao, X. & Hao, N. (2022) Domain-specific and Domain-general Creativity Differences between Expert and Novice Designers. *Creativity Research Journal*, 34(1), 55–67. <https://doi.org/10.1080/10400419.2021.1997175>
- Torrance, E. P. (2012) *Torrance Tests of Creative Thinking* [dataset]. <https://doi.org/10.1037/t05532-000>
- Turoff, M. & Linstone, H. A. (2002) *The Delphi Method: Techniques and Applications*. Murray Turoff and Harold A. Linstone.
- Urban, K. K. (2005) Assessing Creativity: The Test for Creative Thinking-Drawing Production (TCT-DP). *International Education Journal*, 6(2), 272–280.