

# Printed Fonts vs. Calligraphic Fonts: A Comparative Study on Visual Perception

Zongyu Ma<sup>1,2</sup>

<sup>1</sup> College of Art and Design, Maanshan Teachers' College, Maanshan Anhui, China

<sup>2</sup> Keimyung University, Daegu, Korea

---

**Abstract:** This paper focuses on the visual perception of printed and calligraphic fonts, conducting a comparative study on their characteristics, existing issues, and optimization strategies. The purpose is to enhance people's aesthetic appreciation and cultural literacy of fonts, and to promote the development of font design and cultural undertakings. The study finds significant differences between printed and calligraphic fonts in terms of their characteristics, issues, and optimization strategies. These differences present various challenges in practical applications, necessitating a balance between respecting and protecting traditional culture, and focusing on innovation and development to meet the needs of modern society.

**Keywords:** Printed Fonts; Calligraphic Fonts; Visual Perception; Optimization Strategies.

---

## 1. Introduction

In modern information dissemination and cultural exchange, printed and calligraphic fonts play significant roles. Printed fonts, as the primary carrier of modern information dissemination, are characterized by standardization, clarity, and stability. On the other hand, calligraphic fonts, an integral part of China's traditional culture, are known for their artistry, diversity, and flexibility. In modern society, both fonts face various challenges in practical applications, such as aesthetic fatigue, readability, and innovation. To address these issues, this paper conducts a comparative study on the visual perception of printed and calligraphic fonts and proposes corresponding optimization strategies.

## 2. Visual Perception Characteristics of Printed and Calligraphic Fonts

### 2.1. Characteristics of Printed Fonts

As the main carrier of modern information dissemination, printing fonts have their unique characteristics. The standardization of printing fonts is one of the most prominent features, whether it is Chinese characters, letters, or numbers. Printing fonts follow strict norms, and there are clear standards for the strokes, structure, spacing, etc. of each character, which ensures the unity and readability of the text. This standardization not only helps to maintain the accuracy and professionalism of text, but is also crucial for the mass production and widespread dissemination of text. For example, in printed materials such as textbooks, newspapers, and magazines, unified printing fonts ensure the clear conveyance of information, allowing readers to quickly and accurately obtain information. The clarity of printing fonts is another major feature. Through precise printing technology, printing fonts make the outline of each character clearly visible, maintaining good recognition even in small font sizes or at long distances. This clarity not only improves reading efficiency, but also plays an important role in visual comfort. In cases of long-term reading, such as academic works or long novels, clear printing fonts can effectively reduce visual fatigue of readers and enhance the reading experience [1].

The stability of printing fonts is also an important feature.

Printing fonts can maintain a stable form and quality under different conditions, such as different papers, printing machines, and printing pressures, making the dissemination of information more reliable. This stability ensures that printed materials can maintain consistency in different batches and locations, which is crucial for maintaining brand image and conveying accurate information. For example, in printed materials such as trademarks, logos, and advertisements, stable printing fonts ensure the continuity and recognition of the brand image. The diversity of printing fonts is also an undeniable feature. With the development of design technology, printing fonts have a rich family of fonts and style variations, ranging from classic Songti and Kaiti to modern sans serif and sans serif fonts, each with its unique visual expression and emotional expression. The scalability of printing fonts is an important feature that adapts to the development of modern technology. With the advancement of digitalization and networking, printing fonts can not only be used in traditional printing media, but can also be easily applied to electronic screens and internet platforms. The digitization of fonts makes the use of printing fonts more flexible and convenient, providing a broader space for modern information dissemination [2].

### 2.2. Characteristics of Calligraphy Fonts

As an important part of China's traditional culture, calligraphy fonts have distinct characteristics that differentiate them from printing fonts. The artistry of calligraphy fonts is their most prominent feature. Calligraphy is not just a simple recording of text; it is a form of artistic expression. Calligraphy fonts emphasize the rhythm, strength, and continuity of the strokes, as well as the overall layout and artistic conception, reflecting the individuality and emotions of the calligrapher. In calligraphy works, one can feel the variations in the weight, slowness, and urgency of the calligrapher's pen strokes, with each stroke full of power and rhythm, all of which are manifestations of the artistry of calligraphy. The diversity of calligraphy fonts is another major feature. Chinese calligraphy has a long history, and over thousands of years of development, it has formed various styles of fonts with distinct characteristics, such as regular script, running script, cursive script, and clerical script. Each

font has its unique charm and aesthetic value. Regular script is upright and honest, running script is smooth and natural, cursive script is wild and unrestrained, and clerical script is simple and elegant. These different fonts not only enrich the artistic expression of calligraphy but also provide diverse choices for different writing occasions [3].

The flexibility of calligraphy fonts is also an important feature. During the process of writing, the connections and variations between strokes in calligraphy fonts are flexible and diverse, giving the fonts a vivid and lively visual feel. Every time a calligrapher lifts, turns, or finishes a stroke, it shows the dynamic beauty of the strokes. This flexibility makes calligraphy fonts not just a tool for conveying text but also an art form full of vitality and emotional expression. Calligraphy fonts also carry profound cultural connotations and historical significance, reflecting the aesthetic trends and cultural characteristics of different historical periods, and serving as an important carrier for the cultural heritage of the Chinese nation. The philosophical, moral, and emotional elements contained in calligraphy fonts give each calligraphy work its unique cultural value and artistic charm. The individuality and creativity of calligraphy fonts are also their unique aspects. Each calligrapher's work has its own style and characteristics, and even the writing of the same font can show different artistic styles and personal charisma [4].

### **2.3. Comparison of Visual Perception Between Printing and Calligraphy Fonts**

There are significant differences in visual perception between printing and calligraphy fonts. In terms of standardization, printing fonts emphasize unity and conformity, while calligraphy fonts focus more on individuality and variation. The standardization of printing fonts ensures that text is more uniform and consistent during dissemination, making it easier for readers to recognize and read. The individualization and variability of calligraphy fonts, on the other hand, give the fonts higher artistic value and ornamental appeal. In terms of clarity, printing fonts have a higher degree of clarity, which facilitates quick recognition and reading by readers, while the clarity of calligraphy fonts is relatively lower, requiring readers to spend more time and effort to appreciate and understand. In terms of stability, printing fonts maintain a stable form and quality across different environments, making the dissemination of information more reliable, whereas the form and quality of calligraphy fonts can be influenced by the environment and writing tools, exhibiting some fluctuation. Printing and calligraphy fonts have distinct characteristics, and these differences lead to their varied applications and values in different fields and scenarios. Printing fonts play a crucial role in information dissemination and knowledge popularization, while calligraphy fonts hold unique value in artistic creation and aesthetic education [5].

## **3. Issues with the Visual Perception of Printing and Calligraphy Fonts**

### **3.1. Problems with Printing Fonts**

Although printing fonts play a crucial role in modern information dissemination, there are still some issues with their practical application. One such issue is aesthetic fatigue. Due to the standardization and uniformity of printing fonts, readers can easily experience aesthetic fatigue during prolonged reading, which can diminish their interest and the

effectiveness of their reading. This is particularly true when faced with a large amount of text information, such as textbooks, reports, and papers. A single printing font design may lead to a decrease in the reader's focus on the content. Another issue is readability. In certain designs or layouts, the readability of printing fonts can be affected, for example, by inappropriate settings of font color, size, and line spacing, all of which can impact the reader's experience. The lack of innovation in printing fonts is also a problem. In the era of information overload, printing fonts often lack the creativity to meet people's demands for novel and personalized visual experiences. With the development of the design field, the demand for visual aesthetics and individual expression is growing, and a single font design may not satisfy this diverse need. Adaptability is another issue. In different cultural and linguistic contexts, certain fonts may not adapt well to specific writing systems or forms of expression. For instance, fonts from the Latin alphabet system may encounter difficulties when designing Chinese characters, as their structures are significantly different. Therefore, the adaptive design of fonts is a matter that requires in-depth research and consideration.

### **3.2. Problems with Calligraphy Fonts**

As an integral part of China's traditional culture, calligraphy fonts also face certain issues. One such issue is the inheritance problem. With the development of modern technology, people's interest and passion for calligraphy are gradually waning, posing severe challenges to the inheritance and development of calligraphy fonts. The fast-paced lifestyle of modern society and the ubiquity of electronic devices have impacted traditional calligraphy art. Young people's engagement and enthusiasm for learning and loving calligraphy are not as strong as before, leading to a disconnect in the transmission of calligraphy art. The 普及问题 (popularization issue) is another concern. Calligraphy fonts are highly artistic and individualistic, but their understanding and appreciation require a certain level of professional knowledge and aesthetic ability, which to some extent limits their popularization and dissemination. The lack of innovation in calligraphy fonts is also a problem. In modern society, calligraphy fonts often lack the creativity to meet people's demands for novel and personalized visual experiences. Although calligraphy has a rich historical heritage and traditions, it faces challenges in terms of innovation. Traditional calligraphy education often emphasizes the imitation and inheritance of classic works, but lacks encouragement and exploration of innovation, which restricts the innovation and development of calligraphy art in modern society.

### **3.3. Analysis of the Reasons for the Differences in Visual Perception Between Printing and Calligraphy Fonts**

The differences in visual perception between printing and calligraphy fonts can be attributed to several factors. One is the difference in aesthetic concepts. Printing fonts emphasize standardization and uniformity, which align with the aesthetic values of modern society. In contrast, calligraphy fonts emphasize individuality and variation, reflecting the aesthetic values of traditional society. Another factor is the difference in cultural background. Printing fonts originate from the West and have been influenced by Western culture in their development and application. Meanwhile, calligraphy fonts

originate from China and have been shaped by traditional Chinese culture. The difference in technical means also plays a role. Printing fonts are produced and disseminated through modern printing technology, which results in high clarity and stability. Calligraphy fonts, on the other hand, are created and spread through traditional writing methods, which introduce a certain degree of fluctuation and uncertainty.

The visual perception differences between printing and calligraphy fonts present various challenges in practical application. It is necessary to respect and protect traditional culture while focusing on innovation and development to meet the needs of modern society. Additionally, it is important to enhance people's aesthetic appreciation and cultural literacy to better understand and appreciate the beauty of both printing and calligraphy fonts.

## **4. Optimization Strategies for the Visual Perception of Printing and Calligraphy Fonts**

### **4.1. Optimization Strategies for Printing Fonts**

To address the issues encountered in the practical application of printing fonts and to enhance their design level, it is crucial to hire professional designers who can apply advanced design concepts and tools to innovate and optimize printing fonts. Designers need to have a deep understanding of the basic structure and visual impact of fonts, as well as grasp contemporary design trends, integrating these elements into the design of printing fonts to make them more aesthetically pleasing and artistic while maintaining standardization and uniformity. Emphasizing the readability of printing fonts is essential for improving the reading experience. Designers must carefully consider factors such as font color, size, and line spacing during the design and layout process to enhance readability, as well as attributes like font weight, italics, etc., which affect recognition and reading comfort. Strengthening the innovation of printing fonts is a key way to meet market demands and individual expression. Designers need to continuously study market trends and aesthetic changes to introduce novel and unique fonts.

### **4.2. Optimization Strategies for Calligraphy Fonts**

To address the issues with calligraphy fonts, it is important to strengthen the inheritance and education of calligraphy. By promoting calligraphy education in schools and society, we can cultivate interest and passion for calligraphy and carry forward China's excellent calligraphy culture. To improve the popularity of calligraphy fonts, we can organize calligraphy exhibitions, competitions, and utilize modern media and online platforms for promotion. It is also essential to focus on innovation in calligraphy fonts. Encouraging calligraphers and designers to combine traditional culture with modern aesthetics, they can create works that reflect the spirit of the times and meet the demand for novel and individualized visual experiences.

### **4.3. Comprehensive Optimization Strategies**

In addition to the specific optimization strategies for printing and calligraphy fonts, it is important to strengthen the exchange and integration between the two. By organizing seminars, workshops, and other activities, we can promote communication and collaboration between printing font designers and calligraphers, allowing them to learn from each

other's strengths and enhance the artistic and innovative nature of fonts. This exchange and integration can inspire new design ideas and create works that combine traditional charm with modern aesthetics, such as incorporating calligraphy brushstrokes into the design of printing fonts to create unique visual effects, while also exposing more people to the allure of calligraphy art. It is crucial to consider the application scenarios and carriers for fonts, selecting appropriate fonts for design and use to enhance their applicability and visual impact. Different scenarios and carriers have varying requirements for fonts; for example, book design may require fonts with strong readability, while advertisement design may call for more unique and eye-catching fonts.

Improving people's aesthetic appreciation and cultural literacy is also essential. Through education and training, we can enhance the public's understanding and appreciation of the beauty of fonts, thereby raising the overall cultural level of society. This not only strengthens the public's understanding and appreciation of font design but also promotes the innovation and development of font design. For instance, incorporating font design courses into school education can expose students to font design from an early age and cultivate their interest and aesthetic ability. Holding font design exhibitions and lectures in society can raise public awareness and interest in font design. To address the issues with printing and calligraphy fonts, optimizations and improvements can be made from multiple angles to enhance the aesthetic appeal and applicability of fonts, meeting the demand for personalized and innovative fonts. It is important to focus on the inheritance and education of fonts, promote China's excellent traditional culture, and improve people's aesthetic appreciation and cultural literacy to advance the development of font design and cultural undertakings in China.

## **5. Conclusion**

This article conducts a comparative study of the visual perceptions of printing and calligraphy fonts, analyzing the characteristics, existing problems, and optimization strategies of both types of fonts. The study finds that there are significant differences between printing and calligraphy fonts in terms of their characteristics, issues, and optimization strategies, which pose various challenges in practical applications. It is necessary to respect and protect traditional culture while focusing on innovation and development to meet the needs of modern society. Additionally, it is important to enhance people's aesthetic appreciation and cultural literacy to better understand and appreciate the beauty of fonts. The findings of this study have theoretical and practical significance for the development of font design and cultural undertakings and provide useful insights and references for future research.

## **Acknowledgments**

2023 Anhui Higher Education Quality Engineering Project -- Ma Zongyu typeface design skills Master studio (Project number: 2023jnds015).

## **References**

- [1] Li Yanhui, Ren Lihong. Discussion on the Practicality and Artistry of Calligraphy Font Design [J]. Footwear Craft and Design, 2022, 2(19):47-49.

- [2] Guo Yuchen. Research on Font Design Based on Traditional Visual Elements [J]. Tian Gong, 2023(21):45-47.
- [3] Wang Wei. Discussion on the Design Methods of Chinese Printing Fonts [J]. 2021(2014-8):92-95.
- [4] Liu Zhao. Six Key Points of Font Design: A Discussion on the Design of Chinese Printing Fonts from the Glossary [J]. Art and Design, 2022(006):000.
- [5] Huang Zhuqing. The Influence of "Ugly Calligraphy" on the Construction of Contemporary Calligraphy Font Design and Cultural Aesthetics [J]. Artist, 2022(4):10-12.