Discovering the Impact of Music Tempo on Making Typography-related Decisions

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Abstract

A large body of research literature suggests that typography styles can be distinguished by their respective "personalities" that its visual details may imply. Using certain fonts is one of the many tools of graphic design and marketing that can be used to build a very specific message for a brand, product, or service. Although a single alphabetical letter can be put together with other letters to create readable phrases, their cumulative visual style can also create an entirely different message or feeling that might even be completely opposite of what the words say. Additionally, music has the same impact on human perception. Factors such as pitch, melody, and rhythm can create different impressions and invoke certain feelings when people listen to songs. The question that this paper will strive to answer is if there is a relationship between these two concepts, and if listening to a song that focuses on one specific musical characteristic while choosing typography styles can sway their decision. Moreover, the paper argues that music tempo, either fast or slow, can influence people to change their font choices.

Keywords: music, typography, font, decision making, design choices, fast tempo, slow tempo, roleplay, scenarios

Discovering the Impact of Music Tempo on Making Typography-related Decisions

Typography has the power to convey various moods and impressions despite what its textual content might literally say. It is defined as an art that concerns the style, arrangement and appearance of typeset matter (Merriam Webster, n.d.). Moreover, emotional responses that arise from typeface analysis have been observed through many studies, and some of which may include supplementary factors like color association to increase understanding (Manning and Amare, 2013). Findings from such experiments have revealed that many typefaces are described with humanistic personalities based on their aesthetic appearance (Brumberger, 2004).

Additionally, the concept of music has been defined in a similar way, being thought as a "promotional tool" that can trigger certain moods by manipulating texture, pitch, and time-related expressions in the name of consumer marketing. Specifically of those three characteristics, tempo has been distinguished as either fast or slow, and research reveals that high tempo music elicits stimulative responses whereas slower tempo music invokes much more solemn reactions (Bruner, 1920). There is a similarity in the ways that typography and music each arouse certain human emotions, which may raise the question if those factors combined can influence human aesthetic preferences altogether. Can people's choice in typography designs be significantly influenced by music tempo?

Literature Review

Examination of Emotion Through Typography Design

Koch had three main research questions that she aimed to answer, which were 1) whether viewing specific typefaces produces emotional responses, 2) whether people have the same emotional responses to them, and 3) whether certain emotions are most commonly associated with specific typographic design elements. Forty-two participants observed 6 different typefaces, and to report their responses, they had to select from a range of twelve unlabelled emotions that varied in positive to negative intensities. The independent variable here is the varying typeface designs that Koch had handpicked, and the participants' emotions is the dependent variable. After the study, Koch found that many people reported the same emotional response to the typefaces' stylistic features. Therefore, thorough understanding of how humans register visual information is necessary in order to consider its implications for both design practitioners and consumers.

Typography's Effects on Ethos, Reading Time and Comprehension

Brumberger's project included a study that aimed to provide substantial evidence for the idea that typefaces have personas. For this test, Brumberger initially assigned personas to 15 different typefaces, and she used a "semantic differential scale" to collect the data. This method was used by giving the participants "paired opposite terms" to describe the typefaces on a spectrum (ex: hot/cold, somewhat hot, very cold, etc.). Her intentional selection of these paired terms (and her overt choice to avoid using terms that imply physical characteristics) makes them independent variables, thus establishing the participants' ratings (which were decided solely with the terms provided) as the resulting dependent variables. The data from this study revealed that participants had consistently associated specific personality traits to certain typefaces, therefore proving that there is a common "intuitive cognition" that people have through design choices when reading.

Emotional Responses to Forms, Colors and Typeface Styles from International Backgrounds

Manning and Amare conducted this experiment to discover if there are any disparities in emotional responses to form, color, and typeface design between participants who are of English speaking non-US cultural backgrounds, and those who are English speaking US-based participants. Those who have advanced English speaking and comprehension skills were presented a survey with combinations of abstract forms/colors or semantically neutral terms describing an emotion in a certain typeface. On the other hand, non-native students with only intermediate skill were provided with similar combinations, but with the exception that the terms were supplemented with 3-word paraphrases to help them better understand what emotion that particular term is describing. In this case, the researchers' choice in combinations of different forms, colors, and type design acted as the independent variables, and the responses (especially concerning the supplementary 3-word paraphrases for non-native participants) acted as the dependent variables. The results from their work showed that there was not a significant difference in responses between the two demographics, and so it may imply that form-feelings and emotions are experienced very similarly regardless of cultural background.

The Inherent Recognition of Typeface Appropriateness

In this article, Brumberger conducted a study that is centered around observing how users naturally assign typefaces in accordance to how suitable it is with the content at hand. To execute this study, she gathered 36 participants (18 males and 18 females) and gave them each a packet that contained three passages of text that were each repeated three times in different typefaces. They were instructed to rate the appropriateness of each typeface in relation to the literal message and tone of the content through a scale from 1 to 7, with 7 being the most appropriate. The results revealed that all the participants shared similar opinions about typeface suitability. These findings imply that people, as consumers, have the intrinsic ability to determine how accurately visual design elements can reflect the intention of a brand, product, or message.

Instructional Design Manual for Corporate Brand Management

Henderson, Giese, and Cote developed this article to provide a basic set of guidelines to help managements in deciding which typographic elements are best suited to strategically represent their corporate identity. To create these guidelines, they gathered data in four phases as listed: grouping a sample of representative typefaces for appropriate design characteristics, having professional designers rate them, compiling a list of relevant impression responses, and lastly having consumers respond to the typefaces based on the impression measures. Upon analysis of the results, they defined the impression variables through four dimensions: pleasing/displeasing, engaging/boring, reassuring/unsettling, and prominent/subtle. Each of those dimensions branched over and categorized other adjectives that had similar tones, allowing them to identify how design characteristics influence emotional responses to fonts. This piece of research has major implications for business identity and design packaging because not only is this a literal "manual" for brand managers to refer to, but it also provides information on why and how a consumer/user's perception of a brand may change if its advertisable material is altered.

Current Study

Based on the above research, I can determine how music tempo might influence choices in font styles by enacting an unmoderated research study using "role-playing" methodology, which will be implemented in every trial over a span of four online surveys. In my data collection, I would create a brief scenario per trial, which participants must follow within the context of deciding between two font styles that best fits the situation described. Then, I would embed automatic audio files into each of the surveys. Two of the surveys will contain fast tempo music, and the other two will contain slow tempo music. Each survey will be composed of two rounds; one round of trials will not play music, and another trial that will. Both rounds will contain identical scenarios and corresponding font-choice trials, but will have a randomized order as to avoid bias. The order in which a participant will first undergo the no-music or music trial depends on which survey they will be randomly assigned to. The audio will play for however long the participant will take to complete all the trials in the music round (Independent Variable), and the influence of fast or slow tempo music will be observed in the number of trials that had changed responses between the two rounds (Dependent variable).

Methods

This study implemented two rounds of identical role-playing trials to investigate if participants' choice in typeface is impacted by fast and/or slow tempo music. One round will automatically play audio, and the other will not. There are four versions of the study to present the slow/fast music and no-music rounds in different orders. For each roleplay trial, the participant must choose between two presented font styles that they believe best suits their ascribed scenario. The participant's typeface choice is assumed to be influenceable by a high or low tempo song, which will play for the entirety that they undergo the music round. Participants' responses were measured by selecting their font choice in a multiple-choice-styled question per trial.

Participants

This study collected data from 40 total participants, all varying in backgrounds, identities, and education. Of the 40, 10 participants were randomly assigned to each of the four surveys. The only requirement the study has for participants is that they must have at least high school graduate-levels of English reading and comprehension skills. No participants were excluded from this study.

Materials

Information & Consent Form. A section of information that fully describes the purpose, procedure, risks, data protection terms, and consent definition. It is the first thing the participant sees before starting the survey and must agree to before moving forward (Appendix A).

Demographics survey. A six question demographics survey was given to participants (Appendix B).

Conditions. In this study, each of the four surveys contain two rounds of 15 roleplay trials each. Both rounds will have the same exact trials with the same corresponding scenario and font choices. Each trial will present two phrases that say the same thing but are styled in a different font. They are summarized as the following descriptions:

Scenario 1. Select a font for a coffee shop store sign. (Appendix C)

Scenario 2. Select a font for a wedding invitation (Appendix D).

Scenario 3. Select a font for writing an email to a college professor (Appendix E).

Scenario 4. Select a font for engraving a pet's name tag (Appendix F).

Scenario 5. Select a font for an encyclopedia book cover (Appendix G).

Scenario 6. Select a font for a haunted house advertisement (Appendix H).

Scenario 7. Select a font for a children's book cover (Appendix I).

Scenario 8. Select a font for a sports team advertisement (Appendix J).

Scenario 9. Select a font for a child's birthday banner (Appendix K).

Scenario 10. Select a font for a high-end jewelry store sign (Appendix L).

Scenario 11. Select a font for a five-star restaurant sign (Appendix M).

Scenario 12. Select a font for a new cell phone advertisement (Appendix N).

Scenario 13. Select a font for a business magazine article's title (Appendix O).

Scenario 14. Select a font for a candy wrapper (Appendix P).

Scenario 15. Select a font for a nursing home's logo (Appendix Q).

Multiple Choice Responses**.** After reading the scenario upon starting each trial, the participant must choose only one of the two total presented fonts. Every trial in both rounds will be in a multiple choice format.

Procedure

This study took place completely online through surveys on Qualtrics. There are four different versions of the study, which present the music and no-music rounds in different orders and contain either the fast or slow tempo music. Before beginning the study, participants received the informed consent form. They then took the demographics survey, and then proceeded to complete each trial from whatever round was presented to them first. When presented with the music round, the embedded audio file will automatically play. Each trial includes the roleplay description and two different fonts, which both have the same message except in different typographies. Participants may only take the study once and the study alone should not take longer than 10 minutes.

Results

Narrative Description

In this study, 40 total random participants underwent 30 typeface selection trials each. This consists of one round of 15 typeface selection trials with no music (control group), and another round of the same 15 trials but accompanied by either fast (IV 1) or slow tempo music (IV 2). The order in which the rounds were presented varied across four different surveys. To measure the change in responses for each participant between the two rounds, the number of trials that had changed responses were divided by 15 to get a percentage. Of the 40 total participants, 20 participants were given the control and fast tempo rounds, and the other 20 were given the control and slow tempo rounds. This produced 600 total responses. To test if music tempo influences people's decisions when choosing between fonts within a specific roleplay, an ANOVA factorial design was conducted. This test indicated a non-significant result for influencing people’s typeface decisions, r=-0.015.

Statistical Notation

$F(2, 38) = 1.278$, $p < .05$; $\eta 2p = 0.09$ $r = -0.015$, $p < .05$

Visual Representation

See Table 1 (Appendix R) for datas from the between-subjects tests.

Discussion

Summary of findings

Overall, the findings showed that all the participants changed their font choices less than 50% of the time in between control and music rounds. It appears that the results were insignificant and suggested that neither slow nor fast tempo music had influence in the participants' choice in typography.

Findings in Context

As aforementioned, this study was conducted to evaluate the hypothesis that music tempo plays a significant role in impacting people's choice in typographic style. I was able to observe how each of the 40 participant's responses changed between the "no music" (control) round and the slow or fast tempo round by analyzing each of my Qualtrics surveys. There were four surveys total, which presented the control and music rounds in different orders: "Control > Fast", "Control > Slow", "Fast > Control", and "Slow > Control". With 10 responses for each survey, I assumed the results would show me a pattern in people hearing slow/fast music before or after the first round. Upon conclusion, no pattern was determined.

Implications

Much of my research literature revolves around how branding can convey various messages depending on how different design characteristics are applied. More specifically, these sources go over how the aesthetic look of fonts can be perceived with specific personalities, and thus can influence people's reasoning as to why they would choose one font over another when associating it with certain content. I extended this research by adding the element of music, which is a concept that has imperative evidence of evoking different emotions within people. There was not a scholastic resource that I found that demonstrated a study such as mine, but on the assumption that typography and music both have their own “personalities”, I conducted this study to find out if there is correlation with the two in terms of choosing between different typefaces. However, I did not find any correlation between the two variables.

Strengths and limitations

One thing that my study did well was that it did not have any leading characteristics. For instance, when choosing the fast and low tempo songs, I made sure to choose instrumental music of the same genre (classical music) to ensure that lyrics would not sway or distract the participants and their typography choices. Also, for each round, I made sure to repeat the same scenarios and the presented typography samples of each question; all I did was shuffle one of the rounds to avoid order bias. Furthermore, I made sure to gather 10 unique participants per study so that no participant could retake their survey or take any of the other surveys.

Some limitations that my study encountered was that I had low sample sizes. 10 participants per survey could have possibly revealed more results if I had at least 20 per survey. Also, a lack of prior research on the topic is an obstacle that I could not overcome because I could not find any specific scholarly articles on a study like mine that could guide me. Also

Conclusions

In conclusion, my study was a shaky but determined attempt at discovering if music can significantly influence people’s decisions when choosing between typeface designs. I can see a possibility of future studies being conducted to analyze the same hypothesis, but perhaps on a greater scale where they can obtain more than 50 or 100 participants per survey. However, I stand by my results that music tempo cannot significantly sway people's typography choices. This implies that certain external influences – such as music - outside of the typography that is presented cannot be entirely taken into consideration when people make their selections

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Appendix A

Information & Consent Form

Introduction Page

Information & Consent

Purpose: This is a study to investigate how music tempo influences human decision-making processes in relation to typeface design.

Procedure: You will first fill out a demographic survey. Afterwards, you will undergo 2 rounds of multiple typeface comparisons. Each comparison is presented with a short scenario, so choose the typeface that you believe most accurately fits the scenario at hand with your best judgement. There are no right or wrong answers.

Participants ***must have*** a cellular or desktop device with functioning audio.

Participants may only take this study once. The study should take no longer than 10 minutes.

Risks: There are no physical, mental or emotional risks in this study.

Data Protection: All of the information your provide in this study shall remain confidential and will be stored anonymously.

Consent: Your participation is completely voluntary and you may exit out of the study at any time without providing any further reasoning.

By selecting "Yes", you are acknowledging and accepting these conditions to undergo the study.

- ○ Yes
- ○ No

Appendix B

Demographics Survey

Demographic Survey

Please fill out the following questions about yourself truthfully.

What is you age group?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 or older

What gender do you identify with?

- Male
- Female
- Non-binary
- Prefer not to say
- Other:

Where is your home located?

- North America / Central America
- South America
- Europe
- Asia
- Africa
- Australia
- Caribbean Islands
- Pacific Islands
- Prefer not to say

What is your ethnicity?

- White / Caucasian
- Hispanic / Latino
- Black / African American
- Asian
- Pacific Islander
- Native American
- Mixed Race
- Prefer not to say
- Other:

What is your level of education?

- High School Graduate
- Some college credit, no degree
- Trade / Vocational school
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Prefer not to say

What is your current occupation status?

- Full time student
- Student who is also working
- Full time employee
- Unemployed
- Retired

Appendix C

Scenario 1 Font Options

Figure C1. Typography option in Bauhaus MD BT font.

Figure C2. Typography option in Square721 BT font.

Appendix D

Scenario 2 Font Options

Figure D1. Typography option in CounselorScript font.

Figure D2. Typography option in Comic Sans MD font.

Appendix E

Scenario 3 Font Options

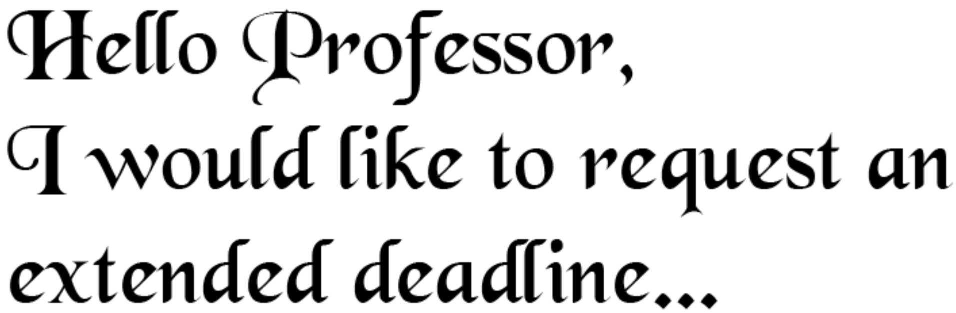

Figure E1. Typography option in BlackChancery font.

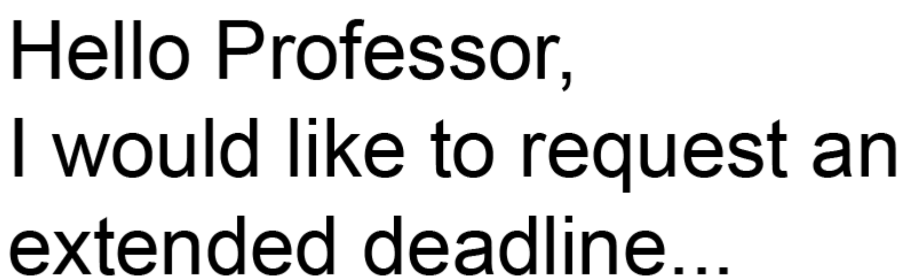

Figure E2. Typography option in Arial font.

Appendix F

Scenario 4 Font Options

Figure F1. Typography option in Garamond font.

Figure F2. Typography option in Van Dijk font.

Appendix G

Scenario 5 Font Options

Figure G1. Typography option in Harrington font.

Figure G2. Typography option in Lydian BT font.

Appendix H

Scenario 6 Font Options

Figure H1. Typography option in Lydian BT font.

Figure H2. Typography option in Black Chancery font.

Appendix I

Scenario 7 Font Options

Humpty Dumpty

Figure I1. Typography option in Arial font.

Humpty Dumpty

Figure I2. Typography option in Comic Sans MD font.

Appendix J

Scenario 8 Font Options

Figure J1. Typography option in Garamond font.

Figure J2. Typography option in Square721 BT font.

Appendix K

Scenario 9 Font Options

HAPPY BIRTHDAY COLLEEN!

Figure K1. Typography option in Harrington font.

HAPPY BIRTHDAY COLLEEN!

Figure K2. Typography option in Bauhaus MD BT font.

Appendix L

Scenario 10 Font Options

Figure L1. Typography option in Van Dijk font.

Figure L2. Typography option in CounselorScript font.

Appendix M

Scenario 11 Font Options

Gusteau's

Figure M1. Typography option in Black Chancery font.

Gusteau's

Figure M2. Typography option in Arial font.

Appendix N

Scenario 12 Font Options

Introducing the
iPhone 100:
Think Differently.

Figure N1. Typography option in Bauhaus MD BT font.

Introducing the
iPhone 100:
Think Different.

Figure N2. Typography option in Garamond font.

Appendix O

Scenario 13 Font Options

Figure O1. Typography option in Square721 BT font.

Figure O2. Typography option in Comic Sans MD font.

Appendix P

Scenario 14 Font Options

Figure P1. Typography option in CounselorScript font.

Figure P2. Typography option in Van Dijks font.

Appendix Q

Scenario 15 Font Options

Figure Q1. Typography option in Lydian BT font.

Figure Q2. Typography option in Harrington font.

Appendix R

Table 1

Tests of Between-Subjects Effects

Dependent Variable: VAR00002

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.000[a]	1	.000	.022	.882
Intercept	.873	1	.873	45.902	.000
VAR00001	.000	1	.000	.022	.882
Error	.723	38	.019		
Total	1.596	40			
Corrected Total	.723	39			

a. R Squared = .001 (Adjusted R Squared = -.026)