Understanding how Typeface Design Impacts Student Engagement in the Online Classroom

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Abstract

When it comes to advertising, the role of typeface persona in influencing consumer perception, trust, and decision-making is well documented. What is not as well documented is how the same techniques can impact online student engagement with their instructors. Non-completion in higher education, particularly in online programs, is a consistent challenge for institutions around the country. It is believed that the appearance of online content, in this case the welcome message from the instructor, can impact a students' decision to interact with their instructor, specifically asking for help, which can have a significant impact on completion. This study builds upon a previous study, which determined that students ascribe the personality of the typeface in an instructor's email to the instructor themselves, and now asks if the typeface used can also encourage students to reach out and ask their instructor for help. The findings reinforced previous work showing that readers will transfer the persona of the typeface to the sender of the message and also revealed that there is a connection between the reader's perception of the sender and whether or not the reader is willing to ask for help. However, what factors specifically affect this decision are not as clear as they could be, suggesting that there is a need for further study.

Keywords: Typeface persona, perception, non-completion, teacher-student interaction

1. INTRODUCTION

In advertising, it is known that what the customers see influences the way that they perceive the product or service offered (Childers & Jass, 2002; Presutti, 2023, Song et al., 2022).

Additional research exists on online fonts and their perceived personas (Bernard et al., 2001; Shaikh, et al., 2006) as well as their impact on how "authentic" a product is (Presutti, 2023) or how it aligns with their personal ideologies (Haenschen & Tamul, 2020). Each study follows a

common theme: the typeface used has an emotional impact on the reader, regardless of whether the message is on paper, an electronic screen, a print advertisement, or wayfinding signage.

The influence of typeface personas is not a new science. The studies referenced in this introduction echo and expand upon advertising studies from as early as Poffenberg and Franken's 1923 paper on typeface perception.

However, while findings relating to typeface atmospheres, or visual connotations, and their impact on emotions have remained relatively the same over the last century, the understanding of it as a medium of expression in areas other than advertising and art is somewhat newer. Research has begun to fill this gap, and studies on how typeface creates a sense of trust and a consumer's willingness to engage have since been published.

In terms of education, there is even less. Distance education, once conducted via post (the "correspondence courses" from days gone by), began moving online in the late nineties and early oughts. The approach used twenty-odd years ago is little different from what is available today. The informal design edict remains "teach to the lowest common technology." In short, it is never a given that every student will have the required technology. Unless the school provides it, never assume that the students will have access.

Today, most learning management systems integrate Zoom or Teams (or a similar videotelephony program) as well as other interactive educational apps. However, despite the ubiquity of Zoom et al., there remains no promise that online students will have any sort of interaction with their instructors through videoconferencing or pre-recorded lectures where the instructor is onscreen.

In the absence of any face-to-face interaction, whether in person or via the electronic platform, the typeface used takes on a stronger meaning and students are likely to interpret its appearance as a stand-in for the instructor's personality. Despite these findings, there is little research on how typeface affects a student's willingness to engage with their online instructor, specifically to ask for help.

2. LITERATURE REVIEW

Typeface
Typeface is a language in itself in that its features are capable of conveying abstract ideas relating to culture, personality, ideologies, and authenticity (Brumberger, 2003, Haenshcen & Tamul, 2020; Presutti, 2023). Typographic design is not "just a dress of the written word," but rather a means of communication in itself, capable of making meaning for those who view it (Presutti, 2023, p. 64; Chernyvskaya, 2022).

As demonstrated by Childers and Jass (2002), Hagtvedt (2011), and van Leeuwen (2006) online interaction – due to typographic design – is as nonverbal as it is verbal, and there are a number of visual elements that affect perception of the credibility of the sender of the message.

Consistently, research shows that typefaces with a heavier weight such as **Arial Black** and Impact, are viewed not only as "bold" but also "assertive" and "rude" (van Leeuwen, 2006; Louch, 2011), while those known as scripts, such as Bradley Hand ITC and Freestyle Script, are viewed as more reassuring (Henderson et al., 2004). Between these two are the more emotionally neutral designs such as Times New Roman, Helvetica, and Arial, which are seen as more professional and have a lower emotional impact on the viewer (Baumberger, 2003; Nedeljković et al., 2014).

In education, this creates a situation where typefaces that are particularly forceful may lead the student to perceive the instructor as intimidating, while typefaces that are playful may result in the student not taking the instructor seriously (Louch, 2011). At the same time, when the message and the typeface do not match, the resulting disconnect makes it difficult for the reader to fully engage the text. This is not unlike the difficulty that participants in Stroop's experiment experienced when presented with words representing different colors that were printed in colors other than the ones the words represented (for example, the word *blue* was printed in green ink). While it was easy to read the words themselves, participants took 5.6% longer to identify the color of ink used (Stroop, 1935), demonstrating the influence of appearance. A lack of consistency between a message and its appearance can hinder how someone perceives – or even trusts – the sender.

Typographic design affects how one sees what Presutti called "the social space" and how one

chooses to navigate it. The typeface used can and will dictate how a person sees the message and what it represents. Song et al. (2023) found that the typeface impacted not only a restaurant's credibility but also consumers' willingness to dine at that specific location. Meanwhile, Balcetis and Dunning (2006) determined that readers' perception is not only selective but also malleable, reinforcing the idea that context matters when it comes to influencing how one sees and understands not only the message but also the sender. Van Leeuwen, while not the first to argue that typography brought its own meaning to the interaction between reader and text, was among the first to start exploring the semiotics of typeface in reference to the increasing ubiquity of the internet (2006).

As a welcome message from the instructor will introduce students to their academic space, and may be the first point of contact a student has with their instructor, typographic design takes more precedent than one might expect, we therefore pose these questions: (1) in the absence of face-to-face interaction with an instructor, how does the appearance of a welcome message in an online class affect the student's perception of the instructor, (2) can the use of a specific typeface encourage students to ask questions/advocate for themselves, (3) does a specific typeface discourage student engagement?

Typeface to Encourage Behavior
Presutti's work reinforced the idea that typographic features "speak" separately from the

meanings of the words themselves (2023). The reader, thus, engages in a "conversation" with the visual text, where the reader understands and categorizes the typeface's appearance based on previous experience of the typeface and its appropriate uses, e.g., Times New Roman is used

for business documents and academic papers while Kristen ITC is used by primary school teachers for worksheets or classroom signage. In Piercean semiotic theory, the reader (interpretant) views the typeface (representamen) and draws a conclusion relating to the message that the typeface persona conveys.

However, the interaction between the reader and the typeface does not end with that drawn conclusion; rather, as per Jha et al. (2020) it continues with an action. In advertising, this action can be abstract, such as the development of a goodwill toward the good or service and the decision to purchase it at some point in the future, or it can be more quantifiable, such as the immediate purchase or a like on social media.

These actions, both abstract and concrete, have been documented in work by Presutti (2023), who found that typeface utilized in signage and advertising influenced whether or not consumers viewed the shop or restaurant as "authentic," and Song et al. (2022) who found that a typographic-inspired perception of authenticity lead to consumers' willingness to act.
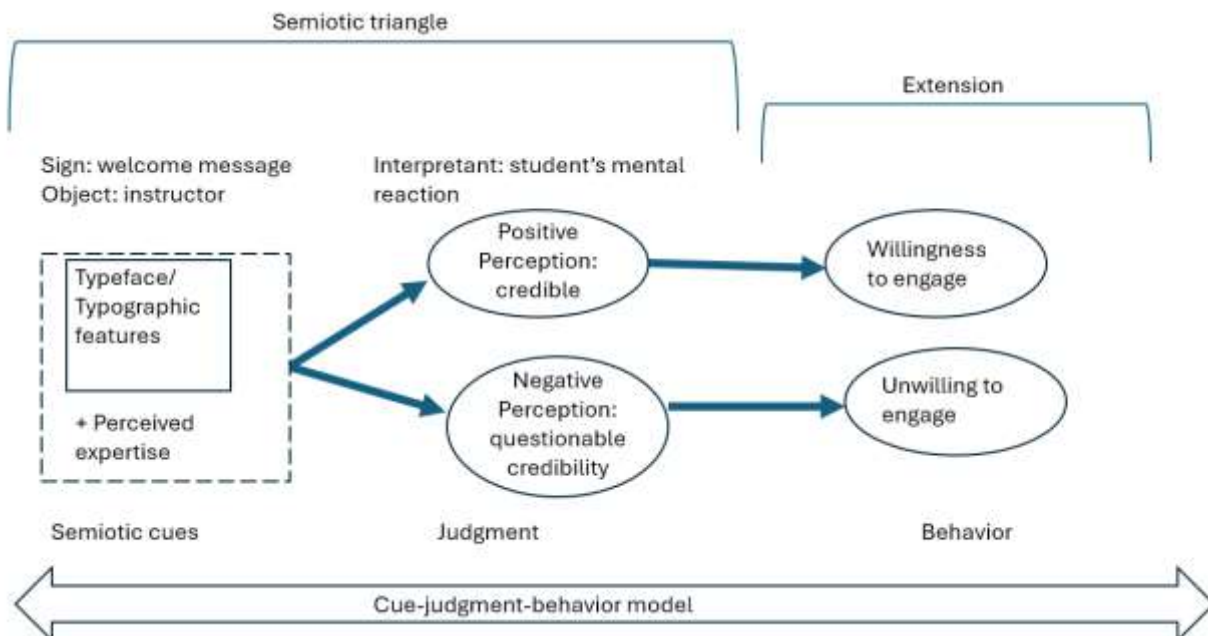

Figure 1: Extended Framework

To better illustrate the connection between typeface encouraging – or discouraging – behavior, the discussion begins with the conceptual framework created by Song et al. (2022), an expansion of the cue-judgment-behavior model developed in 2020 by Jha et al.

Typographic design does not exist alone, and here the new framework (Figure 1) deviates from Song et al., opting to pair the concrete design of the typeface with Fogg's concept of *perceived expertise*, the assumption that those hired by the institution are capable educators given either their title (doctor) or the fact that they were hired to teach (2002).

Since this study looks at initial reactions to determine the instructor's surface credibility, the student's mental reaction would be one based on "simple inspection" or "initial first-hand experience."

The typeface influences the readers to trust – or not to trust – the sender of the message. When combined with the perceived expertise (someone with a terminal degree, someone hired by a university, there is the notion that they will possess the required knowledge to be effective), one has the beginnings of credibility, which Fogg notes, has "the ability to change opinions, attitudes, and behaviors, to motivate and persuade" (2002, p. 121). Perceived credibility, in turn, leads to a decision to act.

Using this framework, it is thus proposed that:

H1: The typeface persona will affect how the student perceives the instructor.

H2: Students who perceive their instructor as professional will result in a heightened willingness to engage with the instructor.

H3: Students who perceive their instructor as supportive will result in a heightened willingness to engage with the instructor.

H4: Students who perceive their instructor as unprofessional will have a decreased willingness to engage with the instructor.

3. METHODOLOGY

As prior studies have shown that readers transfer the persona of the typeface to the sender of the message (regardless of whether the sender is a person or a product), the next question is what happens once the persona is assigned to that person/product? Thus, once the participants were asked to identify the persona of both the typeface and sender, in this case an online instructor, they were asked if they would be more or less willing to engage with the instructor.

Since this study is an expansion of previous work, the survey instrument was based on the original Likert scale (Louch, 2011). The scale was expanded to five points, rather than the original four, creating the option for a "neutral" answer." This is in response to studies that have found that some typefaces are considered "all-purpose" and are generic enough to inspire little to no reaction (Brunberger, 2003). In some cases, this can be due to a typeface's ubiquity (Nedeljković, Novaković, Puškarević, & Tomić, 2014), and in others due to their lack of "distinctive features" (Mackiewicz, 2007).

For this study, five typefaces were chosen: Arial, Arial Black, Balsamiq Sans, Courier New, and Times New Roman (Table 1). These typefaces were chosen based on their availability on Blackboard and Canvas as well as their specific atmospheres: professional (Arial, Times New Roman), playful (Balsamiq Sans), imposing (Arial Black), and traditional (Courier New).

Typeface	Example
Arial	The quick brown fox jumped over the lazy dog.
Arial Black	**The quick brown fox jumped over the lazy dog.**
Balsamiq Sans	The quick brown fox jumped over the lazy dog.
Courier New	The quick brown fox jumped over the lazy dog.
Times New Roman	The quick brown fox jumped over the lazy dog.

Table 1: Typefaces used in the survey

Upon receipt of IRB approval from the researchers' academic institution, the survey was distributed via email to 1,000 students at a regional campus of an R1 research university in Western Pennsylvania. A total of 59 responses were received.

Participants were shown a short welcome message from their instructor; to remove the possibility of bias, no identifying information regarding the instructor was provided. A sample of the message and the Likert scale can be found in Appendix A.

The first hypothesis focuses on the participant attributing the typeface persona to the instructor. Using the same method as the original study, the researchers opted to assign each point on the

scale an ordinal number, 1 through 5, then compressed them so that 1=1, 2=1, 3=2, 4=3, and 5=3. This created three values and removed the need to differentiate between "somewhat" and "very," e.g., *very polite* and *somewhat polite* simply became *polite.* A neutral option was retained, a choice that differs from the original, due to an increased understanding of typeface personas and the reactions they engender. The frequencies for each of the paired attributes for both the typeface personas and the perception of the sender were then analyzed to determine whether or not the participant was transferring their perception from the typeface to the sender.

For hypothesis two, three, and four, which focused on whether or not the perception will affect the participant's willingness to engage with the instructor, the researchers once more looked at the frequency of their answers, which would be *yes, no,* or *I'm not sure.*

Demographic information was collected, though at this time, no analyses were conducted to determine if there were correlations between participant background and their answers.

4. RESULTS

For the first hypothesis, the results were relatively consistent with previous findings. The introduction of a neutral option did contradict previous studies that forced a choice, but it also supported the potential for perceptions to change over time and a typeface's ubiquity to render it less impactful than it once was.

With Arial (See Appendix B) five of the eight attributes correlated with each other. Those who use Arial are most likely to be perceived as *polite* (80%), *mature* (40%), *formal* (51.11%), *professional* (62.22%), and *supportive* (66.67%).

Times New Roman and Balsamiq Sans, (see Appendices C and D), each had four correlating attributes. Both rated the sender as *polite, professional,* and *supportive*, but Times New Roman also rated the typeface and sender as *formal*, while Balsamiq Sans' typeface and sender were seen as *youthful* (48.48% and 54.55% respectively).

Arial Black also had four attributes in common (see Appendix E). Participants rated both the typeface and the sender as *mature, formal, assertive, and professional.* The typeface was also rated *polite*, though for the sender, the results were a tie: 38.46% of participants rated the sender as either *polite* and 38.46% opted for *neither polite nor rude.* The overall reaction to Arial Black was mixed, which was particularly noticeable in how the typeface and sender were both described as both *assertive* and *polite,* though while 58.97% participants saw the typeface as *assertive,* only 38.46% viewed the sender as *polite.*

The Courier New typeface (see Appendix F) and sender also had four of the eight attributes in common -- *polite, mature, formal,* and *professional* -- but it lacked a correlation with the *supportive/unsupportive* pairing. While the typeface itself was rated as *supportive* (40.63%), the sender's highest rating was *neither supportive nor unsupportive* (50%).

Overall, the results for all five typefaces support the first hypothesis. In cases where the typeface attributes were not transferred to the sender, it was due to the rating being *neither.* There was one exception with Times New Roman, and that was the typeface being rated as *neither youthful nor mature* (46.88%), but the sender was viewed as *mature* (46.88%).

In all cases save one, the pairing of *masculine/feminine* was neutral. The only case in which a typeface was significantly perceived as having a gendered persona was Arial Black (48.72%). However, the sender of the message was rated as *neither masculine nor feminine* (46.15%).

The remaining hypothesis all relate to whether or not the participant's perception will influence their willingness to engage with the instructor.

Hypothesis two stated that perceiving instructors as *professional* will encourage students to engage with them. While all of the typefaces were found to be professional, the willingness of students to engage with the instructors varied. Arial and Balsamiq Sans had the highest level of willingness, 73.33% and 81.82% respectively, while willingness for the remaining three was 53.13% (both Times New Roman and Courier New) and 41.03% (Arial Black), suggesting that there is more to interaction than belief that the instructor is a professional.

The third hypothesis looks at supportiveness. In this case, only Arial, Balsamiq Sans, and Times New Roman were identified as *supportive*. Neither Arial Black nor Courier New saw a correlation between the typeface persona and the sender for *supportive/unsupportive*, but rather than opt to

not engage, most respondents noted that they were unsure as to whether they would ask for help from an instructor who used Arial Black (51.28%)

The fourth hypothesis stated that those instructors seen as unprofessional would discourage students from engaging. This hypothesis was not supported, as none of the typefaces or senders received a high *unprofessional* rating, nor was there a direct or consistent correlation between *unprofessional* ratings and a lack of willingness to interact with the instructor. Balsamiq Sans as a typeface received the lowest professional rating (42.42%) but has the highest rate of students willing to engage with the instructor (81.82%). Arial Black had the lowest professional rating (43.59%), but the highest percentage of participants who said they were unsure as to whether or not they would engage with the instructor (51.28%).

5. DISCUSSION

The results of this pilot test were not as clear cut as previous studies, which opens the door for additional research.

In 1923, Poffenberger and Franken posited that typefaces had specific *atmospheres*, which Lewis and Walker (1989, p. 243) described as "the capacity of a typeface to connote meaning over and above [what] is linguistically conveyed by the words." Studies since 1923 have consistently proven that these atmospheres exist and are generally consistent, and a growing body of work continues to explore the semiotics of typeface design, seeking to better understand how it speaks to the reader and influences how they understand the overall message.

This work builds on both the study of those atmospheres and semiotics and begins to explore the ways in which design affects action. While this is not wholly new, it is being studied in relation to advertising and consumer choice, it is barely looked at in terms of student engagement.

The findings suggest that, yes, students continue to perceive their instructors based on the typeface used, and that there is a connection between a student's willingness to reach out to their instructor and interact with them based on the design used.

The results of Arial and Times New Roman were identical in that both the typeface and the sender were seen as *polite, professional, formal,* and *supportive,* but what stands out is that those who viewed the message written in Times New Roman were less likely to reach out and ask for help. It may be because Arial is a san serif typeface and has a cleaner, more modern look to it -- while the serif on Times New Roman gives it a more traditional, dated look, as serifs are the go-to design for printed work as they make it easier to read the words on the page.

The fact that Balsamiq Sans was the typeface design that would most likely encourage students to ask for help supports the idea that a san serif typeface is more welcoming. It should be noted that this was the only typeface where the design and the sender were viewed as *youthful*, which may have an impact as well.

It was expected that Arial Black, which is close in design to Impact, a typeface consistently seen as aggressive, masculine, and unprofessional, was not viewed as such and while it encouraged the participants to pause in whether or not they would ask the instructor who used this typeface for help, it did not cause them to outright refuse to interact. This is likely due to it being part of the Arial family, and some of the positive connotations of Arial itself influenced perception. Additionally, Arial Black lacks the same sharp corners and heavy design of Impact.

Courier New, the only other typeface with a serif, was one of the less popular designs and, like Arial Black, was not viewed as particularly supportive. Like Times New Roman, this is an older typeface, and is based on the typeface used in traditional typewriters, so it is possible that the perceived age was an issue.

Both Arial Black and Courier New were rated as having an *unattractive* design, which may have played a role in the participants being unsure or unwilling to ask for help, though to what degree it is unknown.

In terms of the framework, given that semantic associations play a role in perception, and that there is an emotional component to the appearance of the message (Childers & Jass, 2002; Erjansola, Virtanen, & Lipponen, 2022; Hazlett, Larson, Shaike, & Chaparo, 2013), what students see will affect how they trust and thus choose to interact with their online instructor. It can be posited that a consistency between the appearance of the typeface itself and the message will increase trust and thus a willingness to ask for help.

6. CONCLUSIONS

Perception is not a passive activity. It is, instead, a combination of what the reader sees in the moment as well as previous experiences with the message, the typeface, and the overall context of the situation. Readers will bring their own understanding to the message sent, whether by an instructor in an online class or an advertiser pushing the latest soft drink. Understanding this interaction will allow those who work with students or who design content used by the students to make better visual choices and, ideally, create an online experience that encourages trust as well as action on the part of the student.

If one wishes to improve online education, to reach more students, and to create a sense of community, it is necessary to continue to transfer these concepts to the electronic classroom. Most learning management systems (LMS) provide a limited number of typefaces to choose from, but the results of this study are not exclusive to landing pages or welcome messages.

The ability of a student to interact, in some manner, with their instructor has a direct impact on their ability to complete their education (Delnoi et al., 2020). While there are additional personal and interpersonal factors that affect completion, such as academic adjustment and involvement and a supportive network also have an effect, the underlying connection here is interaction. When students feel that they are engaged with their instructor, they have an increased chance of completion.

While the findings from this study suggest that the typefaces provided by the LMS are generally on point when it comes to providing a professional and visually non-threatening typeface, the caveat is that this is "for now." As online education continues to evolve, as new LMS emerge, as existing ones work to remain relevant, and as behemoths such as Microsoft works to integrate every aspect of communication into one neat package, there is ample opportunity for platforms to offer additional typefaces.

This study, though a pilot, has started to scratch the surface when it comes to understanding how the appearance of a message can influence a student's actions.

7. LIMITATIONS AND FURTHER RESEARCH

As in all cases, there were limitations to this study, the first being the number of participants. This was likely due to the timing as the survey was conducted toward the end of the spring term. This is easily remedied, and when the study is repeated, it will be earlier in the term, so as to allow for maximum participation. The study was also limited in that the school at which this was piloted was one that provided primarily on-ground education. Online classes are offered, but they are not a consistent option, and the school does not offer degrees that are wholly online. A final potential limitation was the fact that 90% of the respondents were born between 2000 and 2005, providing us with a very specific point of view regarding design. As different generations have different experiences and there is the potential for different reactions, further research should seek to include multiple generations.

The findings in this pilot study reinforced previous findings relating to how typeface persona affects perception of both the message and the sender. The findings also open the door to further study on how typeface persona affects students' willingness to engage with their instructors. But understanding student perception is only one piece of the puzzle. The role of certain demographic traits cannot be ignored, and future study should look at how a student's age, gender, or year in school, to name only a few, can affect decisions to act. It is also recommended to study instructors' attitudes and understanding of how the appearance of their message affects student perception and, potentially, engagement.

A final area of future research relates to the role of student demographics and the question as to whether or not the students' backgrounds can affect their willingness to not only engage in their online education but also advocate for themselves. Anecdotal evidence and a growing body of research suggest that students who are "first-gen" will have struggles that their second-gen counterparts may not. The addition of the digital divide, family income levels, and the lingering impact of the pandemic on education, are all areas worth exploring when it comes to finding new ways to engage students.

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APPENDIX A
Selection from the Survey Using Arial Typeface

Greetings!

This is a quick introduction to help acquaint you with a few details relating to class.

First, make sure that you have the right books. I've uploaded your syllabus, you can click here to access it, or you can click on Syllabus on the menu to the left of this message. Second, make sure that you can access the Modules. Here, you will find folders – organized by week – with your assignments and course materials.

If you have any access issues, please let me know ASAP!

How do you describe this typeface?

Polite	○ ○ ○ ○ ○	Rude
Attractive	○ ○ ○ ○ ○	Unattractive
Youthful	○ ○ ○ ○ ○	Mature
Formal	○ ○ ○ ○ ○	Casual
Assertive	○ ○ ○ ○ ○	Passive
Masculine	○ ○ ○ ○ ○	Feminine
Professional	○ ○ ○ ○ ○	Unprofessional
Supportive	○ ○ ○ ○ ○	Unsupportive

Based on the typeface design, the instructor is:

Polite	○ ○ ○ ○ ○	Rude
Attractive	○ ○ ○ ○ ○	Unattractive
Youthful	○ ○ ○ ○ ○	Mature
Formal	○ ○ ○ ○ ○	Casual
Assertive	○ ○ ○ ○ ○	Passive
Masculine	○ ○ ○ ○ ○	Feminine
Professional	○ ○ ○ ○ ○	Unprofessional
Supportive	○ ○ ○ ○ ○	Unsupportive

Based on this typeface, I am comfortable asking this instructor for help.

○ Yes, I am.

○ No, I would rather not.

○ Maybe, I'm not sure.

APPENDIX B
Typeface Persona Frequency for Arial Typeface

Typeface Persona Pair	Perception of Typeface		Perception of Instructor	
	Persona	Frequency Count	Persona	Frequency Count
<u>Similar Perceptions</u>				
Polite/Rude	Polite	37 (82%)	Polite	36 (80%)
Youthful/Mature	Mature	20 (44%)	Mature	18 (40%)
Formal/Casual	Formal	18 (40%)	Formal	23 (51%)
Professional/Unprofessional	Professional	28 (62%)	Professional	25 (56%)
Supportive/Unsupportive	Supportive	30 (67%)	Supportive	26 (58%)
<u>Contradictory Perceptions</u>				
Attractive/Unattractive	Attractive	24 (53%)	Neither	30 (67%)
<u>Neutral Perceptions</u>				
Assertive/Passive	Neither	20 (44%)	Neither	18 (40%)
Masculine/Feminine	Neither	25 (56%)	Neither	27 (60%)

N=45

Note: Frequencies based on the data being recoded to three points from five.

Comfortable asking instructor for help results for Arial typeface: Yes, I am 33 (73%)

Table 2: Typeface Persona Frequency for Arial Typeface

APPENDIX C
Typeface Persona Frequency for Times New Roman Typeface

Typeface Persona Pair	Perception of Typeface		Perception of Instructor	
	Persona	Frequency Count	Persona	Frequency Count
Similar Perceptions				
Polite/Rude	Polite	21 (66%)	Polite	17 (53%)
Formal/Casual	Formal	18 (56%)	Formal	17 (53%)
Professional/Unprofessional	Professional	21 (66%)	Professional	22 (69%)
Supportive/Unsupportive	Supportive	15 (47%)	Supportive	14 (44%)
Contradictory Perceptions				
Attractive/Unattractive	Attractive	19 (59%)	Neither	19 (59%)
Youthful/Mature	Neither	15 (47%)	Mature	15 (46%)
Neutral Perceptions				
Assertive/Passive	Neither	16 (50%)	Neither	16 (50%)
Masculine/Feminine	Neither	22 (69%)	Neither	25 (78%)

N=32

Note: Frequencies based on the data being recoded to three points from five.

Comfortable asking instructor for help results for Times New Roman typeface: Yes, I am 17 (53%)

Table 3: Typeface Persona Frequency for Times New Roman Typeface

APPENDIX D
Typeface Persona Frequency for Balsamiq Sans Typeface

Typeface Persona Pair	Perception of Typeface		Perception of Instructor	
	Persona	Frequency Count	Persona	Frequency Count
Similar Perceptions				
Polite/Rude	Polite	28 (85%)	Polite	25 (76%)
Youthful/Mature	Youthful	16 (48%)	Youthful	18 (55%)
Professional/Unprofessional	Professional	14 (42%)	Professional|Neither	14 (42%)
Supportive/Unsupportive	Supportive	24 (73%)	Supportive	20 (61%)
Contradictory Perceptions				
Attractive/Unattractive	Attractive	18 (55%)	Neither	20 (60%)
Formal/Casual	Formal|Casual	12 (36%)	Casual	15 (45%)
Assertive/Passive	Neither	14 (42%)	Passive	16 (48%)
Neutral Perceptions				
Masculine/Feminine	Neither	19 (58%)	Neither	20 (61%)

N=33

Note: Frequencies based on the data being recoded to three points from five.

Comfortable asking instructor for help results for Balsamiq Sans typeface: Yes, I am 27 (81%)

Table 4: Typeface Persona Frequency for Balsamiq Sans Typeface

APPENDIX E
Typeface Persona Frequency for Arial Black Typeface

Typeface Persona Pair	Perception of Typeface		Perception of Instructor	
	Persona	Frequency Count	Persona	Frequency Count
Similar Perceptions				
Polite/Rude	Polite	18 (46%)	Polite|Neither	15 (39%)
Youthful/Mature	Mature	17 (44%)	Mature	16 (41%)
Formal/Casual	Formal	17 (44%)	Formal	16 (41%)
Assertive/Passive	Assertive	23 (59%)	Assertive	20 (51%)
Professional/Unprofessional	Professional	17 (44%)	Professional	17 (44%)
Contradictory Perceptions				
Attractive/Unattractive	Unattractive	21 (54%)	Neither	26 (67%)
Masculine/Feminine	Masculine	19 (48%)	Neither	18 (46%)
Supportive/Unsupportive	Supportive	16 (41%)	Neither	20 (51%)
Neutral Perceptions				
N/A				

N=39

Note: Frequencies based on the data being recoded to three points from five.

Comfortable asking instructor for help results for Arial Black typeface: Maybe, I am not sure 20 (51%)

Table 5: Typeface Persona Frequency for Arial Black Typeface

APPENDIX F
Typeface Persona Frequency for Courier New Typeface

Typeface Persona Pair	Perception of Typeface		Perception of Instructor	
	Persona	Frequency Count	Persona	Frequency Count
Similar Perceptions				
Youthful/Mature	Mature	17 (53%)	Mature	16 (50%)
Formal/Casual	Formal	17 (53%)	Formal	15 (47%)
Professional/Unprofessional	Professional	17 (53%)	Professional	16 (50%)
Contradictory Perceptions				
Polite/Rude	Polite|Neither	14 (44%)	Polite	17 (53%)
Attractive/Unattractive	Unattractive	15 (47%)	Neither	22 (69%)
Supportive/Unsupportive	Supportive	13 (41%)	Neither	16 (50%)
Neutral Perceptions				
Assertive/Passive	Neither	14 (44%)	Neither	17 (53%)
Masculine/Feminine	Neither	18 (56%)	Neither	18 (56%)

N=32

Note: Frequencies based on the data being recoded to three points from five.

Comfortable asking instructor for help results for Courier New typeface: Yes, I am 17 (53%)

Table 6: Typeface Persona Frequency for Courier New Typeface