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PREFERENCES IN MUSICAL ELEMENTS IN RINGTONE SELECTION: COMPARISON BETWEEN MUSIC AND NON-MUSIC UNDERGRADUATE STUDENT

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ABSTRACT

Research into mobile phones is growing rapidly in terms of their usage, technology development, environmental and psychological effects, and so forth. The last decade has shown an increased interest in research into ringtones in identity, marketing, and environmental study. However, there is a lack of investigation into music elements, and preferences in ringtone still lack attention. The present study investigates the differences in ringtone preference by looking into various music metadata. This research took on a case study approach on undergraduate students from a local university. A survey was employed to investigate which musical elements were of most concern and which were left at the margin of attention when selecting a ringtone. Data collected were analyzed and the difference between preferences of music and non-music major undergraduate student in musical metadata was delineated.

Keywords: Ringtone, Preference, Mobile phone, Music

INTRODUCTION

The creation of the mobile phone and its apparent convenience has resulted in a sharp increase in its consumption since 1973. According to Totten *et al.* (2005) and McClatchy (2006), targeted mobile phone consumers include undergraduate university students. With the advance of technology, mobile phones have presented different functions and features. In Head and Ziolkowski's study, attitudes towards applications – text messaging, talking or sending pictures,

downloading ringtones, music or games, recording or sending videos, email, web browsing, alarm clock, calendar, personal notes, calculator and so forth – were studied among undergraduates (2008). Amongst these features, ringtones show an evolution from a musical perspective. Radiolinja, a Finnish mobile operator known today as Elisa, created the first downloadable mobile ringtone service in 1998. The concept immediately inspired Europe and Asia, resulting in a rise in the market (Pannu and Tomar, 2010). In the evolution of ringtones, the sonic experience has developed from single monophonic tones that, to Schneider (2009) have no significant signifier apart from functioning to alert to a call or text message, to the present "real tones" that show an increase in popularity with a close relation to impression management. The development of ringtones can be traced through their transformation from monophonic, polyphonic to true tone (also known as real tone or master tone). Kohn and Kohn (2002) explain that the modern ringtone is complex, including a melody, harmony and complex mixtures of sonic experience.

This study investigates the preference in ringtone selection of undergraduate students at a selected local university. Due to the complexity in modern ringtone, the research limited its scope to real tones. Auditory experience, including a combination of musical metadata (loudness, melody, rhythm, tone color, tempo and so forth), preferences, and focus on selected musical elements were examined. We posit that there may be a difference between music and non-music major students' preference based on the musical metadata.

LITERATURE REVIEW

A considerable amount of study on mobile phone usage shows increased research interest in anthropology, psychology and marketing. The study of mobile phones looked into markets (Totten *et al.*, 2005; McClatchy, 2006), consumer's preference on mobile phone function (Head and Ziolkowski, 2010), (Munshi, 2011; Keeshadeh, 2012), psychological effects (Strayer and Johnston, 2003; Strayer *et al.*, 2006; Ha *et al.*, 2008; Shelton *et al.*, 2009) and ringtone (Kohn and Kohn, 2002; Guthery *et al.*, 2003; Gordon, 2005; Steinbock, 2005; Yagelski *et al.*, 2008; Goggin, 2011).

In the history and development of ringtone studies, Hardy (2002), Steinbock (2005) and Gordon (2005) revealed the increase of ringtone business in 2004, when it formed 10% of the world music market at a rate of increase of 15%. Hardy (2002) explained that, due to the increased amount of music piracy, ringtones provide a new platform for the music industry. However, Yagelski *et al.* (2008) reported that the sales of ringtones fell a few years later when customers were able to make their own. Schneider (2009) and Goggin (2011) studied the history and development of ringtones. According to Goggin (2011), ringtones have become a music genre themselves and reflect a cultural transformation and music in the form of mobile music. For the youth, a mobile ringtone's function is no longer limited to communication, but also acts as a social signifier; thus they choose a ringtone that represents their personality, including going to the extent of composing their own (Haig, 2002). Yagelski *et al.* (2008) and Vries and Elferen (2010) relate ringtones to Erving

Goffman's theory of tie-sign in studying identity and impression management. In Vries and Elferen (2010), ring tones are also studied in the context of "inner" and "outer" performance, as initiated from Plant (2001).

On the other hand, research into music and preferences is growing rapidly (Catell and Saunders, 1954; Little and Zuckerman, 1986; Gowensmith and Bloom, 1997; McCown *et al.*, 1997; Rentfrow and Gosling, 2003). Rentfrow and Gosling (2003) urge the need to study real-world behavior. Haig (2002) and Yagelski *et al.* (2008) mention the connection between youth's interest in current pop music and the selection of ringtones. Studies by Loo and Loo (2012a), and Loo and Loo (2012b) discuss the different perception in the use and selection of music is affected by the users' background and knowledge. There is a serious lack of literature investigating the smaller scope of preference in a ringtone's musical component. Moreover, comparing between participants with and without music education in preference study needs more investigation, which the present study address regarding ringtone selection.

METHODOLOGY

Based on the apparently large market in mobile phone users that is formed by undergraduate students (Totten *et al.*, 2005; McClatchy, 2006), undergraduate students from a local university were selected for this case study. A pilot study was carried out with 16 participants and minor amendments were made to the survey questions. A sample of 112 undergraduate students was selected. The participants' ages range from 20-25 (average age 21.77 years). The sample was divided into two groups: Group 1 music and Group 2 non-music major students. A set of survey questionnaires was distributed, and explanation of musical metadata was given verbally to Group 2. We received 56 music major students' responses and they formed the first group. In Group 2, 56 participants out of 123 were selected after screening the demographic information. Only students with no music background (who reported that they had never had any music classes) were included in the data analysis.

Initially, Group 1 was first selected in consideration of the notable gender imbalance in music program.[1] The demographic information revealed that there were more females (83.9%) and therefore, participant selection in Group 2 was based on the same percentage (see Table 1).

Table-1. Demographic in gender

Music major			**Non-music major**		
Gender	**Number**	**Percentage (%)**	**Gender**	**Number**	**Percentage (%)**
Male	9	16.1	Male	9	16.1
Female	47	83.9	Female	47	83.9
Total	56	100	Total	56	100

The survey consists of basic demographic questionnaires and the participants' preferences on ringtone were based on selected musical elements:

- Loudness
- Melody
- Rhythm
- Popularity of the music
- Tone color
- Density
- Singer
- Tempo

Answer choices were based on positive, negative and neutral. The differences in percentage referring to the importance in preference to a particular music element in ringtone selection between the music and non-music major undergraduate students will be analyzed.

RESULTS AND DISCUSSION

Collected from the survey, answers from Group 1 and Group 2 were listed by percentage (see Table 1 and 2). The list of musical metadata in Table 1 and 2 was arranged based on the highest percentage in positive feedback.

In Group 1, the music major undergraduate students gave rhythm as their most preferred element in selecting a ringtone. This is followed by singer, tone color, melody, popularity, and tempo. Loudness and density were the least important. It is clear that a majority of the students were neutral in their choices referring to tone color, popularity, tempo, loudness and density.

In Group 2, the non-music major students chose melody, rhythm, popularity, tempo and singer as the most important element in ringtone selection. Tone color, loudness and density were marginalized in their choice. Students in Group 2 appeared to be more decisive in their choices with a higher percentage given to either positive or negative to the given musical metadata. They have a lower percentage in selecting neutral as their answer except for loudness and density. In both Group 1 and 2, loudness and density of the ringtone were the least preferred choice, although volume may be an important feature in call alert. This may due to the vibration function that has taken over older technology for call alert.

Table-2. Results: Music major undergraduate students

Response / **Musical Metadata**	Positive	Negative	Neutral
	%	%	%
Rhythm	67.85	19.64	12.51
Singer	62.51	35.71	1.78
Tone Color	60.72	0	39.28
Melody	53.57	1.79	44.64
Popularity	51.78	17.86	30.36
Tempo	42.86	26.78	30.36
Loudness	37.5	17.86	44.64
Density	26.78	17.86	55.36

Table-3. Results: Non-music major undergraduate students

Response / Musical Metadata	Positive	Negative	Neutral
	%	%	%
Melody	91.07	0	8.93
Rhythm	78.57	8.93	12.5
Popularity	69.64	12.5	17.86
Tempo	64.28	16.08	19.64
Singer	60.71	10.71	28.58
Tone Color	42.86	19.64	37.5
Loudness	35.71	10.71	53.58
Density	16.07	26.79	57.14

Based on Figure 1, rhythm is preferred by both groups as the most important element in ringtones (Group 1 67.85% and Group 2 78.57%). The percentage citing the singer as relevant to their choice was close (Group 1 62.51% and Group 2 60.71%). Differences in preference between the two groups were also clear. Melody appeared to be the most important music element in non-music major students' choice, together with popularity and tempo, which gained a lower percentage in the music major undergraduate students' choice. Music major students paid more attention to tone color while it was at the lowest three among the non-music major students.

Figure-1. Comparison of preferences between selections made by music major and non-music major undergraduate students to the selected musical metadata in consideration of selecting ringtone

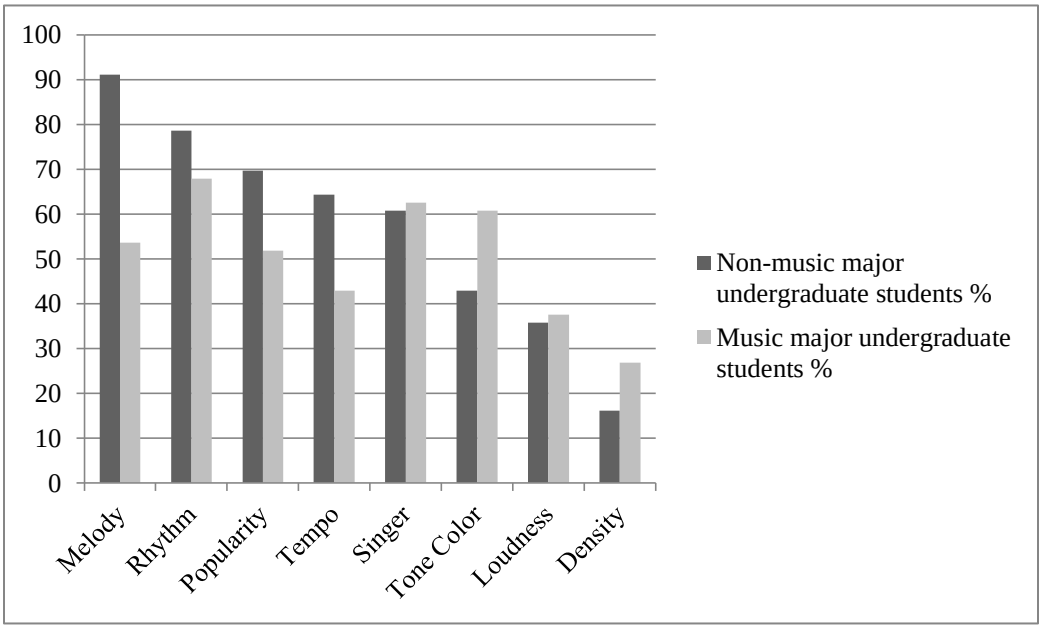

Figure 1 shows that the non-music major students have a stronger preference in the musical metadata selection with melody (91.07%), rhythm (78.57%) and popularity (69.64%). Music major students had their selection on rhythm (67.85%), singer (62.51%), and tone color (60.72%) as their highest concern when selecting a ringtone.

CONCLUSION

This study investigated whether there is a difference in preference of musical elements in ringtone selection between music and non-music major undergraduate students. The results (see Figure 1) show a clear difference with stronger decisions made by non-music major students. There may be a possibility that music major undergraduate students display a higher concern in their selection based on their knowledge in music, thus resulting in a higher percentage of neutral answers and lower percentage of positive answer when selecting the importance of musical metadata in ringtone selection. In this case study that focuses on students from the music department a smaller number of students resulting in a smaller sample was inevitable. Therefore, further research may be carried out by collecting a bigger sample in order to get more accurate information about ringtone selection based on various musical metadata. In addition, the gender imbalance may contribute to bias and therefore further study is needed.

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Notes

Note 1. There is a clear gender imbalance in music programme student intake although gender discrimination in the female music professional world is still common (see Loo & Wong 2010).