



The influence of male voice tone on women's perception of attractiveness

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ABSTRACT

This research is about women's perception of attractiveness towards men's tone of voice. The male voice changes during puberty. The change is caused by the increase in the size of the base of the vocal cords caused by the action of the hormone testosterone. Supported by their developmental tasks, voice is one aspect that is assessed by young adults in choosing the best opposite sex as their partner. The study was conducted on a female population in a country with a collectivist culture. The experiment was designed by manipulating the tone of the male voice as a stimulus which was then played to the participants to rate their attractiveness level. The results of the repeated measures ANOVA analysis show that there is a true influence of tone of voice on perceptions of attractiveness. Research is enriched by discussing new findings that are different from previous research. Young adult heterosexual women perceive mid-range vocal tones (average 119 Hz) as the most attractive range of vocal tones, assuming that cultural influences play a role.

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Introduction

Don't judge a book by its cover" (Manser, 2007), an English idiom first used by George Eliot (1860, in Eliot, 2003) in his book *The Mill on the Floss*, we must be familiar with this. Meaning of idioms, it says "We should not judge something, only by its outward appearance". Not necessarily what is seen from the outside describes a person's true character. In several cases of fraud or crime, the perpetrators are often perceived wrongly, where the perpetrators initially get positive impressions from the people around them. "His handsome face, pure white and calm demeanor, so I thought he was preaching Friday this time when he was passing by my ice shop," said Rahmat, one of the victims of the bombing at the Cirebon Police Headquarters mosque, whose head was hit by a nut due to a bomb explosion (<http://www.luwuraya.net/2011/04/syarif-assemble-yourself-bom/>).

Apart from a face or something that is visible to the eye, the sound one hears also raises certain judgments. The legendary soft rock singing group Bee Gees, which triumphed in the late 60s won 9 Grammy Awards with the characteristic of their high-pitched vocalists. Found in an article, "When I first heard the Bee Gees, I thought the lead singer was a female because of the high pitched, kind of

weird voice." ([http:// www.experienceproject.com/stories/Love-The-Bee-Gees/429773](http://www.experienceproject.com/stories/Love-The-Bee-Gees/429773)). Thus what happened, the high tone of voice is associated with the voice of a woman. Individuals have certain judgments about what they see or hear. Although every human being is equal before the law, everyone recognizes that someone is treated differently based on their outward appearance (Grammer, Fink,

The idiom mentioned above does not mean wrong. Human judgment is formed from the beginning of life, and has even been passed down by the generations above it. Slater et al. (1998) reported a study of 3-month-old babies looking longer at people with attractive faces than people with less attractive faces. This different treatment also continues to be experienced when children enter school. Physically attractive children are given lighter punishments for the same mistakes than less attractive children (Baugh & Parry, 1991). In fact, we believe that physically attractive people are better at everything than less attractive people. The statement 'what is beautiful is good' has been embedded in our minds in general (Dion, Berscheid, & Walster, 1972).

Likewise what happened in the context of partner selection. It is undeniable that humans view physical attraction as a consideration for establishing relationships with other people that can continue at the partner selection stage. According to evolutionary psychology, mate selection is one of the basic mental mechanisms of survival. Apart from avoiding enemies, choosing the right food, forming allies, and communicating, the fundamental challenge facing every living thing, including humans, is success in selecting partners to reproduce and pass on offspring. It is possible that all complex and unique human behavior is an attempt to achieve this challenge.

Charles Darwin (1871, in Dixon, 2009) revealed that evolution also occurs in human nature and character to increase individual success in finding partners. This mechanism is known as the process of sexual selection –A form of natural selection in which, according to Darwin's theory, the male or female is attracted by certain characteristics, form, color, behavior, etc., in the opposite sex; thus modifications of a special nature are brought about in the species. Each individual has characteristics in order to achieve success in pairs which go through two processes, namely by generating interest in the opposite sex (intersexual selection) and intimidating same-sex individuals who are considered as competitors (intrasexual selection).

A mature and sexually healthy partner is needed to achieve reproductive success, namely individuals who will pass on good genetic material to their offspring, and are able to physically contribute to maintaining the relationship, their partner and their offspring. These characters manifest into sexual signals. These signals, as a result of the accumulation of evolution in the history of human evolution, are responsible for shaping the human perception of attractiveness and beauty. Research results suggest that there are standards of attractiveness to a person that can be generalized across cultures. Humans are not born with DNA detection devices, so we take measurements indirectly. One of the measurements, humans have sensitivity in assessing the physical attractiveness of the opposite sex.

Attractiveness is one of several considerations a person has in building a relationship with other people, in addition to personality and other aspects. The outer appearance that can be captured by the senses has an influence on the perception that is formed within a person towards other people. This perception of attractiveness certainly has a graded scale or intensity from a very attractive level to a very unattractive level. A person's outward appearance is a concrete manifestation that shows genetic quality, health, and reproductive status by our ancestors, so these aspects are also believed to have played an important role in the selection of partners until now, especially in creating attractiveness to someone.

Humans are quite accurate in identifying the gender, health, emotions, and age of other people through ornaments such as faces, voices, body shapes, even smells (odor) (Feinberg, 2008). Humans are able to know the ability of parenting and the health of others. In a study conducted by Apicella, Feinberg, and Marlowe (2007), voice pitch was reported to be inversely related to the number of offspring. Men with low pitched voices have more children than those with high pitched voices. From

this study, it can be seen that women's ability to predict partners who are suspected of having a higher probability of reproductive success. This predictive ability is beneficial for humans in order to avoid partners who have infectious diseases so that their offspring are saved. One study reported that people with symmetrical faces or body shapes have good or flawless genes.

Women are attracted to the opposite sex based on signals that are considered reliable in showing the quality of a man (Zahavi in Bruckert, Lienard, Lacroix, Kreutzer, & Leboucher, 2005). Although most studies examine face and body shape as secondary sexual characteristics that are influenced by hormones, there are other characteristics, including voice, skin color, hair color, and body odor (odor). Research suggests that acoustic signals provide women with correct information about the quality or condition of the signaler. Sound as an acoustic signal produced by humans consists of various aspects. Based on research that has been done, the aspect that most influences a person's perception is voice pitch (Zuckerman & Miyake, 1993). The tone of voice is formed from vibrations produced by a person's vocal cords, where the vocal cords are the result of the work of the hormone testosterone. The amount of testosterone that is in a person indicates the level of fertility which according to evolutionary psychology is preferred to be a partner in producing offspring.

Even though the researchers generalized their findings, in fact this kind of research has not been widely carried out across cultures. Like other psychological research in general, most of the research is conducted in countries with individualist cultures. Recent analysis states that the top journals in the field of psychology, including its six sub-disciplines, from 2003-2007 as many as 68% of participants came from America, and overall as many as 96% of participants came from western industrialized countries, especially North America, Europe, Australia, and Israel (Arnett in Henrich, Heine, & Norenzayan, 2009). Research on attractiveness, particularly with regard to sound aspects, conducted in countries with collectivist cultures is very limited.

Neuliep (2012) describes in full a comparison of the values held by individuals with collectivist and individualist cultures. Collectivist societies still maintain their culture, are supported by a high level of obedience, self-concept is limited by social views, is sensitive to rejection and shame, and communication tends to be indirect. In contrast, individuals with individualist cultures have characteristics such as high self-esteem, easy expression of emotions, and freedom of opinion without worrying about social responses. The author assumes that there is an influence of cultural characteristics that raises the possibility of differences in the results of research conducted on collectivist culture populations with previous studies conducted on individualist cultures.

The first intercultural research conducted outside of countries with individualist cultures was that of the Hadza people of Tanzania. The Hadza people are still isolated and practice a hunter-gatherer culture, where men hunt and women gather. This culture is a culture that is still evolutionarily relevant and is considered to be very similar to the ancestral culture. The results showed that men and women with lower vocal pitch were associated with better hunting and gathering abilities (Apicella & Feinberg, 2008).

Another study that was conducted in eastern countries was research in Japan which wanted to find out the association between tone of voice and physical and psychological attributes of Japanese and Dutch women. Researchers (Bezooijen, 1995) found that the tone of voice that tends to be preferred by the high tone of voice in the Japanese female population and the low tone of the voice in the Dutch female population. Differences in research results are assumed to be due to cultural factors, which is also one of the encouragements for the authors to conduct this research.

The author sees the lack of research conducted on tone of voice, as a character that is influenced by sexual hormones and is thought to influence a person's perception of attractiveness, as well as the existence of different cultural differences between the culture in Indonesia and the culture of the previous research population. Therefore, the writer wants to know "The effect of male voice pitch on the perception of attractiveness of women in Indonesia". The research was conducted on young adults, where in young adults sexual hormones are mature coupled with the developmental tasks of young

adults to choose partners. This research is part of a larger study regarding the effect of physical ornaments (symmetry of faces and voices) on the perception of attractiveness.

method

This research is a type of quantitative research. Quantitative research seeks to obtain information in the form of numbers and statistics from the problems studied (Kumar, 2009). Quantitative research in this study used a laboratory experiment method. The research was conducted in the computer laboratory building B, Faculty of Psychology, University of Indonesia. Experimental research was conducted to find causal relationships by showing that changes in one variable affect changes in other variables (Gravetter & Forzano, 2008). The research design used was within-subject design, namely comparing the scores of the dependent variables owned by one group (Seniati, Yulianto, & Setiadi, 2007). There are 3 variations on the independent variable, namely high pitch, normal tone, and low tone. The preparatory stage begins with a literature study in which the author collects literature on partner selection and the factors that influence it, especially from the point of view of the theory of evolution. After feeling that they already have sufficient understanding of the construct to be studied, the writer then uses the information obtained from previous studies regarding attractiveness in partner selection as a basis for compiling the research. After determining the research design, overall procedures, and instruments to be used in the research, the authors then entered the stages of preparing the measuring instruments and tasks to be used in the research, namely the sound stimulus in the form of variations in male voice tones and attractiveness rating sheets. The independent variable or independent variable in this study is voice pitch. The manipulation used for these independent variables is conditional manipulation, where the researcher creates different conditions for each group to create variations in the independent variables (Seniati, Yulianto, & Setiadi, Participants will be given 3 different variations of tone of voice, as a stimulus. The three variations consist of from medium tones, high tones, and low tones. Details of variable manipulation are explained in the measuring instruments and research instruments. In this study, researchers recorded the voices of 5 young adult male students (18-24 years). The five voice contributors claimed to have no abnormalities in the nose, throat, vocal cords, or other parts related to the sound production process. Each of them was asked to count from 1 to 5 using a voice recorder. The distance between the voice recorder and the sound source is equalized, which is 15 cm. Counting is considered a neutral sentence/phrase, or does not contain an element of emotion. Everyone's intonation when pronouncing "one.. two.. three.. four.. five.." also tends to be similar. The sound recording process is done in a quiet room. Voice is encoded into digital form at 44.1 kHz. Each sound recording is manipulated by increasing and decreasing the pitch by ± 20 Hz. The voice manipulation process was carried out using the PRAAT acoustic phonetics software (Boersma & Weenink, 2010; Styler, 2012) which was also used in previous studies. After manipulating the 5 recorded sound files, 15 sound stimuli were produced in which each recorded voice was made into 3 versions of the sound stimulus (normal, raised, and lowered). This manipulation was also performed by researchers in similar studies, with a center frequency of 120 Hz (average male pitch; Childers and Wu 1991).

Results and discussions

1. Research Results and Discussion

Based on the list of answers given by the participants to questions regarding hypothesis awareness after the Attractiveness rating was carried out, or whether the participants were aware of the purpose of this study, the authors then categorize the participants' answers into the categories of "don't know" and "know" the purpose of the research.

Attractiveness can be understood from various perspectives, including an evolutionary one. In his book *The Evolution of Human Sexuality*, Donald Symons (1981) shows that men are attracted to younger women because they have physical signs indicating that they are healthy which also indicates

a higher probability of reproductive success. Conversely, females are usually attracted to older males, who provide behavioral and physical cues that indicate they can provide resources and quality child care to their offspring.

What is meant by attractiveness according to the point of view of evolutionary psychology are the anatomical and behavioral characters that produce the highest intensity of courtship, ideally, the highest reproductive success (MacNeill, 2010). Attractiveness here emphasizes the individual's desire to produce offspring with the opposite sex that he considers to have high potential in giving the best offspring. In this study, attractiveness has the definition of a stimulus, in the form of anatomical and behavioral characters, which raises the desire of the opposite sex to jointly produce the best quality offspring.

Evolutionary psychology has a more in-depth view of a person's attraction to other people. This viewpoint sees attractiveness as part of choosing a partner. Self-selection is a form of natural selection in which a male or female is attracted to certain characteristics; such as shape, color, and behavior; from the opposite sex; so that natural changes occur within a species. It can be seen that the theory of evolution attaches great importance to the process of reproduction as an important process for passing on offspring as a species. Attractiveness here emphasizes the individual's desire to produce offspring with the opposite sex that he considers to have high potential in giving the best offspring.

Each individual chooses the opposite sex that is considered potential and ignores that is considered not. Our ancestors, in their time, struggled to keep warm around the hearth, hunting for meat for relatives, sharing nuts, fruits, and herbs, and avoiding dangerous animals and enemies. If they choose a partner who cannot meet their basic needs; that is, a partner who is having an affair, who is lazy, who does not have good hunting skills, or who commits acts of violence; their survival is threatened. The breeding process is also at high risk of failure.

Attractiveness can be seen from several perspectives, two of which are from a social point of view, and an evolutionary point of view. Interest has to do with human relations. A relationship can start anywhere and in any situation, for example at school, in a public place, at work, in a mall, or even in cyberspace. Psychologically, the first big step in a relationship is always the same, namely interpersonal attraction, the urge to approach someone (Brehm, Miller, Perlman, & Campbell, 2002). Feeling attracted is not the same as love, nor does it guarantee the emergence of feelings of love. Social psychology indeed views attraction as an attraction, not a guarantee that someone will have a relationship with another person, but it is a door of that possibility.

Of the 30 participants who answered the question, 100% said they had never participated in a similar study before. After being categorized, all participants did not know the exact purpose and what they wanted to study from this study. Answers that were categorized as "don't know" were: perceptions of other people, social perceptions of physical appearance, perceptions of other people's faces on sexual and social behavior, women are more attracted to voices than faces, impressions and responses as well as reactions when seen from voices and faces, partner/friend selection preferences, and so on. All participants cannot guess the purpose of the research, so according to the awareness hypothesis, all participant data can be used. On the other hand, a partner who provides abundant needs,

Every living thing has a basic urge to survive, including defending its offspring. Therefore, humans become selective and sensitive in assessing the health and fertility of the opposite sex. Individuals physically experience significant changes after puberty. These changes occur as a result of the work of sex hormones that develop during puberty. Evans (2002) states that hormones that support sexual maturity are also hormones that influence the partner selection process. Assessment of the opposite sex is based on underlying factors that are reflected in physical appearance or other aspects as a result of the production of physical organs. The underlying factors are health, fertility, and emotional expression in individuals which are mostly influenced by hormonal factors (Feinberg, 2008). In men, the dominance of the hormone testosterone will form a masculine physique. While in women the

dominance of the hormone estrogen will form a feminine physique. Physical characteristics that are increasingly masculine in men and physical characteristics that are increasingly feminine in women are supported by health factors (Zahavi, 1975). In conclusion, the healthier the physical will look more attractive.

Of the 40 participant data obtained during the data collection process, 7 participants reported that they recognized the sound stimulus given. The answers from participants who recognize the stimulus are biased because the sound stimulus will be associated with the characteristics of the person suspected, so that the assessment given by the participant is no longer purely based on what he hears but based on the person he suspects is the owner of the voice. Therefore, the data of participants who reported themselves recognizing the given sound stimulus were not used in further data processing. This affects the participants' answers in giving an attractiveness rating.

By knowing the size of the standard deviation, it can be known how large the range of true scores is by calculating the average value \pm standard deviation. The true score for the total attractiveness of the normal tone of voice is 8.31 - 16.11. The average total attractiveness score for a high tone of voice is 11.03 with a true score range of 7.13 - 14.93. As for the total low tone score, an average of 10.63 was obtained and the true score range was 6.73 - 14.53.

These different findings lead to discussions that can be viewed from several perspectives. Research from the point of view of evolutionary psychology, particularly regarding aspects of partner selection has been growing in recent years, both in quantity and quality. Research in the field of evolution basically wants to see how the mindset and behavior patterns of humans evolve from era to era. From various studies, regarding the tone of voice in particular, the results are not much different, so the researcher generalizes the results of his findings.

However, the findings in this study are sufficient to prove that the generalization of the findings so far needs further review. From the findings in this study, the writer will discuss things that the writer considers important and interesting. By looking at the results of the comparison of the average scores of the three variations of tone of voice, it can be clearly concluded that men with medium tones are more attractive than men with other types of tones, namely high tones and low tones. This finding is different from previous research, where men with low voices were considered the most attractive and the most chosen partner (Collins, 2000; Apicella & Feinberg, 2008).

In several articles, discussion was found regarding the language factor used. The style of speaking a particular language influences the tone of voice and intonation produced by the individual who speaks it. American English is lower, Asian is higher. This raises the possibility that the cultural group of participants whose native language is Malay, are used to hearing sounds at a certain sound level. The author suspects that this language factor influences the differences in results between studies conducted with other studies, most of which are conducted in America.

Tone of voice in different cultures can also be seen in the differences that exist in Indonesia, in particular. Each region has a distinctive language style and pronunciation style that is unique and different from other regions and tribes. As we know, people in the eastern region, especially Ambon, tend to communicate in a high pitched voice. In contrast to the Javanese people who may judge speech in a high tone as an expression of negative emotions (anger). Someone who is used to listening to conversations at a certain pitch range has a certain perception of speech with a tone that is higher or lower than the tone of voice he is used to hearing. Inter-ethnic perceptions are also thought to have played a role in influencing the research results.

Research on other tone of voice states that there is a negative correlation between body shape, especially height, and a person's tone of voice. The sample of participants who are the source of the sound in this study is thought to have a smaller body posture compared to the sample of participants in previous studies. The Indonesian nation, which belongs to the Melanesian nation, tends to have a shorter stature compared to the posture of other nations. One study states that the taller a person is, the base of their vocal cords also tends to be larger, which means they produce a lower pitch of voice. Based

on this, Melanesians are thought to have smaller vocal cords than Europeans and Americans, so they tend to have a higher pitch.

The sound stimulus used in this study was a recording of a male voice reciting a count from 1 to 5. This counting sentence is considered neutral, does not contain positive or negative content and emotions. Previous research used a content neutral sentence. The absence of meaning in the sentences used in this study may not have helped the participants in raising their perceptions of the owner of the voice. The authors suspect that there is a content effect on the sound stimulus in different studies. As for the criticism submitted by the participants that the sound stimulus was very short so it was suggested to extend the sound stimulus.

According to the assumptions of the previous authors, which were supported by the results of interviews with test participants, perceptions of attractiveness are difficult to measure due to the influence of culture and values held by participants. Trial participants admitted that they gave certain questions low ratings because it was difficult to rule out the value and consequences of behavior. Culture in Indonesia still considers it taboo to discuss matters related to reproduction. Therefore, it takes the skill of the writer to reveal the hidden view. The author provides introductory questions before arriving at the main question of the research measurement tool as an attempt to explore what the participants are shrouded in. apparently, the author's efforts were less successful with the results of the main question score being much smaller than the total score of the introductory question. Even though conditioning has been done, the effects of these cultural values are difficult to avoid.

From the raw data obtained, the authors found the uniqueness of the score obtained on the sound stimulus from the same voice owner, namely sound source 5. The score obtained looks smaller than the scores from other sound recordings. After re-examination by the author, it was found that there were differences in final intonation between this voice recording and other voice recordings. The word "five" as a closing sentence is not pronounced with a decreasing intonation as if to close the sentence. This difference in intonation is thought to have led to participants' perceptions of the owner of the voice. The intonation factor is thought to influence the research results.

As an additional discussion, fertility status is reported to have a significant influence on the attractiveness and preference of partners. This is reinforced by previous studies which state that women who are in their fertility period prefer or are more attracted to men who show masculine indicators than women who are not in their fertile period. In this study the authors ignore this factor because they want to really measure the effect of tone of voice. From the data obtained, it is suspected that this has an influence on the basis of differences in the scores of participants who are in their fertile period and those who are not. All the uniqueness and richness of the findings in this study are expected to be a stimulus for other researchers to continue and develop this research.

Conclusion and implication

From the results of research and data processing conducted on young adult women, it can be concluded that the answers to the problem formulation are as follows: There is an influence of male voice tone on the perception of attractiveness of women, then H_a (1) is accepted and H_o (1) is rejected. The change is caused by the increase in the size of the base of the vocal cords caused by the action of the hormone testosterone. Supported by their developmental tasks, voice is one aspect that is assessed by young adults in choosing the best opposite sex as their partner. The study was conducted on a female population in a country with a collectivist culture. The experiment was designed by manipulating the tone of the male voice as a stimulus which was then played to the participants to rate their attractiveness level. The results of the repeated measures ANOVA analysis show that there is a true influence of tone of voice on perceptions of attractiveness. Research is enriched by discussing new findings that are different from previous research.

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The Rules of Bleeding:

1. Chapter (Capitalize Each Word, bold)

2. Sub-Chapter (Capitalize Each Word, italic)