Digitizing Human Sciences to Determine the Individual's Personality Based on Facial Emotions Recognition

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ABSTRACT

Informatics is a science that develops and opens up to a group of other sciences. The current researches have been established for multiple partnerships between informatics and the rest of the sciences. This is noticed in the integration of Informatics for instance within medicine, economics, and humanities. Researchers have made computer's software that help draw the emotional state of the individual from the analysis of the movements that appear on the face. Today, we will follow the same plan, but we will not only study facial features. We will determine the personality based on other data and also face dimensions. We will rely on determining the type of personality based on the analysis of specific parts of the face such as the upper part of the front face, the middle section of the nose and the mouth, and the lower jaw section. In the current study, we used a modern scientific methodology that is manifested in the digitization of human sciences and in the analysis of the image by adopting a software product based on determining the dimensions of the face, specifically mathematical and descriptive, and then extracting the conclusions contained in the black box of the software's information. Our conclusions and results are confirmed by a group of people whom we have adopted in our experiences. Moreover, we did not only define personality but we have also made it possible for individuals to deal with four types. We dealt with many people, but we can recognize the features of their characters only after the experience and keeping in company with them for a long time. There may also be other ways through which we can take a preliminary idea of the person's character when we deal with the features of the face.

Keywords-component; IT psychology, emotion, face, personnality,

1   Introduction

We often find two people, despite their differences in nationality, language, and culture, who have the ability to take emotional attitudes toward one another, and through facial expressions, they exchange the most different feelings and sensations. Even the people of the same country, when they get in the same bus, we find them exchanging impressions through facial movements. Everyone knows that what we mentioned is true, known, and not new.

But, what about reading the face of human beings we meet for the first time. Can we judge their actions before they do them and can we judge their qualities before we see their actions? In fact, we often harshly judge people through the

shape of their face, and that is what our ancestors once called physiognomy.

This is what is done nowadays by analyzing the personality through reading the features of the face. It is of course a distinguished science that has its theorists and professors, and has theories that support its origins and methods. In fact, there is an enormous and important amount of various studies and researches that support the argument that there is a precise and direct link between the features of the face of any person and the personality of this person.

The human's personality may be mysterious sometimes, but it can be identified by some external characteristics such as hair color, body length, skin color, eye shape, or even eye color. All of these qualities can be determined by the adoption of our information system that examines the picture in logical and accurate ways.

2 Personality Analysis From the Face

We have found that each face reveals what is hidden in the person's personality and describes its owner with extreme accuracy. This for example gives some conclusions of the qualities and features enjoyed by the owner of this face such as deception, goodness, fun, generosity, love or criminality. Meanwhile, all human specifications, being positive or negative, could be read and known through a digital analysis of the features and shape of each face.

Our information system initially records the provided image of the person whom we want to analyze his/her personality. The information system frames the face, determines the position of the face on the image, and then calculates the dimensions of the face. It takes into consideration also the comparison of the length with the width. After that, it calculates the ratio of the enlargement of the given data according to mathematical relations as displayed in Figure 1 below.
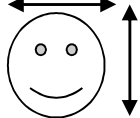
Width	The length calculated by our function	Real length	**W**idth
x_i	$f(x_i)$ $= 154$ $\times 10^{-2} x_i$	V_i	
Cases			
$f(x_i) \approx V_i$	$V_i \approx x_i + \left\lvert \dfrac{x - V_i}{2} \right\rvert$	$x_i \approx V_i$	Other cases by percentage $\%i = \dfrac{x_i \times 100}{f(x_i)}$

Figure 1. Calculated equations and conclusion

This ratio determines the type of face shown in the image, classifies it as demonstrated in Figure 2, and then connects it with a text conclusion that is appropriate to it. The following are some of the results:
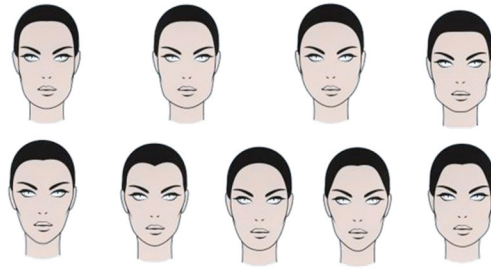
Figure 2: Face shapes

1. People who have a broad face are dominated by misbehavior and laziness accompanied with being unable to remember events, and perhaps they are not free of foolishness and stupidity.
2. People with long faces have a great deal of movement and mobility. They do all the tasks and things quickly. They have also the lightness of the spirit; however, when disturbed by others, they may turn into a very bad mood.
3. The owners of the prominent faces (which contain a prominent face bone strikingly visible) are malicious and deceitful. They also have negative qualities such as spending most of their time making conspiracies and intrigues to other people.
4. The owners of small faces are characterized by the kindness of their hearts and the purity of their intention. At the same time, they are characterized by weakness, fear, retreat and surrender due to their lack of tricks and helplessness.
5. People who have round faces are not as interested in their reasons as they are for the results, so they are positive.
6. The owners of broad foreheads are characterized by a large mind that fits with the size of their head.
7. The owners of narrow foreheads are characterized by narrow horizons, and most often look at all things in a strange superficiality.
8. People with zigzagging foreheads are often characterized by worries, problems, and many failed experiences.

3 Personality analysis by three basic spots of the face

Physiognomy Science divides this into three sections: upper, middle, and lower section. Meanwhile, we can determine the personality of the person by the dominance of one of these sections on the other two sections. In addition, this dominance determines the psychological tendencies and preparations of the person.

In this stage, the information system returns to the same image that it is working on, and after defining the system for the frame of the image, the face is divided into three important sections, (see Figure 3), namely the forehead, nose, mouth, and jaw. After that, the information system attempts to calculate the total area of the face according to a mathematical relation (see Figure 4), and then it calculates the area of each of the three sides. Later on, the system ultimately determines the two areas that were given the biggest proportion. Based on those percentages, the information system comes out with the following conclusions:
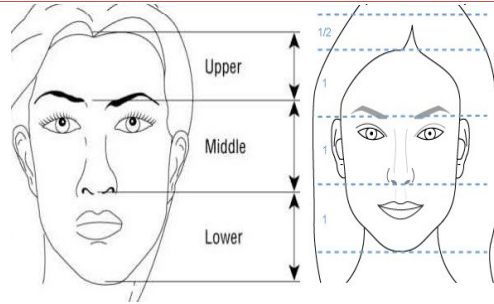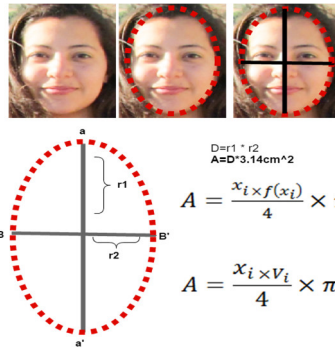
Figure 3. The important sections of the face

$$A = \frac{x_i \times f(x_i)}{4} \times \pi$$

$$A = \frac{x_i \times V_i}{4} \times \pi$$

Figure 4. The mathematical relations of calculating the face area

3.1 The upper section (the forehead)

The forehead of the human's face is responsible for the extent of knowledge of human relations, social and intelligence. This is because the owner of the broad forehead has advantage of intelligence, sophisticated, and developed mental capabilities. Moreover, if the forehead is wide and rounded, then its owner has a good taste. However, if it is wide from the top, the imagination of intelligence is more dominant. In the lower section there is a manual for controlling the applied power of intelligence. Meanwhile, concerning the presence of wrinkles in the front area, researchers say that this presence of wrinkles reflects the tendency of this person to abstraction, and the search for reasons. The person has also a high ability to analyze, but in the case of the front wide and clear of wrinkles, it reflects the tendency of this person to the dreams of vigilance and inability to adapt to practical life.Meanwhile, the wide and deviated front square reflects the ability of the person toward creation and creativity, while the broad forehead in the form of the arch reflects the negativity of its owner and the infertility of his ideas.

3.2 The middle section (nose and mouth)

A person with a large nose and mouth reflects the emotional capacity and momentum joy by that person.This reflectsalsothat the person with an emotional and advanced mood, which makes him/her inclined to emotions, has a warm and calm life in addition to its superior ability to confront, and these qualities are confirmed by the presence of long and huge nose.On the other hand, the sharp nose signifies its nervousness and violence, and vice versa. This means also that the small nose and mouth and their shape indicate emotional coldness and social closure, while the owner of the delicate nose indicates his/her deep coolness and the ability to control high emotions.

3.3 Lower section (jaw)

The amplitude of the jaw and mouth reflects great physical abilities and endurance, and can control the person's emotions. The accuracy of the jaw reflects inactivity, negativity, weakness, and hesitation. It also shows the lack of diplomacy in dealing with people. On the other hand, the owner of the small mouth and lower sides reflect unhappiness and depression.

Finally, after reviewing the three sections and their descriptions, it is possible to say that few people are characterized by a clear dominance of one of these sections. We often find ourselves in front of many faces that share control between two sections at the expense of the other. It often happens that this matter is distributed over the three sections but in varying proportions.

4 Personality analysis by Eye Color

Many people want to recognize their personalities, whether through their eye color, hair color, dress, eye shape or food...etc. In this part, the information system will identify the user's eye color, by framing the eye side, and accompanying this step by presenting a short text that gives the result of the analysis. In this section, we will see the personality according to eye color.

The information system is able to determine the color of the eyes. At this stage, the information system frames the eye side and frames the center of the eye, and finally the eye color (See figure 5).
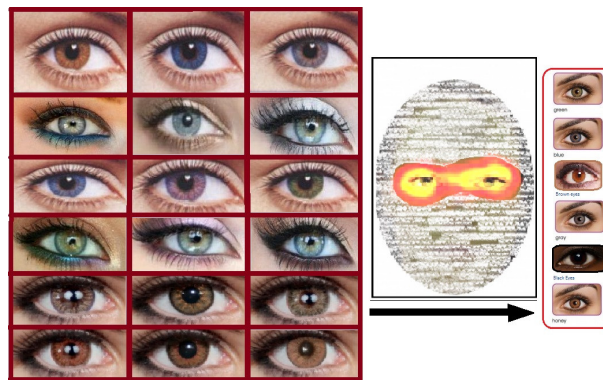

Figure 5. The different color of the eyes

This identifies some colors defined by the system and then connects the eye color to what it symbolizes according to psychology to become a digital psychologist. These are some of the results:

Green eyes

Green eyes often like to help others, and also are characterized by harshness and hardness. Green eyes also have a bold and strong personality, but sometimes they are selfish, and sometimes passionate and affectionate too.

Blue eyes

They treat people with tenderness and kindness. They also impose their attitudes without touching the other's feelings. Moreover,people with blue eyes have a great connection to what they have and they are also optimistic.

Brown eyes

People with brown eyes often have tender and emotional hearts. Moreover, the browner the eyes of the person are, the more that person showshis/her tenderness. In addition, people with brown eyesare also ambitious, keen to be calm, and they deal with people politely.

Grey eyes

The grey eyes' personalities are divided into two parts, either calm and generous, or harsh and violent. People with grey eyes often search to be calm but rarely find it. They are also very observant and there is no place for emotions in their lives.

Black Eyes

Those people are social, but frequently jealous. When they become angry, they lose control of themselves. They love to help and meet people's needs even at their expense. They also have pure tender feelings.

Honey Eyes

A personality that is not honest with itself although it is good-hearted, self-reliant, calm, and does not rush to make decisions. It is controlled by the mind and not guided by passion. It is also discrete despite its tendency to curiosity and intelligent personality.

In fact, we can compare the eye with a mirror that reflects what is within us and reflects our personalities and ourselves without knowing. This is closely linked to our personality, how we behave, what are our methods, and what are our ethics. As some scientists and researchers of psychology have concluded, there is continuity between our personalities and the eyes.

5 Conclusion

The discussion on this subject is a long and interesting inspiration with its delicate and complicated branches. Progression in the collection of knowledge on that matter requires continuous studies and research, but this is what we can show in for the limited and available space. We hope that the coming researches will examine ways in which we can help humanize some information systems that will help to sensitize some negative feelings and make them positive.

All in all, a human's personality is only understood by its owner even though there are many analyses of personalities, but this does not mean not to see them.

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