UNIWERSYTET MIKOŁAJA KOPERNIKA W TORUNIU

Collegium Medicum
im. Ludwika Rydygiera w Bydgoszczy

Bydgoszcz, 2023 rok

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MIKOŁAJA KOPERNIKA
W TORUNIU
Wydział Lekarski
Collegium Medicum w Bydgoszczy

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Investigation of the impact of skin lesions on perception of beauty and assignment of personality traits

Rozprawa na stopień doktora nauk medycznych i nauk o zdrowiu

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Bydgoszcz, 2023 rok

Niniejszą rozprawę dedykuję moim Rodzicom i Siostrze -

w podziękowaniu za wsparcie w czasie tworzenia pracy

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1. List of abbreviations

ANOVA	Analysis of variance
AOI	Area of interest
EyeL	Eye left
EyeR	Eye right
LN	Lower nose
M	Mouth
NS	Nasion
SC	Skin change
UN	Upper nose

2. Introduction

The most conspicuous and accessible to other people in social interaction personal characteristic that has a significant impact on a human's life is a physical appearance [1]. Over the centuries people were affected by multiplicity of theories which gave a permission to predict human's personality traits and character on the basis of person's external appearance. Even in the ancient times Greek poet Sappho wrote the quote that "what is beautiful is good" suggesting that physical attractive appearance ensures positive character traits. Dion et al. confirmed the hypothesis that attractive individuals were judged to own more socially desirable personality traits than unattractive people. They also presented strong support to hypothesis that beautiful people are believed to lead better lives than those who are less attractive. Results indicated that attractive people were expected to obtain more prestigious occupations, have happier marriages and be better spouse compared to unattractive individuals. Moreover, physically attractive people were expected to be more successful in their social and occupational lives than those of lesser attractiveness. Therefore, Dion et al. confirmed that a stereotype of physical attractiveness actually exists and is compliant with the thesis that "what is beautiful is good"[1].

2.1. Impact of attractiveness on many aspects of human life

There are many other studies confirming that the differences in attractiveness have an influence on the numerous aspects of human life. Attractive individuals, for instance, are dating more frequently than less physically attractive ones [2]. People admit that they have more satisfying dates if their partner is attractive when compared to less attractive partner [3, 4]. Moreover, good looking individuals are preferred by some males and females to become their potential mate [5, 6].

On the basis of investigations of numerous authors, it can be assumed that there is an evidence confirming the fact that for many people it is difficult to think of attractive individuals as being guilty of a criminal offence. People tend to subconscious connecting the crimes with anomalies in people's external appearance that classify them as unattractive ones. As a result, judgments about the seriousness of crimes that were committed by a suspect might be influenced by his or her attractiveness [7, 8, 9, 10].

Studies have also shown the advantages of physical attractiveness in different aspects of everyday life. For example, beauty has an influence on increasing economic mobility, particularly for females [11, 12]. Attractiveness also exerts another social consequences. In society, beautiful people appear to lead more favorable lives. Attractive people have more chances of being hired in interviews than those who are less attractive [13]. Moreover, attractive individuals are more likely to be employed as well as to be promoted for jobs when compared to people with less attractive appearance [14, 15]. Attractiveness might also ensure favorable treatment, namely attractive people pay lower bail than individuals who are less attractive [16].

2.2. Which part of human body is essential in order to determine the people's attractiveness?

Some studies based on the eye-tracking technology asked males and females to judge overall attractiveness of the presented people on the basis of the observation of their bodies and faces. Although both body and face have an impact on overall attractiveness, study participants firstly looked at the face of the observed human image and it was also the area that was looked at for the longest duration [17]. Another study also suggested that in rating of overall physical attractiveness, facial attractiveness is more crucial than attractiveness of the body [18, 19, 20].

Taken together, these studies suggest that the face is actually the most essential signal for social interactions and people strive to capture the information conveyed by the human's face first.

2.3. Why faces are described to be among the most relevant social and visual stimuli encountered by humans?

The humans' faces are mostly the first type of visually presented information accessible to an observer and are apparent continuously during the almost every type of interaction between people. As a consequence, people want to find an answer to the question what information a human's face provides [21]. That is precisely why the human faces have been a source of huge interest to many scientists working in various disciplines, because of their willingness to understand how humans recognize, process, perceive and get information from others' faces. Even only minutes old human infants attend specifically to face-like stimuli in

comparison with similarly complex non-face stimuli [22,23]. In our daily life we encounter plenty of individuals and we rely upon faces to identify and recognize them [24]. Throughout the emotional expressions humans' faces are also significant in displaying humans' feelings about past, present and future events [25, 26]. Consequently, people willingly draw multiple conclusions concerning the personality traits, appearance and emotional condition of completely strange individuals merely based on the facial cues [21].

2.4. What makes a particular human face attractive?

Humans are very interested in the individuals who own the beautiful faces. But the answer to the question why do we actually find some human faces more attractive than others, is a complex one. Despite the fact that people make judgements on the attractiveness of unfamiliar faces possibly as fast as 100-ms of exposure [27], it is further difficult to identify traits that make a particular face attractive. Human faces prominently figure in the attractiveness researches. One of the goals of the researches conducted in the field of facial attractiveness is to define the facial traits that are related to the beauty of the face. Another complication that scientists encounter during their way to understand what underlies the facial attractiveness is individual variation in the perception of facial beauty. Variety in attractiveness judgements is clearly visible in fact that not every person finds the same human faces attractive [10].

Recently, studies on facial attractiveness take up the challenge and have searched for the answer for the question which face traits are responsible for attractiveness as well as how variety of factors impact an individual's preferences in attractiveness judgements [10].

Although diversities in the perception of facial attractiveness actually exist and may be due to individual and cross-cultural differences, researchers found specific features that are considered as attractive by distinct groups of observers. A lot of studies found that there exists an agreement between individuals even if they represent different cultures [28]. If raters within and also across cultures agree about whose face is and whose is not attractive, there are grounds to believe that all humans are using in their judgements criteria that are the same or even similar [10]. So the question arises: when do people gain the ability to judge others people attractiveness? The answer comes from the studies of infants. When the attractive and unattractive faces (previously rated by adults as being attractive or not) were presented to

the infants at the age of 3-6 months, infants spent more time observing slides with beautiful faces than those presenting unattractive faces [29, 30]. If infants shown preference for beautiful faces that are in line with judgements made by adults, we can conclude that previous exposure to a particular cultural convention is not essential in the development of preference for attractive faces. Moreover, we can draw a conclusion that attractiveness is recognized at an earlier stage in life than it could be previously expected. The presented results indicated that criteria of attractiveness are rather universal or even imprinted than being an effect of exposure for cultural standards of beauty. Similar conclusions, about innate and biological basics of attractiveness detector observed in humans, were also suggested in another study [31].

One may ask why do scientists devote so much attention to attractiveness. However from the perspective of evolution, attractiveness plays a very important role. Evolutionary theory sheds light on the questions: which characteristics make the face attractive and why people prefer beautiful partners. From the evolutionary point of view, finding an adequate mate guarantee reproductive success. If we take a look at the process of choosiness of a mate, we can find the answer for the question which traits are associated with a valuable partner. And going further: valuable mate represents the characteristics of attractive person [32]. Traits that make a specific person attractive might also be treated as indicator of a humans with good genes which in case of reproduction may lead to having offspring who inherited these good genes. Benefits might be associated with for example healthy offspring [10].

Studies have found another benefits related to partners with attractive faces, namely they live longer and are able to produce more kids when compared to mates with unattractive faces [33, 34, 35]. Moreover, female attractive faces are positively related to women's level of estrogen which is reflected in their reproductive ability [36, 37].

Therefore, we have an answer for the question why humans prefer attractive mates: they should ensure reproductive success.

Now we will focus on the traits that have been considered as being associated with an attractiveness.

First of all: youth which is strongly connected with attractiveness. Ageing of the face results in appearance of the wrinkles. For this reason, faces that appear to be younger are

rated as more attractive than faces looking older [38]. Referring to the perspective of evolution, youthfulness is preferred when looking for a potential partner, because is associated with longer ability to reproduction [39].

Another finding from the researches is that lower weight of the body, in both men and women, is associated with higher ratings of attractiveness than ratings received by humans with higher body weight [40, 41]. Thinness of the body is reflected in thinner face appearance and as indicator of healthy person is preferred choice for most humans when looking for attractiveness [42].

Facial skin coloration is strongly associated with facial attractiveness. Some authors suggest that red coloration of faces is rated as more attractive when compared to other colors. It is probably caused by two reasons. Firstly, red color is connected with attraction, for example women dressed in red clothes are rated by men to be more attractive, relative to those in clothes in different colors [43]. Secondly, redness of the human face is caused by oxygenated blood and is associated with perceived healthiness [44]. At once, yellowness of the face, related to healthy diet with use of carotenoids, is also believed to be an indicator of healthy human [44]. Interestingly, in daily life some women use cosmetics like a blush to put some redness on their cheeks in order to accent the cheekbone. This kind of behavior might also ensure themselves healthy appearance. Moreover, there is an evidence that wearing facial makeup is associated with activation of the reward-related brain areas [45, 46] and also has a positive impact on the assessed attractiveness of the face [45, 46, 47, 48]. This fact might be interpreted as due to concealing imperfections as well as evening out skin coloration and texture with the use of foundation. Light make-up of the face results in smoother skin with only moderate changes of facial characteristics and as a result distinctiveness of the facial features is less disturbed in comparison to heavy makeup. Consequently, light, daily make-up ensures higher ratings of attractiveness in comparison to no made-up faces as well as to faces with heavy makeup [47, 49]. The application of cosmetics on female faces also improved the ratings of assessed characteristics. Women wearing makeup were perceived as healthier and more confident as well as they were judged to have greater earning potential and more prestigious occupations than when presented with no makeup [48]. Studies examining the impact of facial makeup on event-related brain potential responses found that lightly made-up faces were processed similarly to attractive faces. Specifically, in both cases researchers

observed the reduction of N170 component amplitudes when compared to amplitudes seen for unattractive, no makeup and heavy makeup faces [49, 50]. Researchers analyzed the N170 response to differentiate between fluent and non-fluent facial processing. Authors concluded that a smaller N170 amplitude is a reflection of fewer neural resources involved in the early stages facial detection [50]. Attractive and averaged faces that were more similar to the prototype of human faces, were processed more fluently than unattractive ones [50]. In another study, a N170 amplitude was smaller for naturally colored faces than for unnaturally, thus irregularly and atypically, colored faces [49]. These findings generally suggest that averaged and attractive faces were processed fluently with a smaller N170 amplitude, whereas atypical, unnatural faces rated to be unattractive modulated N170 amplitude and were processed less fluently. These results provide an evidence that fluent processing of the faces assessed to be attractive because of their similarity to the population average, underlies humans' preferences for beautiful faces [50]. Thus, light makeup that conceals irregular skin coloration and skin imperfections and as a result makes faces more similar to prototypical human face and to average configuration of the faces in population, elicited a smaller N170 response [49]. And going further, according to the processing fluency theory that fluent stimulus processing leads to positive affective reactions [51, 52], faces processed fluently because of their prototypicality, are also judged to be more attractive and give a better impression. Also results of the research with the use of eye gaze tracking technology suggest that facial skin color homogeneity of younger or even less photodamaged faces is correlated with higher number of fixations as well as with higher attractiveness ratings than photodamaged or older facial skin. Therefore, more even skin pigmentation is able to attract humans' attention and as a result is associated with positive statements regarding viewed face [53].

Another studies also suggest that the averageness of a human's face is a trait that is responsible for attractiveness. Average faces, which closely resemble most of faces within a population, are believed to be attractive because of the connection between averageness and genetic diversity that ensures, for example, resistance to some pathogens [54]. Researchers also used composite faces created from different face images. Results of their studies showed that combined facial images, which were more average than pictures they were made up from, were judged to be more attractive [31, 55, 56].

Results of research conducted over the past few years also give support to the theory that an average configuration of the face is positively correlated with facial attractiveness [57]. Even children's ratings of the attractiveness are affected by facial averageness [58].

Caricaturing is used to overstate the differences seen between the faces and in consequence the averageness is decreased. This technique was also used in the research and results of the study showed that higher averageness is connected with higher attractiveness of the face [59].

Another attractive facial trait indicated by many studies is symmetry. Symmetry of the face describes to what extent two halves of the face are identical to each other. Symmetrical faces are hypothesized to be an indicator of possession of "good genes" and the capacity to overcome environmental challenges. Symmetry preferences in humans was found in several studies [60, 61, 62]. Moreover, more contemporary researches also give evidence that adolescents' and adults' judgements of attractiveness are higher for more symmetrical faces than for asymmetric faces [63, 64].

Mature adult female and male faces differ in their shape and size reflecting feminization or masculinization of secondary sexual characteristics which arise at puberty partly under the influence of hormones such as testosterone. Masculinity of male faces is characterized by thinner cheeks, larger jawbones and more prominent cheekbones than in female faces. Whereas facial femininity is defined by characteristics including small chin, full lips, larger eyes, high cheekbones and thinner jaws. Studies measuring levels of hormones indicate that higher levels of estrogen are associated with more feminine faces in women [37] while higher levels of testosterone are associated with more masculine faces in men [65]. There is an evidence that feminine faces in women are associated with higher ratings of attractiveness [60, 66, 67, 68]. Whereas results of the studies about the link between masculinity of the faces in men and attractiveness are not unequivocal. Several studies indicate that women prefer more masculine male faces that are also more dominant [60, 69], whereas other results show preferences and increased attractiveness for more feminine male faces associated with lower level of dominance [68, 69, 70, 71, 72]. Possible explanation is fact that more feminine-faced males are believed to be more honest, warm and more valuable parent. More masculine-faced men are judged to be more dominant and less honest, warm as well as less valuable parent

[68]. Summing, feminization of male faces might result in increased attractiveness for some women because of the more desirable personality traits that are linked with these faces.

It is not surprising that humans with faces that look healthy are judged to be more attractive than people with unhealthy appearing faces. Studies show that people are able to assess health of particular faces on the basis of facial physical appearance and their ratings are in accordance with the truth [73, 74]. Also from an evolutionary perspective finding healthy partner is very beneficial because might ensure good genes for offspring. On the basis of the results of the study in which health and attractiveness were assessed on the basis of small patch of the facial skin we can conclude that there is positive correlation between condition of skin of the face and ratings of male face attractiveness [75]. Health of the facial skin might be used as a marker of overall health because it is more fluctuating than traits as averageness or symmetry. Moreover skin quality not only acts as an indicator of the current health but also gives an indication towards previous health [76].

Skin condition has been linked to beauty of the face [77]. The most commonly desired feature of the human face is flawless skin. Homogeneous skin is expected to be more sexually attracted, attractive and younger than face with skin changes such as blemishes, eruptions, cysts, warts, tumors, acne and inhomogeneous facial skin color distribution [78, 79, 80, 81]. Moreover, people without dermatological condition not only judge humans with visible skin conditions such as acne and psoriasis to be less attractive but also express less willingness for contact with them when compared to individuals without visible skin diseases [82]. Authors of the study hypothesized that people might avoid contact with individuals with visible acne or psoriasis because of their unwarranted fear of being infected by humans with those skin conditions.

Thus, above presented examples of studies confirm the statement that one of physical traits connected with facial attractiveness is healthy-looking skin.

When looking for a valuable partner, humans select mates with desirable personality traits [83]. Those personality attributions possibly impact facial appearance and also might affect ratings of facial attractiveness. One of examples was described above: women who prefer more warm men with better parenting qualities will probably choose men with more feminine face instead of masculine-faced men. People are able to assess the personality traits

of strangers only on the basis of the facial photographs [84] and as a result they might find a partner who possess expected personality traits. Results of the study [85] show that if personality trait is desired then faces regarded to possess that particular trait are judged to be more attractive than faces which are perceived to not possess that trait. Therefore, people are looking for partners who possess desired traits what they regard as “good”, and faces reflecting desired personality traits are for them attractive, which is confirmed in quote “what is good is beautiful” [85].

2.5. The impact of attractiveness on personality traits

There have been a significant number of researches analyzing attractiveness stereotype indicating that attractive individuals are expected to possess more socially desirable personality traits than unattractive people. Study conducted by Dion et al. is a classic example of research in which attractive people were rated by strangers as possessing personality traits that are socially desirable and they were also expected to lead better lives that less attractive individuals [1]. Countless studies on “what is beautiful is good” stereotype were carried out.

Significant improvement concerning ratings of perceived personality traits was seen in patients after orthognathic surgery. Following surgery, people were perceived to be more trustworthy, dominant, friendly, attractive, intelligent [86]. Both women and men after facial cosmetic surgery might experience increased ratings of perceived personality traits when compared to preoperative judgements and these changes are related to specific area of the face and depend on the patient gender [87, 88]. For example, male patients after face-lift, resulting in corners of the mouth lifting and in improvement of cheeks fullness, are noted to be more trustworthy and likeable. Whereas females undergoing face-lift are noted to be more likeable, feminine, attractive and demonstrated improvements in perceived social skills. Men after blepharoplasty are judged to be more trustworthy and likeable than before the surgery. Blepharoplasty causes in women increased ratings of trustworthiness, attractiveness and femininity. Taken together, these findings also suggest that different areas of the face are diagnostic regions for specific emotions and personality traits. Fullness of the cheeks and the corner of the mouth, for instance, are diagnostic regions for happiness and are useful in perception of specific personality traits such as likeability, extroversion and social skills. The eyes are diagnostic for vitality and trustworthiness. Enlargement of the palpebral fissure

results in more engaged and less tired look which positively affects personality perception [88].

Also studies concerning people with facial disfigurement demonstrated less favorable ratings of personality traits when compared to individuals without facial abnormalities. These findings are shown in researches with use of pictures of children's facial deformity [89] who were judged to be significantly less popular, less friendly, less attractive, less intelligent and less probably to be chosen as a friends than faces without deformations. Similar results were presented in the study with the use of stimuli consistent of adults' faces with disfigurement that were judged to be less trustworthy, honest, optimistic, employable, intelligent, popular as well as less beautiful in comparison with faces with normal appearance [90]. The examples given above confirm the validity of the formulated hypothesis that a stereotype assuming that a "disfigured is bad" actually exists. What is more, it is also confirmed in the findings of the additional study in which authors demonstrated that people with facial disfigurements were judged to possess more negative characteristics when compared to individuals who had received treatment of these disfigurements [91]. Namely, pictures of disfigured faces (affected for example by scars, carcinoma, disfigurements of the facial bones or facial trauma) were compared with posttreatment pictures. Posttreatment patients were rated to be more intelligent, trustworthy, hardworking, popular, dominant, attractive and happier than individuals with disfigured faces.

Faces with smoother skin (without wrinkles, large pores, uneven pigmentation, or birth marks) are judged to be more attractive, and this in turn cause increased ratings of perceived trustworthiness and competence [80]. Results of another study show that individuals with facial skin blemishes are perceived as less component, trustworthy, mature and attractive than people with faces without blemishes [81]. In another study, two versions of each pictures of children with digitally added or removed facial differences such as for example scars after burns or infantile hemangiomas were used. It was done to assess the impact of facial differences on perceived characteristics and on desire to interact with presented children. Results indicate that kids with facial differences are judged to be significantly less attractive, likeable, happy, less good at learning and less popular when compared to those without skin changes. Moreover, facial skin lesions resulted in decreased willingness to have interactions with those children [92].

The examples given above clearly indicate that healthy facial skin actually increases facial attractiveness and as a result it might signal positive characteristics which is in line with the concept of halo effect. Halo effect (also known as aureole effect) is a term named by psychologist Edward Thorndike and is used in psychology since 1920 when the phenomenon was described in his article. It refers to tendency to make judgements about people one the basis of their appearance [93]. It is a type of cognitive bias connected with humans' tendency to assume that a person's attractiveness is connected with personality traits. Halo effect refers to the situation when an attractive person is believed to be happier, more intelligent and tend to have a better job than less attractive ones. Whereas a negative form of the halo effect, called the horns effect, refers to the opposite situation and in this case unattractive appearance gives rise to negative inferences about the qualities of that person's character.

Review of the available literature indicates the magnitude of researches on the facial attractiveness and its impact on perceived characteristics. Nevertheless, it is impossible to quote all of them. Here we proved, that attractiveness is undeniably positively connected with desired personality traits. Moreover, we revealed that during the recognition of the stranger, face is the most essential part of his or her body and provides the most important information about this person. Involuntarily the question arises: at which part of the face do people look at firstly? We will answer this question in the next part of this publication.

2.6. Which part of the face is firstly observed during the face recognition?

Because of humans curiosity about mechanisms associated with the face recognition there was a need for the use of technology that allows to determine which parts of the stranger's face and in which order are observed during the face recognition. Moreover, researchers wanted to know which part of the human's face is essential during attractiveness ratings and emotion or characteristics recognition. Then, the eye-tracking technology which is used to assess the differences in the eye movements of study participants, turned out to be very helpful. Eye movements are an immediate measure of visual attention orientation and might be evaluated non-invasively without a normal viewing process disruption [94]. Analysis of the movements of the eyes is a source of knowledge about the visual perception process. Due to the growing availability of the eye-tracking systems, it has been broadly used to study psychological and behavioral science across a multiplicity of disciplines. Amongst the visual perception of numerous different scenes and objects, facial perception is crucial for humans.

Faces convey very important in social communication information, for example about one's emotional state. On the basis of the results from numerous studies we know, that during the recognition of facial emotions some regions are more diagnostic than the others. During differentiation of the emotional faces from the pictures presenting six emotional expressions and neutral expression, eye-movements were recorded [95]. Analysis of the data revealed that study participants subconsciously fixated their eyes onto certain facial regions that are essential for successful different emotions recognition. Namely, stimuli eyes were observed for the longer time by study participants when the faces expressed anger, shame, sadness and fear. Participants looked longer at the upper lip when the faces presented joy and disgust. The more neutral the faces were, the more frequently study participants fixated at the region of the stimuli eyes [95]. Moreover, this research revealed that the upper nose area was fixated to the greatest degree as the participants' first fixation. Similar results were received in another study: the first facial fixation (but second fixation generally) in sad and angry expression of the face was significantly more often issued to the eyes area in comparison with different facial areas. Moreover, the eyes were most commonly fixated in angry and sad faces. Whereas in neutral, fearful and happy expressions the first facial fixation was significantly more frequently issued to the mouth area and it was also, together with the eyes area, the most frequently fixated region. In happy faces participants fixated their eyes longer on the area of the mouth in comparison with fearful and sad expressions. Nevertheless, the eye region was fixated for longer durations in comparison to other areas of the face, regardless of presented face emotions. [96]. Whereas in this study the very first fixation was the most often localized beyond facial area, including for example hair and ears of the stimuli.

Review of the literature revealed the between sexes differences in eye movements during the facial emotion recognition. Although both females and males more frequently fixated at the eyes area and also spent more time observing the eyes region (both right and left eye), men were significantly longer viewing the area of the nose and mouth than females. Moreover, males made significantly more fixations at the nose region than women. Therefore, this study shows that the attention paid to the nose observation might differentiate the eye movements pattern between the sexes [94].

Summarizing, various facial regions include more or less information necessary for emotion recognition. The most diagnostic areas of the face for emotion recognition are eyes, mouth and nose.

Eye tracking studies analyzing eye movements show evidence for the presence of characteristic fixation patterns that humans display when viewing faces. People move their eyes into the most diagnostic, for a given task, regions.

For example, humans display different eye gaze patterns when observing attractive and unattractive faces. Findings from the eye-tracking experiments show that perceivers of both sexes spend more time viewing attractive faces when compared to time devoted to observation of less attractive faces and this effect is present in both: more complex, reminding real-word scenes [97] as well as in experiments using as a stimuli only a human's face [98, 99]. Moreover, results of these experiments show that fixations are longest when observer is viewing female faces [98, 99] and also when the observer is a woman [97].

Furthermore, results of the studies in which participants were allowed to control the stimulus display duration show that males, in comparison to females, are more likely to look longer at attractive female faces than the same-sex faces. Whereas women dispersed their visual attention between attractive male and female faces more evenly than male perceivers did. These findings demonstrate that gender of the perceiver as well as gender of presented face have an impact on perception of attractiveness [100, 101].

Also eye-tracking research provides proof that there are sex differences in processing images of heterosexual couples. Namely, males looked longer and more frequently at opposite sex figures than the same sex figures when compared to women. Whereas females spent more equal amount of time viewing figures of the same and opposite sex than it was observed in men [102].

These between sexes differences in predisposition to a longer time of observation of attractive faces might be once again explained by an evolutionary perspective, according to which males prioritize physically attractive females because of their high reproductive value. Attractiveness is being connected with health which in turn is related to fertility. Whereas when gazing at same sex stimuli, women looked at female faces longer than men observed male faces. This finding is also clarified by an evolutionary perspective. For women, high level

of physical attractiveness is not obligatory when looking for a mate and future father for their offspring, because more important are social characteristics such as dominance and prestige. Whereas other attractive females might attract women's attention because of the fact of being a potential rival in a process of a mate searching [99].

Recent studies, using both: eye-tracking technology and attractiveness ratings of facial stimuli, have shown that both genders participants judged female faces to be more attractive than male faces, whereas this tendency was stronger in masculine than in feminine observers. These results are consistent with the findings from previous studies describing stronger preferences for attractive faces of opposite-sex in men than in women. Moreover, attractive faces attract attention more efficiently than faces rated to be less attractive [103]. Similar results were found in studies in which participants were asked to identify the more beautiful face amongst the two presented faces [104]. Observers tended to shift their gaze toward the face that was judged by them to be more attractive. However, some authors suggested that the choice made by study participants might have been confounded by the task that had to be performed: they had to indicate the more attractive face [105]. For this reason, mentioned authors pointed out that a free observation might exclude the impact of a specific task on the gaze patterns. Free viewing tasks were used for example by Maner at al. [98]. In this experiment observers were allowed to freely viewing attractive and less attractive faces. Also Leder et al. who used pictures of two individuals in street scenes allowed study participants to free observation of stimuli [97]. As a result, it was found that attractive faces were observed longer than faces judged to be less attractive [97].

Moreover Leder et al. [105] decided not to use faces only more and less attractive as it was done in previous experiments. The authors suggested that these stimuli did not necessarily reflect the variation of beauty of the faces that might be seen in everyday life situations. As a result, they used in their study photos of two faces of different ranges of attractiveness placed in natural urban scenes to verify if the linear correlation between the facial attractiveness and eye-movements pattern exists. The authors hypothesized that with the increasing attractiveness of the face, the observers would look longer and more often at presented faces. Additionally, they hypothesized that these gaze pattern differences would be more pronounced during the observation of the opposite sex face than the same sex face. In the first part of the experiment, participants freely observed the images without additional

task. Whereas in the second block, observers judged attractiveness of the two faces presented on the photo. Results indeed confirmed the hypotheses. With the higher ratings of facial attractiveness, the time of facial observation increased. Namely, total fixation duration increased and this correlation was stronger when observer looked at opposite sex faces than the same sex faces. Moreover, this experiment confirmed findings from the previously mentioned studies that during the observation of the picture presenting different sexes faces, both females and males looked longer as well as more frequently at female faces in comparison with male faces and also judged them to be more attractive than male faces [105].

On the basis of observer's eye movements and by following fixation positioning, researchers are able to assess which areas of the face are taken into consideration during the facial attractiveness judgements. In one study, 15 images of female faces with neutral expression were used and participants were asked to assess attractiveness of the presented female faces. Eye-tracking technology revealed that participants firstly fixated on the area of the eyes and mouth, followed by the nose region. Whereas nose was observed significantly longer and with greater number of fixations than female eyes and mouths. Moreover, men made significantly more fixations during female faces observation than women did. Therefore, this study also revealed between gender differences in gaze patterns during female facial attractiveness rating. Summarizing, this study found that the area of the nose is crucial for attractiveness ratings of female faces [106].

2.7. Impact of facial skin changes and deformities on the eye gaze patterns and ratings of attractiveness

In another study [107], researchers used eye-tracking technology together with pictures of originally healthy skin faces that were modified by investigators. Namely, acne skin lesions were located on the cheeks, forehead and chin of stimuli faces. Study participants were both acne patients and free-acne controls. They were asked to assess attractiveness of observed faces: with and without acne lesions. Attractiveness was rated using 5-point Likert scale. Results indicated that both groups of participants judged faces with acne to be less attractive than free-acne faces. Moreover, ratings of attractiveness of faces with acne obtained from acne patients were lower than these from acne-free observers. Using data from the eye-tracker, researchers concluded that free-acne participants spent more time viewing acne lesions than healthy skin areas. What is more, acne patients fixated longer on areas containing

acne lesions when compared to control participants. Facial acne vulgaris is a potentially disfiguring dermatosis characterized by papules, pustules or even nodular abscesses that might result in scarring. For this reason acne localized on facial skin has negative impact on acne patients' life. Acne skin changes localized on the face decrease judgements of attractiveness and can lead to social isolation of acne patients [107]. Enhanced attraction on areas of acne changes by acne participants might be caused by their own complexes associated with this dermatosis.

Analysis of the previously published studies revealed that humans usually observe new face in a predictable manner [108]. Movements of their eyes create almost triangular shape resulting from longer fixations on the areas of the eyes, nose and mouth. Ishii et al. checked how facial peripheral deformities modify this typical eye gaze pattern. The movements of the eyes were recorded during the observation of pictures of faces without and with facial deformities located peripherally [108]. Results indicated that faces without deformities were observed in a typical manner: most of fixations occurred on the eyes, nose and mouth, and therefore typical triangle eye movements pattern was maintained. Whereas during the observation of the same face with subtle defect localized on the cheek and then with postoperative surgical defect, observers firstly paid their attention on the lesion and on the deformity area. Subsequently, participants moved their eyes to the typical triangle region covering the eyes, nose and mouth. Therefore, their study provide an evidence that during the observation of the faces with deformities, people relocate their visual attention from the typical triangle (eyes, nose, mouth) into the deformity region. Whereas authors of the more recently published research [109] presented slightly different findings. Their study found that depending on the facial skin lesions anatomical location, skin changes have various impact on the perceiver's visual attention. Researchers identified two distinct zones differing in the visual attention paid to various anatomical regions of the faces with skin lesions with the use of the eye-tracker. Authors proposed a 2-tier hierarchy model of visual recognition of the faces with skin lesions: regions that receive high visual attention (including the frontal, nasal, ocular and perioral areas) and areas receiving low visual attention (including the remaining anatomical locations). The high-visual attention cluster received significantly greater number of fixations compared to other facial areas, whereas skin lesions located in the other locations decreased attention paid to aforementioned cluster. Skin lesions in the perioral, frontal, ocular

and nasal area increased visual attention paid to these anatomical locations and the increase was the highest for the frontal region. These findings are in contrary to previously published research [108] emphasizing fact that the visual attention is most often attracted by the central facial triangle. These discrepancies might be caused by the fact that the visual attention paid to the frontal area was not taken into account in the analysis [108].

The studies given above demonstrated the evidence that facial skin lesions have a negative impact on perceived attractiveness, the question arises whether all facial skin lesions impact attractiveness ratings to the same extent, regardless of lesion size or location? Godoy et al. decided to find the answer to this question [110]. As stimuli they used pictures of faces without and with facial lesions or deformations. Study participants were asked to assess the attractiveness of presented faces. Results indicate that faces with lesions were judged to be less attractive than healthy faces and these ratings were dependent on the lesion's size but no location. The bigger the lesions were, the lower the rating of facial attractiveness was. Surprisingly, central versus peripheral lesion location on the face did not result in significantly decreased attractiveness ratings. Whereas observers considered small and large lesions located centrally and only large lesions located peripherally to be disturbing and important to be repaired. This experiment provides the evidence that size and location of facial lesions have an impact on the manner of face perception. Whereas attractiveness depends on the lesion size but not on the lesion location.

2.8. The present study

The findings described above became a point of departure for this study. In three parts of our research, we used pictures of female faces without skin changes and with hemangioma in different facial localizations. Hemangiomas are group of vascular anomalies found on skin that are most common in infants and children but adults can also develop them [111]. Although majority of them are not life-threatening, hemangiomas, especially in visible to other people locations, are disfiguring. In our experiment, we used combination of the eye-tracking technology with a self-created questionnaire (Figure S1 in the Supplementary Appendix) to identify gaze patterns across the general adult participants and also divided into different subgroups on the basis of their sex, age and educational level. Moreover, we wanted to determine how presented unfamiliar female faces without facial skin lesions and with hemangiomas are judged in terms of their attractiveness and personality traits. Summarizing,

we expected that in line with the experiments reviewed above, study participants have negative biases against female faces with skin changes.

2.9. Hypotheses

This study tests six hypotheses:

1. We presumed that female faces without skin lesions will be viewed in a predictable manner that was found in previous experiments during the observation of the attractive novel female faces without skin changes or deformities. Namely, observers spent more time fixating on the areas of the eyes, nose and mouth.
2. We expected that during the observation of the female faces with hemangiomas, study participants will relocate their visual attention from the typical central triangle eye gaze pattern including the eyes, nose and mouth of presented stimuli into the hemangioma area and will firstly look at as well as spend there most of the observation time.
3. It was also hypothesized that female faces with hemangiomas, similarly to people judged to be unattractive, will be assessed to be less attractive and to possess less desirable in society personality traits than female faces without facial skin lesions.
4. Further, it was postulated that males would make more fixations during the observation of the opposite sex healthy skin faces than females observing the same sex stimuli.
5. We also hypothesized that eye gaze patterns observed during the viewing the pictures of female faces without skin lesions and with hemangiomas will differ between observers depending on their age, sex and educational level.
6. Finally, we presumed that study participants' eye gaze patterns during the observation of female faces will vary between the "free-observation" when observers will not have any additional task, and the "task-specific observation" associated with assessment of the facial attractiveness.

3. Materials and methods

3.1. Participants

107 participants (77 female, 30 male) were recruited for this study from the patients of the General Practitioner Practice. Results from 9 participants were excluded from the data

analysis due to unreliable eye movements recordings, due to interference from eyeglasses, or because of head movements. After data exclusion, the dataset of 98 individuals (70 female, 28 male) entered the final analysis. Age of participants ranged from 18–79 years (mean age = 49.26 years, SD = 15.109). Prior to participation, study participants were informed that the task was about watching photos and answering questions related to the pictures but were naïve to the fact that movements of their eyes were going to be recorded. Each person had normal or corrected to normal visual acuity and none of them had psychiatric or neurological disease. The participants were volunteers and did not receive money as compensation. Before participation in the study, all participants gave written informed consent. The study was conducted with approval from the Bioethics Committee of the Nicolaus Copernicus University in Toruń functioning at Collegium Medicum in Bydgoszcz (Bioethics Committee approval number KB 533/2021, Figure S2 in the Supplementary Appendix).

3.2. Stimuli

Stimuli for the current study consisted of 27 photographs of 3 young female faces with neutral expression and a closed mouth. To reduce any bias due to signs of senescence, we chose young female adults without visible signs of aging. All of the faces were in frontal orientation. These photos were selected from The Ethnic Origins of Beauty project photographed by Natalia Ivanova. Women in the photos were unknown to the study participants. This set of pictures was comprised of 3 different female faces, each presented with one of eight hemangioma localizations as well as without skin lesion.

Using Adobe Photoshop, the hemangioma, extracted from the pictures of skin lesions from the one of the author's archive, was put on the photo of each of 3 survey subjects to create 24 new photographs. For each of these three female faces we created nine pictures composed of one healthy skin face and eight faces with different localizations of the same highly salient lesion. These eight locations of hemangioma were repetitive across the three female individuals and include the following face regions: left eyebrow, right cheek, left side of the lower nose, left side of the forehead, right lower eyelid, left side of the upper lip, center of the forehead, right side of the lower lip. Left and right refer to the side of the model's face. All presented faces were of comparable size and were aligned for interpupillary lines. Photographs were presented in random order.

3.3. Equipment

The experiment was conducted at the moderately lit doctor's office. The various aspects of eye movements of the study participants were recorded using the Gazepoint GP3 HD Eye Tracker. This eye tracker has a sampling rate of 150 Hz and a 0.5-1 degree of visual angle accuracy with a 0.1 degree spatial resolution. This device works with most contact lenses and glasses.

The eye tracker was placed on the keyboard as close to the lower edge of the screen as possible and angle upwards to approximately 45º towards participant's face. Laptop was positioned so that the eye tracker was located approximately 65cm from users' eyes. Participants were asked to maintain the viewing distance throughout the experiment. Before the experiment, the eye tracker was calibrated for the specific user with a 5-point calibration.

Study participants were viewing stimuli in the Gazepoint Analysis software on a 15,6-inch Acer Aspire 5 i5 laptop screen with a resolution of 1920 x 1080 pixels (Full HD), refresh rate of 60 Hz. Moreover, the Gazepoint Analysis software running on the same Acer laptop using Windows 10 was used to record participants' gaze data.

3.4. Procedure

Volunteers were seated in a dimly lit testing room and were tested individually. Participants of the study were informed that the examination consisted of watching photos and answering questions related to them. The participants were not informed about the experimental design, the hypotheses of the study nor about the fact that the equipment enabled recording of their eye movements. Prior to the beginning of the experiment, participants gave written informed consent. Each participant was also asked to fill out an invented by us questionnaire (Figure S1 in the Supplementary Appendix), which included age, sex, education level, presence or absence of: skin disease located at the participant's face, eye diseases as well as neurological or psychiatric diseases. History of neurological disorders or use of psychotropic drugs were exclusion criteria but none of the participants answered positively.

Study participants were seated in front of testing laptop. Before the beginning of the experiment, participants were informed how to position themselves. Each study participant was positioned approximately 65 cm from the monitor and the eye tracker. 65 cm is roughly

equal to arm's length away for most people. Gazepoint GP3 should be positioned about 40 cm below the user's eyes level so an adjustable chair was used for easy adjustment of participant height. The GP3 device was angled and pointed at the user's face. Gazepoint Control software was used to help with positioning and calibration. In Gazepoint Control software there was a circle indicator below the buttons which changed to green and moved to the center when the distance between user and eye tracker was optimal. When the user was too close or too far, the indicator turned red. The participant's eyes were highlighted with green boxes, when the Gazepoint GP3 device had acquired gaze tracking.

Stimuli were presented using Gazepoint Analysis software. Before each participant viewed stimuli, a 5-point calibration was performed. To calibrate the eye tracker for the specific user, participant had to follow the white dot around the 5 calibration points with eyes. This calibration was repeated between the parts of the experiment.

The main experiment was divided into three parts. Firstly, participants were presented with 27 pictures of female faces in a randomized order. Each picture was presented for 5 seconds. During the first part of the experiment the photos were freely viewed and we did not require another activity of the participants. We called this "free observation". Eye movements were recorded during this part of the experiment. In the second part of the experiment each of the 27 pictures again appeared on the screen for 5 seconds and were presented in random order. After each image was shown, the study participants judged the attractiveness of the presented face using a 5-point Likert scale with 1 representing unattractiveness and 5 representing attractiveness. They indicated their responses by speaking loudly their scores. Ratings were noted by the researcher. During the judgment task eye movements were recorded and we called this "task-specific observation". The third part of this experiment consisted of total of 27 pictures presented in a randomized order without a time limit. The pictures were identical to the ones used in the previous parts of the experiment. Study participants were asked to assess their perception of each subject presented in the photographs based on 5 personality traits (intelligent vs unintelligent; self-confident vs unconfident; trustworthy vs untrustworthy; kind vs unkind; dominant vs submissive). We used a 5-point Likert scale to determine how dermatologically healthy and those with hemangioma facial images were perceived on 5 personality traits. The respondents rated the level to which, on the basis of their subjective perception, presented female faces represented given

features. Raters used 1 for the lowest degree and 5 for the highest degree of assessed feature. Responses were noted by the researcher. During the third part of the experiment eye movements were not recorded.

3.5. Data management and statistical analysis

The collected from paper questionnaires data were transferred to a database created in Microsoft Excel. The data collected using the Gazepoint GP3 Analysis software were also entered into a created with the use of Microsoft Excel database. Statistical analyses were performed in a programming language Python (version 3.8.10) with libraries: Pandas (version 1.4.3), Numpy (version 1.23.1), Matplotlib (version 3.5.2), Seaborn (version 0.11.2), Pingouin (version 0.5.2), Prince (version 0.7.1), Scipy (version 1.9.0). In all analyses the statistical significance level was defined as *p*-values less than 0.05.

The Gazepoint Analysis software allows to predefine specific AOIs and eye-tracking variables are based on them. In this study, the AOIs were chosen to represent the left and right eye (EyeL, EyeR), nose (NS, UN, LN) mouth (M) as well as hemangioma (SC). SC AOI was not present on the pictures of female faces without skin change. Pictures of female faces used in our experiment were combined into one image and together with hemangiomas in eight locations as well as with predefined AOIs are presented below (Figure 1). Names of the used pictures that are presented later in this publication are based on the hemangioma location: BASE (without skin changes), EYEBROW LEFT (hemangioma localized near the left eyebrow), CHEEK RIGHT (hemangioma on the right cheek), NOSE LEFT (hemangioma on the left side of the lower nose), FOREHEAD LEFT (hemangioma on the left side of the forehead), EYELID LOWER RIGHT (hemangioma on the right lower eyelid), LIP UPPER LEFT (hemangioma on the left side of the upper lip), FOREHEAD CENTER (hemangioma in the middle of the forehead), LIP LOWER RIGHT(hemangioma on the right side of the lower lip).

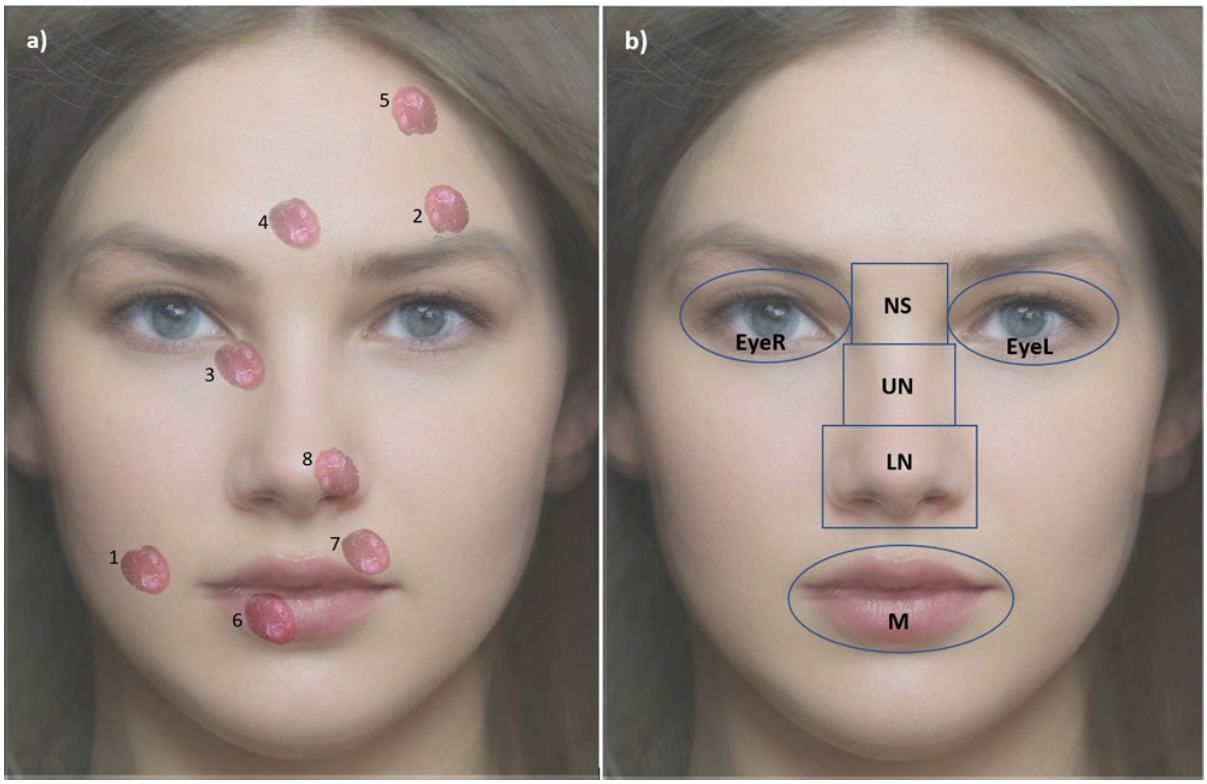


Figure 1. Combination of three female faces used in this study into one photo a) with hemangiomas in eight different locations: 1. on the right cheek, 2. near the left eyebrow, 3. on the right lower eyelid, 4. in the middle of the forehead, 5. on the left side of the forehead, 6. on the right side of the lower lip, 7. on the left side of the upper lip, 8. on the left side of the lower nose; b) with AOIs: EyeR , EyeL, NS, UN, LN, M. During the experiment only one face with only one facial location of hemangioma was presented at a time.

To verify the hypotheses we used the following eye-tracking variables within the predefined AOIs: viewed time (in seconds), time to first view (in seconds), number of fixations and number of revisits.

In the present study, statistical analyses used different variables and various methods to verify the hypotheses. To examine which facial areas were fixated for the longest time we used mean time of AOI observation for faces without skin lesions obtained from the "free-observation" task and subsequently we used the one-sample t-test. And afterwards, we checked if mean time of AOI regions observation differed significantly from the half of the whole observation time (which was 5 seconds) for each picture. Significance was set at $p < 0.05$.

To verify if hemangioma was observed as the first one, we analyzed the elapsed time to first look at each of the facial AOI during the "free-observation" eye movements data obtained

from the first part of the experiment. Photos of faces without skin changes were not taken into consideration. Then, we analyzed the frequency with which each AOI of each picture was observed as the first one. Later, for each of eight hemangioma locations, obtained data were averaged and used to perform the correspondence analysis to reveal the relationship between the AOIs and skin change locations. To find out if skin lesions were observed for the longest time, we used the mean time spent on the observation of the each AOI during the "free-observation", separately for eight different hemangioma locations. The one-way repeated measures ANOVA with areas of interest and skin change locations as factors was performed. If the significant differences were confirmed, post-hoc Student's t-test with Bonferroni correction was performed. Finally, additional analysis of correspondence for mean time of AOIs observation was carried out to reveal the relationship between the AOIs and skin change locations.

To verify if females with facial hemangiomas are assessed to be less attractive and to possess less desirable in society personality traits than female faces without facial skin lesions, obtained ratings of each characteristic were averaged with division into nine types of pictures (without and with eight different hemangioma locations). Subsequently, repeated measures ANOVA was performed. If there were significant differences in ratings depending on the hemangioma localization ($p<0.05$), post-hoc Student's t-test with Bonferroni correction was performed.

Mean number of fixations made by males and females viewing healthy skin female faces were used and a t-Student test for two independent samples was run to determine if men made significantly more fixations during the opposite sex faces observation than women did when viewing the same sex stimuli.

To verify if eye gaze patterns vary between participants divided into groups on the basis of their age, sex and educational level, we used mean observation time, mean number of fixations and mean number of revisits per each AOI for nine types of presented pictures (without skin lesions and with eight hemangioma locations) and for particular study participant. The mixed ANOVA was conducted to find out if there were significant differences in gaze patterns between analyzed groups. If differences were significant, we used post-hoc test to determine where the differences between the groups were.

Finally, to find out if eye gaze patterns differ between the “free observation” and “task-specific observation” associated with the facial attractiveness assessment, values of analyzed variables: observation time, number of fixations and number of revisits, were averaged for different types of photographs (depending upon the skin change localization) as well as for each AOI and for particular study participant separately for the two types of observation of the photos. The mixed ANOVA was conducted to find out if there were significant differences in gaze patterns between “free observation” and “task-specific observation”. If differences were significant, we performed ANOVA post-hoc test (Bonferroni Correction) to determine between which variables the differences were.

The section of results presents only the main effects and interactions between the analyzed variables that base on the experiment hypotheses. The Supplementary Appendix provide a full list of detailed results of statistical analysis.

4. Results

4.1. Characteristics of the study participants

There were 98 study participants. We adopted a division of study participants into age groups similar to that used by Lamont et al. in their face recognition study [112]. Nevertheless, for the needs of analysis conducted in our experiment, we made some changes and divided participants into the following three age groups: young adults 18-40 years, middle-aged adults 41-59 years as well as old adults 60 years and over.

The majority of respondents were female (71.4%), age 41 to 59 years old (37.8%). Approximately half of the respondents, or 51 percent, had a lower education level*, while the remainder had a higher degree. Characteristics of the study participants are summarized in Table 1 and Figure 2.

Table 1. Participants' characteristics.

Characteristic	N (%)
Sex	
Male	28 (28.6)
Female	70 (71.4)
Age	
18-40	31 (31.6)
41-59	37 (37.8)
⩾60	30 (30.6)
Education level	
Lower*	50 (51)
Higher	48 (49)

*elementary/secondary/vocational education

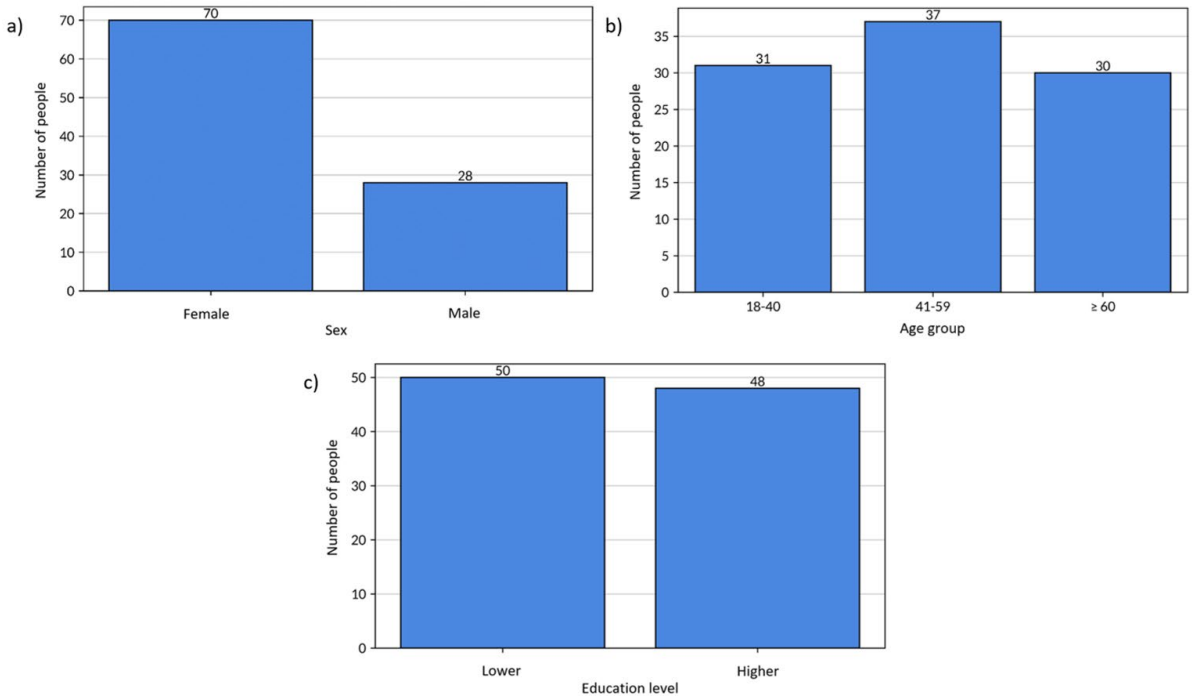


Figure 2. Series of charts presenting characteristics of the study participants: a) sex, b) age groups, c) education levels.

4.2. Eye gaze patterns during the healthy skin face observation

The one-sample t-Student's test shows that mean time of AOIs observation of the healthy skin female faces during the first part of the experiment ("free-observation") differed significantly ($p < 0.05$) from the half of the whole observation time (set as 5 seconds) for each picture (Table S1 in the Supplementary Appendix).

This analysis allowed to confirm the hypothesis that during the observation of the images of female faces without skin changes, people most often focused their eyes on the region of nose, eyes and mouth of presented female faces.

4.3. Impact of facial hemangiomas on eye gaze patterns

Analysis of the time that elapsed to the first look at each of the facial AOI revealed how often particular AOI was observed as the first one (Table S2 in the Supplementary Appendix). Later, for each of eight hemangioma locations, data obtained from the observation of three different faces from all participants were averaged (Table 2).

Table 2. Mean frequency with which participants of the study chose each of seven AOI (EyeL, EyeR, LN, M, NS, SC, UN) as their first AOI-related fixation region. Analysis was performed for each of eight hemangioma locations (EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT).

	EYEBROW LEFT	CHEEK RIGHT	NOSE LEFT	FOREHEAD LEFT	EYELID LOWER RIGHT	LIP UPPER LEFT	FOREHEAD CENTER	LIP LOWER RIGHT
EyeL	25.666667	17.666667	10.333333	17.666667	9.333333	11.000000	11.000000	9.666667
EyeR	15.000000	12.000000	8.333333	7.666667	24.333333	13.666667	8.666667	11.333333
LN	11.666667	11.333333	42.000000	17.666667	12.333333	16.000000	18.666667	16.000000
M	6.333333	11.333333	11.666667	7.000000	4.333333	19.333333	10.000000	27.000000
NS	11.333333	10.333333	6.666667	5.000000	13.000000	10.000000	15.333333	19.666667
SC	16.666667	22.666667	3.000000	23.000000	15.333333	7.333333	19.000000	0.666667
UN	8.333333	10.333333	13.333333	14.333333	17.333333	16.666667	10.666667	10.000000

To reveal the relationship between the AOIs and hemangioma locations, the correspondence analysis was performed (Table S3 in the Supplementary Appendix). Results of this analysis are presented in the Figure 3.

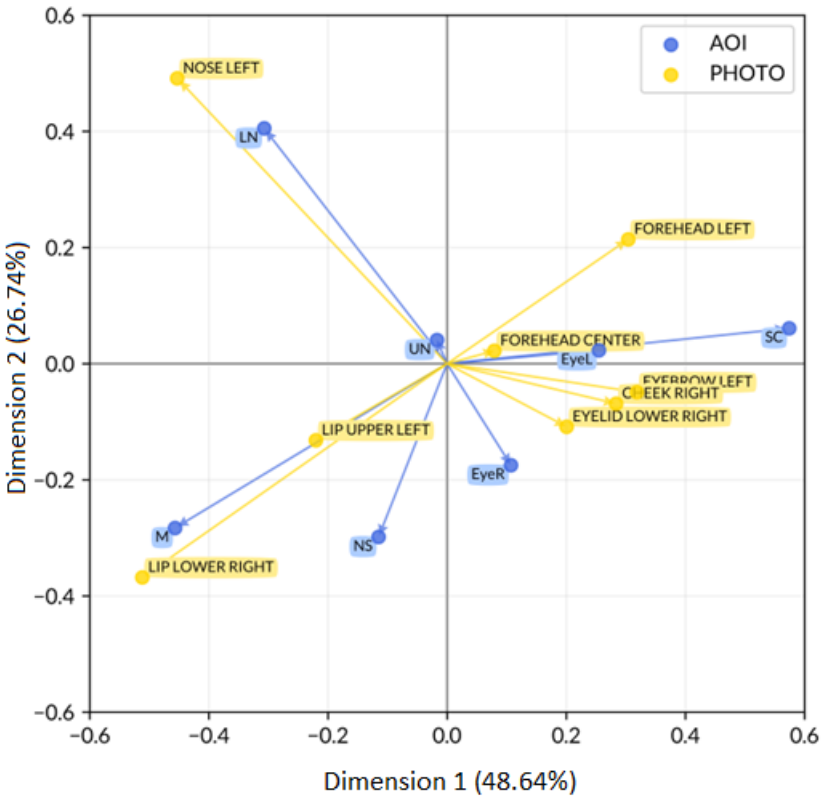
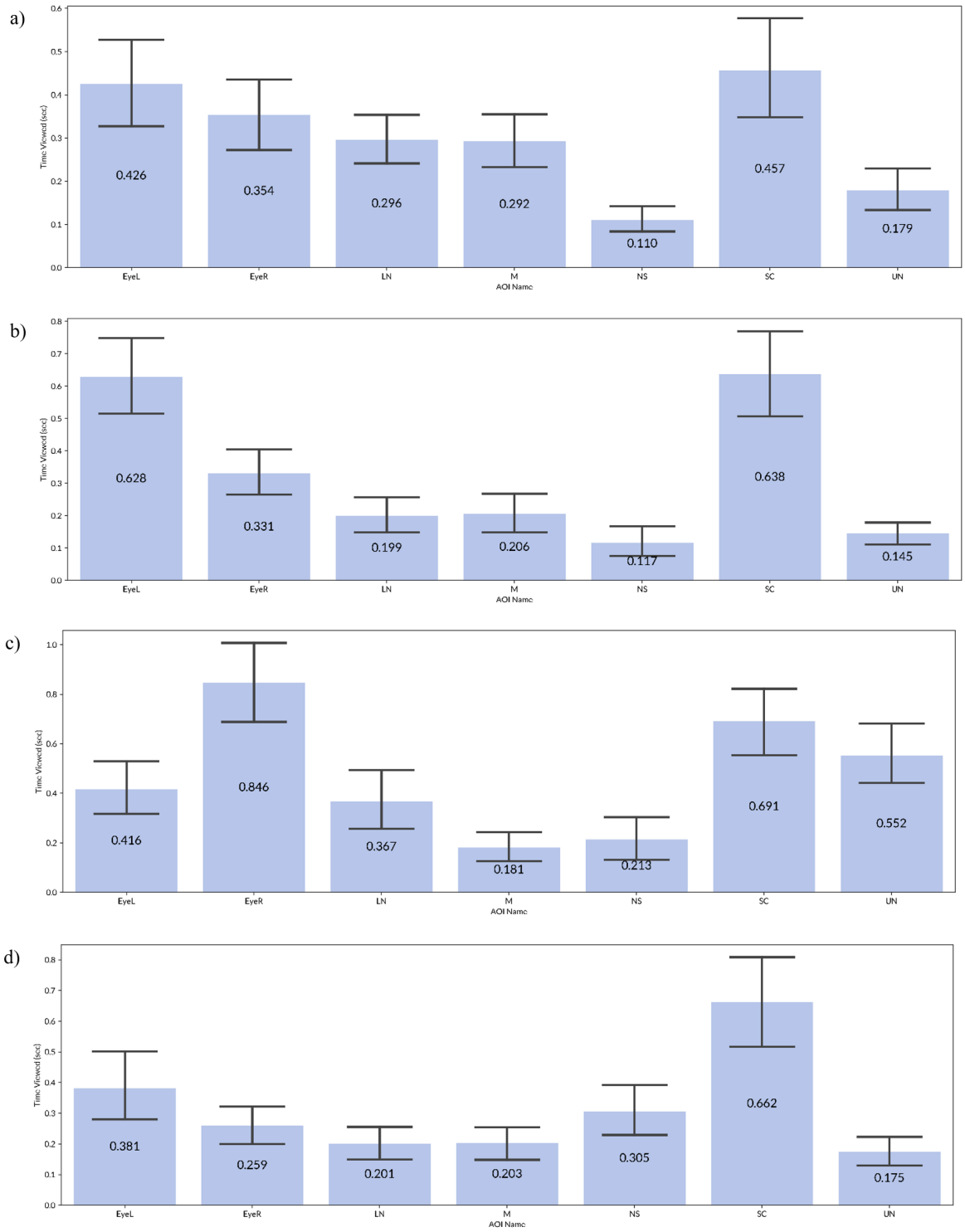


Figure 3. Graphical representation of the correspondence analysis results. Blue dots and lines are representing seven AOIs (EyeL, EyeR, LN, M, NS, SC, UN). Yellow dots and lines are representing eight different locations of the hemangioma on the presented faces (EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT).

Analysis of the Figure 3 allows to draw the following conclusions. When the hemangioma was on the left side of the lower nose and on the lower or upper lip, study participants more frequently firstly fixated their eyes on the AOI covering an area of the skin change, namely lower nose and mouth. However, when the skin change was placed on the right side of the lower lip, this correlation was more pronounced. When it comes to AOI covering the upper nose we can assume that it's observation as the first region was the least dependent on the hemangioma localization. The weakest resemblance in terms of the first fixation area was observed between the localization of the hemangioma on the right side of the lower lip or on the left side of the upper lip and the left side of the forehead. In contrast, the strongest resemblance in terms of the first fixation region was noticed when the hemangioma was on the right side of the lower eyelid, on the right cheek as well as near the left eyebrow.

Subsequently, to find out if hemangiomas were observed for the longest time, we used the mean time spent on the observation of each AOI, separately for three females and eight different hemangioma locations (Table S4 in the Supplementary Appendix).

Mean observation duration per each AOI (namely sum of all fixations duration per each AOI), separately for eight different hemangioma locations are presented in the Figure 4.



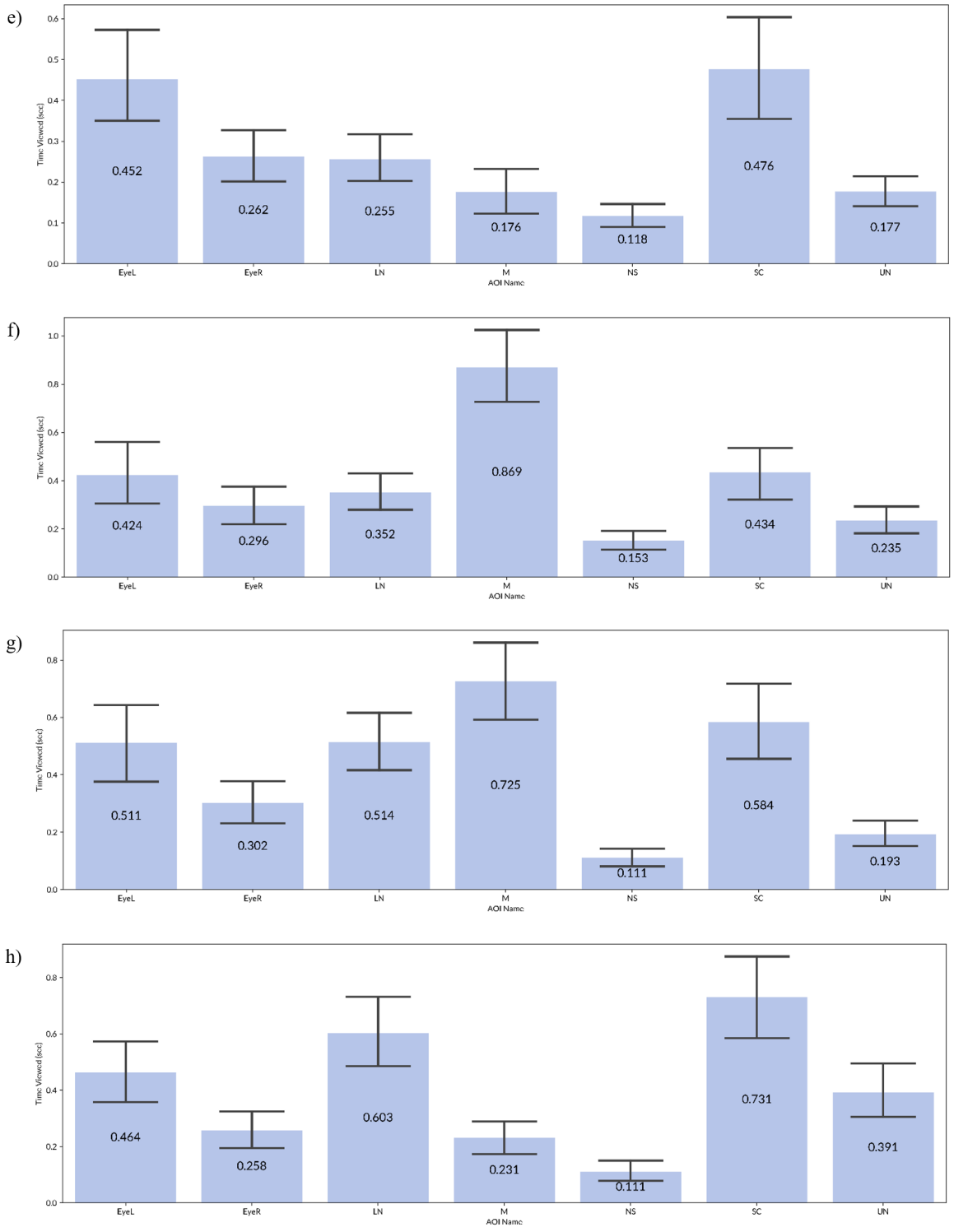


Figure 4. Series of charts presenting average viewing time (in seconds) (y axis) for each AOI (x axis) for the pictures with the hemangioma localized: a) on the right cheek, b) near the left eyebrow, c) on the right lower eyelid, d) in the middle of the forehead, e) on the left side of the forehead, f) on the right side of the lower lip, g) on the left side of the upper lip, h) on the left side of the lower nose.

A one-way repeated measures ANOVA with AOIs and hemangioma localizations as factors showed that there were significant differences ($p<0.05$) in the mean observation time between AOIs in the pictures of female faces with the hemangioma in all eight facial locations (Table S5-S12 in the Supplementary Appendix). Subsequently, the multiple comparison post-hoc tests with Bonferroni correction were performed (Table S13-S20 in the Supplementary Appendix).

Afterwards, we calculated average time of observation of each AOI with the division into eight different types of pictures that were categorized on the basis of skin change localization (Table 3).

Table 3. Average viewing time (in seconds) of each AOI (EyeL, EyeR, LN, M, NS, SC, UN) for eight different hemangioma localizations.

Media Name Loc	CHEEK RIGHT	EYEBROW LEFT	EYELID LOWER RIGHT	FOREHEAD CENTER	FOREHEAD LEFT	LIP LOWER RIGHT	LIP UPPER LEFT	NOSE LEFT
AOI Name								
EyeL	0.425602	0.627861	0.416085	0.381269	0.451646	0.423534	0.511354	0.463514
EyeR	0.353646	0.330861	0.845878	0.259075	0.262092	0.296310	0.301799	0.257571
LN	0.295806	0.199371	0.366973	0.200884	0.255493	0.352014	0.514201	0.603058
M	0.292439	0.205816	0.180769	0.202660	0.176163	0.869337	0.725126	0.230796
NS	0.110248	0.116837	0.213320	0.305058	0.117724	0.152697	0.111412	0.110942
SC	0.456697	0.637585	0.690929	0.661571	0.476031	0.434371	0.584466	0.731354
UN	0.179078	0.144582	0.552493	0.175163	0.176684	0.235456	0.193310	0.391286

To reveal the relationship between the AOIs and hemangioma locations, the correspondence analysis was performed (Table S21 in the Supplementary Appendix). Results of this analysis are presented in the Figure 5.

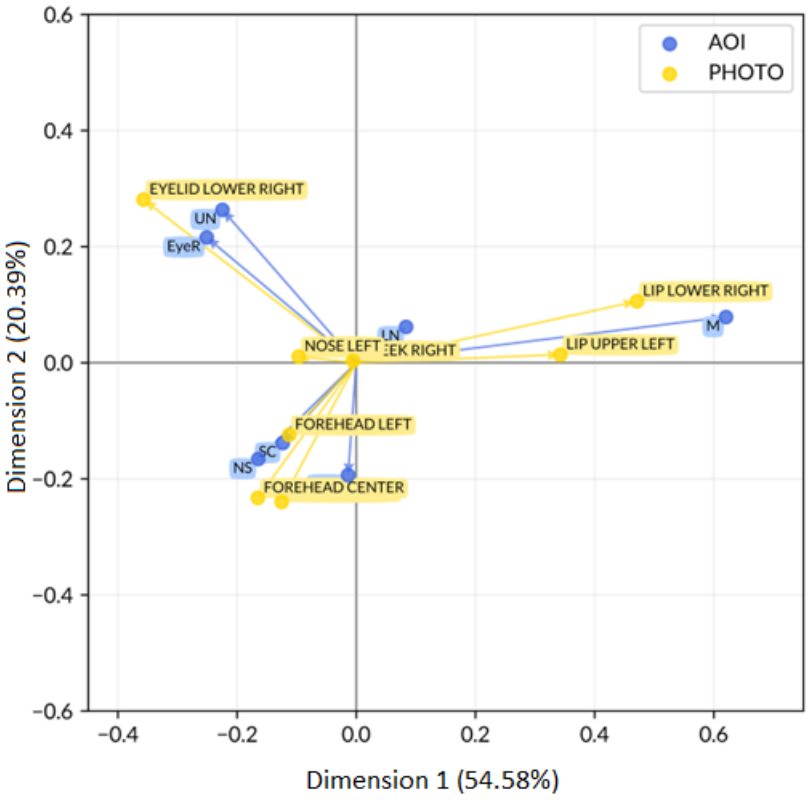


Figure 5. Graphical representation of correspondence analysis results. Blue dots and lines are representing seven AOIs (EyeL, EyeR, LN, M, NS, SC, UN). Yellow dots and lines are representing eight different locations of the hemangioma on the presented faces (EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT).

Analysis of the Figure 5 allows to draw the following conclusions. If the hemangioma was on the right side of the lower lip or on the left side of the upper lip, study participants focused their eyes on the mouth region for a longer time. Observers spent more time observing upper nose and right eye, so the areas covering or being closest to the hemangioma region, when the lesion was localized on the right lower eyelid. Similarly, when the hemangioma was on the left side of the forehead, in the middle of the forehead as well as near the left eyebrow, the longest observed were areas covering or being closest to the skin change region, namely: hemangioma, nasal and left eye AOI. Whereas localization of the skin change on the left side of the lower nose and on the right cheek did not have an impact on longer viewing time of specific AOI.

We hypothesized that during the observation of the faces with hemangiomas, study participants will firstly fixate on the lesion area and this will be the region of the face of the

longest fixation duration. Results of our analysis indicated that location of hemangioma on the lips, resulted in attracting observers' eyes first into mouth region and for the longest time. Whereas when the hemangioma was on the left side of the lower nose, study participants more frequently firstly focused their eyes on this region but it was not associated with longer fixation duration. Moreover, location of the hemangioma on the right lower eyelid, on the left side of the forehead, in the middle of the forehead as well as near the left eyebrow, was associated with longer viewing time of the area covering or placed closely to these places, respectively: right eye and upper nose for the right lower eyelid, and for the rest locations: skin change, nasal and left eye.

Summing up, we can confirm the hypothesis 2 assuming that hemangiomas on the faces are observed as the first ones and for the longest time. However, it must be pointed out that both conditions were met only for certain hemangioma localizations.

4.4. Impact of facial hemangiomas on perception of attractiveness and personality traits

4.4.1. Attractiveness

Figure 6 and Table 4 show the average ratings of attractiveness for each of the hemangioma locations and for healthy skin face as rated by the study participants.

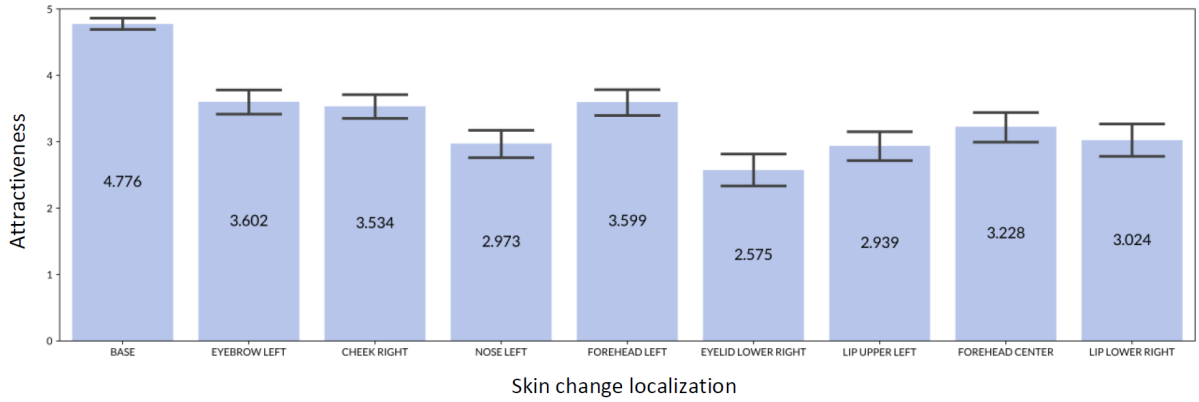


Figure 6. Average ratings of attractiveness (axis y) on the basis of 5-point Likert scale (1 = unattractive, 5 = very attractive) for pictures without skin changes (BASE) and with eight different hemangioma locations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 4. Arithmetic mean, standard deviation and standard error for the attractiveness ratings assigned by study participants depending on the hemangioma localization.

Skin change localization	Arithmetic mean	Standard deviation	Standard error
BASE	4.775510	0.450977	0.045556
CHEEK RIGHT	3.534014	0.900222	0.090936
EYEBROW LEFT	3.602041	0.917762	0.092708
EYELID LOWER RIGHT	2.574830	1.184842	0.119687
FOREHEAD CENTER	3.227891	1.146334	0.115797
FOREHEAD LEFT	3.598639	0.983203	0.099318
LIP LOWER RIGHT	3.023810	1.237307	0.124987
LIP UPPER LEFT	2.938776	1.116724	0.112806
NOSE LEFT	2.972789	1.058077	0.106882

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of attractiveness depending upon the hemangioma localization ($p<0.05$) (Table S22 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S23 in the Supplementary Appendix and are described below.

Healthy skin female faces were rated significantly higher in terms of attractiveness than faces with hemangiomas in all eight locations. Localization of hemangioma on the right lower eyelid caused significantly lower ratings of attractiveness than ratings received by female faces with lesion localized in seven remaining AOI. Moreover, faces with hemangioma localized on the right cheek received significantly higher average ratings than faces with change on the right lower eyelid, on the right side of the lower lip, on the left side of the upper lip as well as than those with hemangioma on the left side of the lower nose. Another finding is that faces with hemangioma localized near the left eyebrow received significantly higher ratings of

attractiveness than faces with lesion on the right lower eyelid, in the middle of the forehead, on the right side of the lower lip, on the left side of the upper lip and also on the left side of the lower nose. When hemangioma was on the left side of the forehead, ratings of attractiveness were significantly higher than those given by study participants for faces with skin change on the right side of the lower lip, on the left side of the upper lip, on the left side of the lower nose, on the right lower eyelid as well as than faces with change in the middle of the forehead.

Above presented analysis allowed to confirm the hypothesis that people with hemangiomas on the face are judged to be less attractive than people without skin lesions localized on the face.

4.4.2. Intelligence

Mean ratings of intelligence assigned by study participants to pictures of female faces without skin changes and with eight different hemangioma locations are shown in the Figure 7 and Table 5.

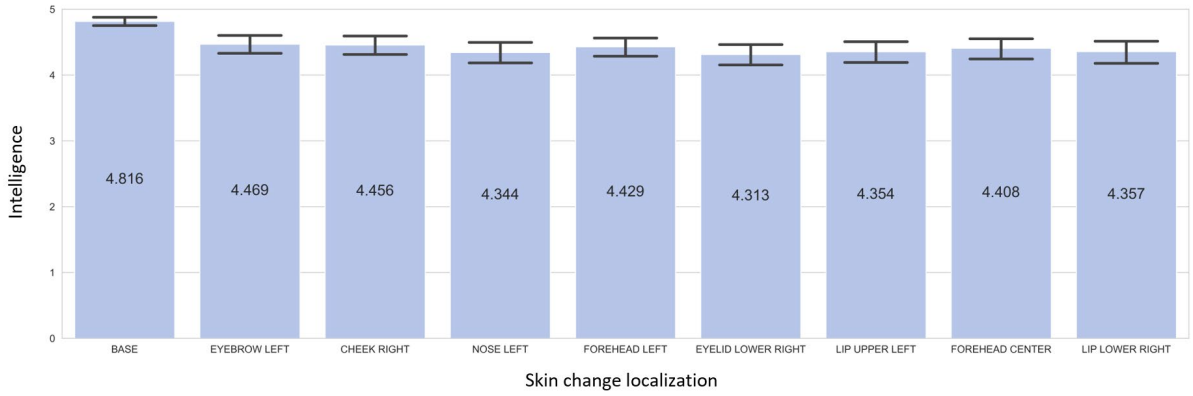


Figure 7. Average ratings of intelligence (axis y) on the basis of 5-point Likert scale (1 = unintelligent, 5 = very intelligent) for pictures without skin changes (BASE) and with eight different hemangioma localizations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 5. Arithmetic mean, standard deviation and standard error for the intelligence ratings assigned by study participants depending on the hemangioma localization.

Skin change localization	Arithmetic mean	Standard deviation	Standard error
BASE	4.816327	0.328565	0.033190
CHEEK RIGHT	4.455782	0.699186	0.070628
EYEBROW LEFT	4.469388	0.690032	0.069704
EYELID LOWER RIGHT	4.312925	0.824616	0.083299
FOREHEAD CENTER	4.408163	0.779947	0.078787
FOREHEAD LEFT	4.428571	0.717958	0.072525
LIP LOWER RIGHT	4.357143	0.821043	0.082938
LIP UPPER LEFT	4.353741	0.759539	0.076725
NOSE LEFT	4.343537	0.804418	0.081258

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of intelligence depending upon the hemangioma localization ($p<0.05$) (Table S24 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S25 in the Supplementary Appendix and are described below.

Average ratings of intelligence assigned by study participants were significantly higher for female faces without skin changes than for pictures presenting female faces with hemangiomas, regardless of lesion localization. Moreover, faces with hemangioma on the right cheek and near the left eyebrow received significantly higher average ratings of intelligence than faces with change on the right lower eyelid as well as than those with skin change on the left side of the lower nose.

Above presented analysis allowed to confirm the hypothesis that people with hemangiomas on the face are judged to be less intelligent than people without facial skin changes.

4.4.3. Self-confidence

Mean ratings of self-confidence assigned by study participants to pictures of female faces without skin changes and with eight different hemangioma locations are shown in the Figure 8 and Table 6.

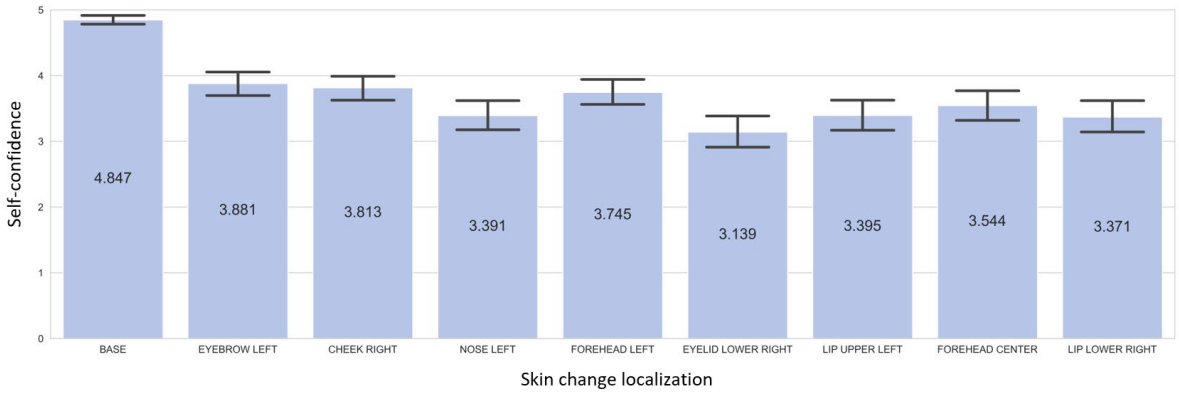


Figure 8. Average ratings of self-confidence (axis y) on the basis of 5-point Likert scale (1 = unconfident, 5 = very self-confident) for pictures without skin changes (BASE) and with eight different hemangioma localizations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 6. Arithmetic mean, standard deviation and standard error for the self-confidence ratings assigned by study participants depending on the hemangioma localization.

	Arithmetic mean	Standard deviation	Standard error
Skin change localization			
BASE	4.846939	0.349007	0.035255
CHEEK RIGHT	3.812925	0.914521	0.092381
EYEBROW LEFT	3.880952	0.860552	0.086929
EYELID LOWER RIGHT	3.139456	1.263573	0.127640
FOREHEAD CENTER	3.544218	1.138102	0.114966
FOREHEAD LEFT	3.744898	0.985346	0.099535
LIP LOWER RIGHT	3.370748	1.249864	0.126255

	Arithmetic mean	Standard deviation	Standard error
Skin change localization			
LIP UPPER LEFT	3.394558	1.132005	0.114350
NOSE LEFT	3.391156	1.144763	0.115639

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of self-confidence depending upon the hemangioma localization ($p<0.05$) (Table S26 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S27 in the Supplementary Appendix and are described below.

Average ratings of self-confidence assigned by study participants were significantly higher for female faces without skin changes than for pictures presenting female faces with hemangioma, regardless of lesion localization. Moreover, faces with hemangioma on the right cheek and near the left eyebrow received significantly higher average ratings of self-confidence than faces with this change on the right lower eyelid, in the middle of the forehead, on the right side of the lower lip, on the left side of the upper lip as well as than faces with skin change on the left side of the lower nose. When hemangioma was localized on the left side of the forehead, ratings of self-confidence were significantly higher than those given by study participants for faces with lesion on the right side of the lower lip, on the left side of the upper lip, on the right lower eyelid as well as than faces with skin change on the left side of the lower nose. Localization of hemangioma on the right lower eyelid caused significantly lower ratings of self-confidence than ratings received by female faces with this change localized in the middle of the forehead, on the left side of the forehead, on the left side of the upper lip, on the right cheek, near the left eyebrow as well as than faces with skin change on the left side of the lower nose.

Above presented analysis allowed to confirm the hypothesis that people with hemangiomas on the face are judged to be more diffident than people without skin changes localized on the faces.

4.4.4. Trustworthiness

Mean ratings of trustworthiness assigned by study participants to pictures of female faces without skin changes and with eight different hemangioma locations are shown in the Figure 9 and Table 7.

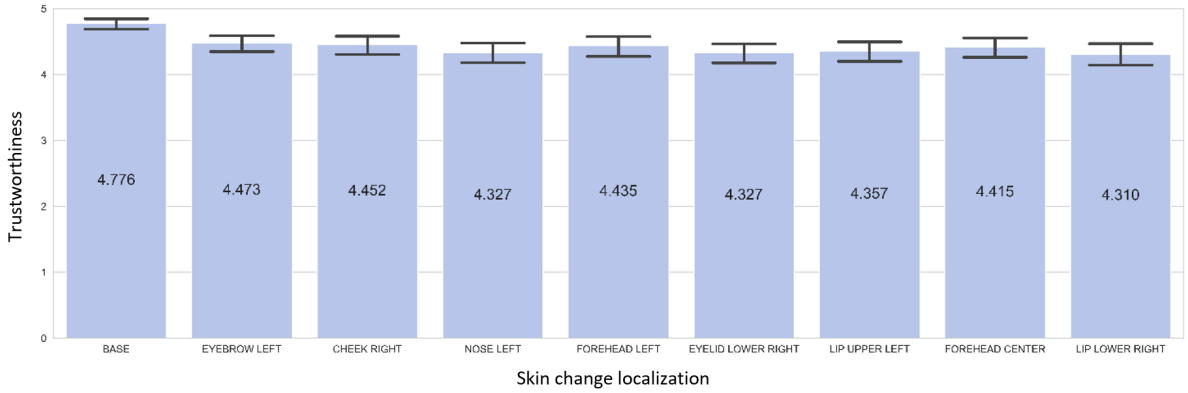


Figure 9. Average ratings of trustworthiness (axis y) on the basis of 5-point Likert scale (1 = untrustworthy, 5 = very trustworthy) for pictures without skin changes (BASE) and with eight different hemangioma localizations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 7. Arithmetic mean, standard deviation and standard error for the trustworthiness ratings assigned by study participants depending on the hemangioma localization.

	Arithmetic mean	Standard deviation	Standard error
Skin change localization			
BASE	4.775510	0.391126	0.039510
CHEEK RIGHT	4.452381	0.689057	0.069605
EYEBROW LEFT	4.472789	0.673374	0.068021
EYELID LOWER RIGHT	4.326531	0.783536	0.079149
FOREHEAD CENTER	4.414966	0.750809	0.075843
FOREHEAD LEFT	4.435374	0.715414	0.072268
LIP LOWER RIGHT	4.309524	0.847137	0.085574

	Arithmetic mean	Standard deviation	Standard error
Skin change localization			
LIP UPPER LEFT	4.357143	0.755658	0.076333
NOSE LEFT	4.326531	0.792259	0.080030

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of trustworthiness depending upon the hemangioma localization ($p<0.05$) (Table S28 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S29 in the Supplementary Appendix and are described below.

Average ratings of trustworthiness assigned by study participants were significantly higher for female faces without skin changes than for pictures presenting female faces with hemangioma, regardless of this change localization. Moreover, faces with hemangioma on the right cheek and near the left eyebrow received significantly higher average ratings of trustworthiness than faces with lesion on the right lower eyelid as well as than faces with hemangioma on the left side of the lower nose.

Above presented analysis allowed to confirm the hypothesis that people with hemangiomas on the face are judged to be less trustworthy than people without skin changes localized on the faces.

4.4.5. Kindness

Mean ratings of kindness assigned by study participants to pictures of female faces without skin changes and with eight different hemangioma locations are shown in the Figure 10 and Table 8.

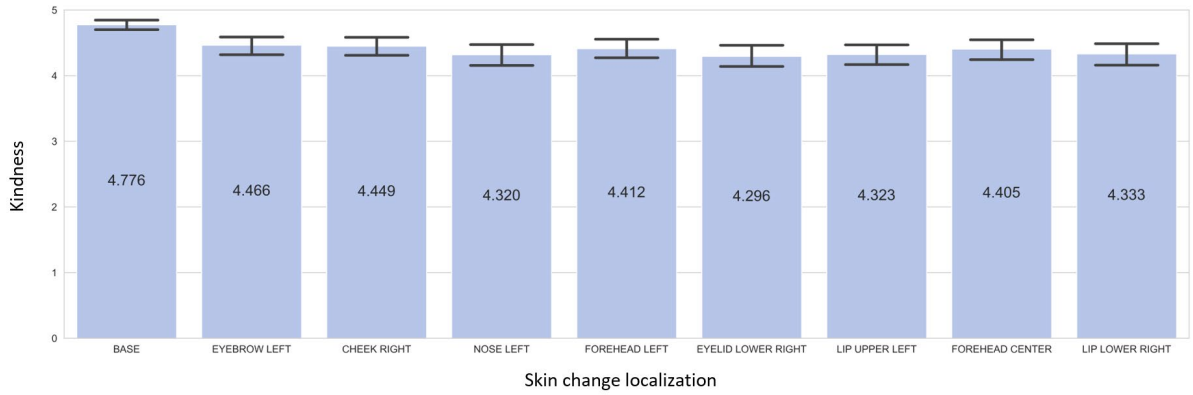


Figure 10. Average ratings of kindness (axis y) on the basis of 5-point Likert scale (1 = unkind, 5 = very kind) for pictures without skin changes (BASE) and with eight different hemangioma localizations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 8. Arithmetic mean, standard deviation and standard error for the kindness ratings assigned by study participants depending on the hemangioma localization.

	Arithmetic mean	Standard deviation	Standard error
Skin change localization			
BASE	4.775510	0.376198	0.038002
CHEEK RIGHT	4.448980	0.677070	0.068394
EYEBROW LEFT	4.465986	0.671358	0.067817
EYELID LOWER RIGHT	4.295918	0.819134	0.082745
FOREHEAD CENTER	4.404762	0.751097	0.075872
FOREHEAD LEFT	4.411565	0.728728	0.073613
LIP LOWER RIGHT	4.333333	0.809452	0.081767
LIP UPPER LEFT	4.323129	0.800135	0.080826
NOSE LEFT	4.319728	0.795057	0.080313

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of kindness depending upon the hemangioma localization ($p<0.05$) (Table S30 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S31 in the Supplementary Appendix and are described below.

Average ratings of kindness assigned by study participants were significantly higher for female faces without skin changes than for pictures presenting female faces with hemangioma, regardless of this change localization. Moreover, faces with hemangioma on the right cheek and near the left eyebrow received significantly higher average ratings of kindness than faces with this lesion on the right lower eyelid, on the left side of the upper lip as well as than faces with hemangioma on the left side of the lower nose. Additionally, faces with hemangioma on the right lower eyelid received significantly lower ratings than faces with change on the left side of the forehead, on the right cheek and near the left eyebrow.

Above presented analysis allowed to confirm the hypothesis that people with hemangioma on the face are judged to be less kind than people without facial skin changes.

4.4.6. Dominance

Mean ratings of dominance assigned by study participants to pictures of female faces without skin changes and with eight different hemangioma locations are shown in the Figure 11 and Table 9.

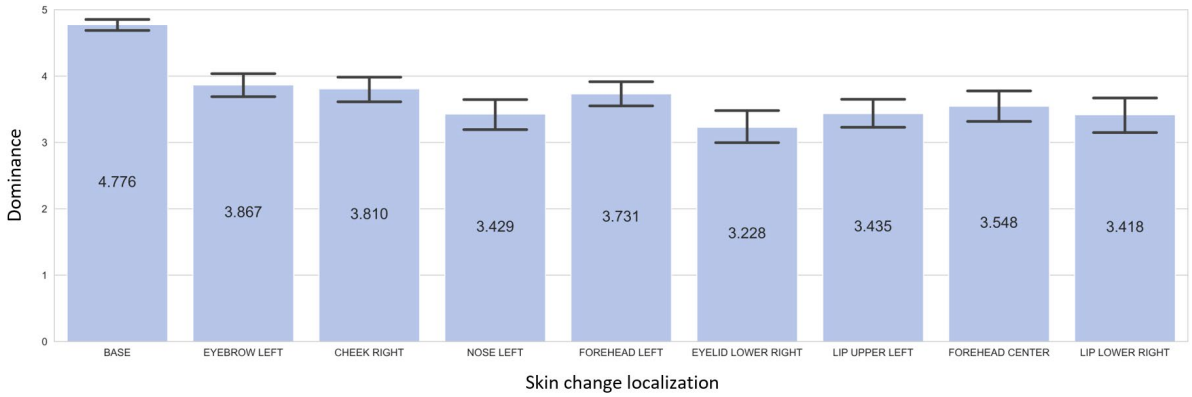


Figure 11. Average ratings of dominance (axis y) on the basis of 5-point Likert scale (1 = submissive, 5 = very dominant) for pictures without skin changes (BASE) and with eight different hemangioma localizations: EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT (axis x). Error bars were calculated using standard deviation between the participants' ratings.

Table 9. Arithmetic mean, standard deviation and standard error for the dominance ratings assigned by study participants depending on the hemangioma localization.

Skin change localization	Arithmetic mean	Standard deviation	Standard error
BASE	4.775510	0.424819	0.042913
CHEEK RIGHT	3.809524	0.906891	0.091610
EYEBROW LEFT	3.867347	0.857204	0.086591
EYELID LOWER RIGHT	3.227891	1.218036	0.123040
FOREHEAD CENTER	3.547619	1.172665	0.118457
FOREHEAD LEFT	3.731293	0.981686	0.099165
LIP LOWER RIGHT	3.418367	1.251172	0.126387
LIP UPPER LEFT	3.435374	1.111646	0.112293
NOSE LEFT	3.428571	1.154701	0.116642

Results of a repeated measures ANOVA found that there were statistically significant differences between ratings of dominance depending upon the hemangioma localization ($p<0.05$) (Table S32 in the Supplementary Appendix). To account for multiple comparisons we applied post-hoc Student's t-tests with Bonferroni correction. Results are presented in the Table S33 in the Supplementary Appendix and are described below.

Average ratings of dominance assigned by study participants were significantly higher for female faces without skin changes than for pictures presenting female faces with hemangioma, regardless of this change localization. Moreover, faces with hemangioma on the right cheek received significantly higher average ratings than faces with this lesion on the right lower eyelid, on the right side of the lower lip, on the left side of the upper lip as well as than faces with hemangioma on the left side of the lower nose. Another finding is that faces with hemangioma near the left eyebrow received significantly higher ratings of dominance than faces with this change localized on the right lower eyelid, in the middle of the forehead, on the right side of the lower lip, on the left side of the upper lip and also on the left side of the

lower nose. Localization of hemangioma on the right lower eyelid caused significantly lower ratings of dominance than ratings received by female faces with hemangioma localized in the middle of the forehead, on the left side of the forehead, on the left side of the upper lip, on the right cheek, near the left eyebrow as well as than faces with skin change on the left side of the lower nose. When hemangioma was on the left side of the forehead, ratings of dominance were significantly higher than those given by study participants for faces with this change on the right side of the lower lip, on the left side of the upper lip, on the right lower eyelid as well as than faces with skin change on the left side of the lower nose.

Above presented analysis allowed to confirm the hypothesis that people with hemangiomas on the face are judged to be more submissive than people without facial skin changes.

In conclusion, results of the above presented analysis confirm the hypothesis that people with hemangiomas localized on the face, similarly to people judged to be unattractive, are assessed to have less desirable in society personality traits and to be less attractive than people without facial skin changes.

4.5. Differences between sexes in number of fixations

Mean number of fixations made by male and female participants during the observation of three pictures of female faces without skin changes are presented in the Figure 12.

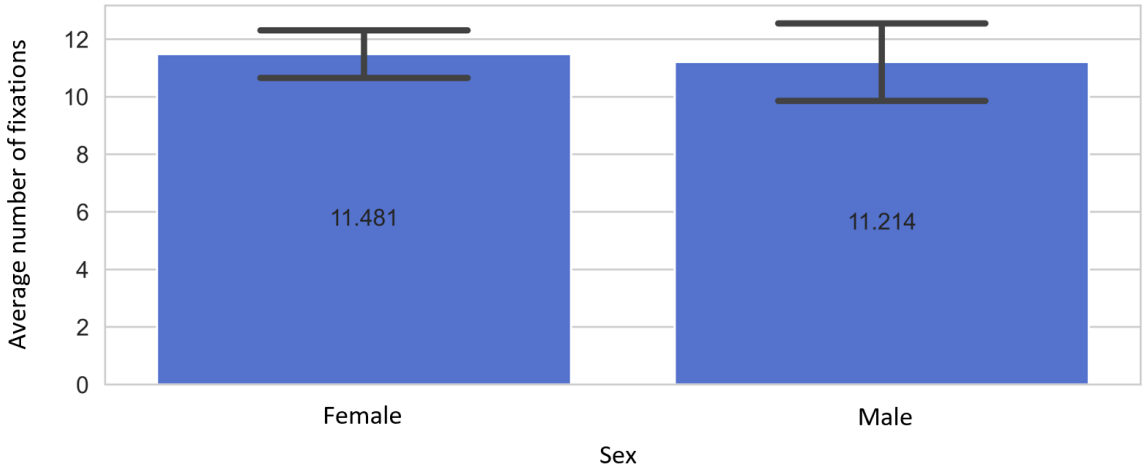


Figure 12. Average number of fixations by male and female participants during 5 seconds of female face image observation.

Results of a t-Student test for two independent samples indicated that there were not statistically significant differences between the mean number of fixations made by male and

female participants (p>0.05) (Table S34 in the Supplementary Appendix). Thus, we can reject the hypothesis that male participants had a greater number of fixations when viewing healthy skin female faces than female observers.

4.6. Impact of participants' demographics on their eyes movements

On the basis of participants' answers to the questions included in the questionnaire (Figure S1 in the Supplementary Appendix) study participants were divided into three age groups (18-40, 41-59, ⩾60 years), two gender groups and two educational level groups (lower and higher). To verify if eye gaze patterns vary between different groups we analyzed the observation duration, number of fixations and number of revisits per each AOI for nine types of pictures (without skin changes and with eight hemangioma locations). Detailed results of statistical analysis are presented below and in the Supplementary Appendix.

4.6.1. Impact of participant's age on eye gaze patterns

a) Impact of participant's age on the observation time

This analysis was conducted to verify if there were differences in AOIs viewing time between participants belonging to one of the three age groups: 18-40, 41-59, ⩾60 years.

Mean observation duration of each AOI by study participants divided into three age groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for hemangioma locations for which statistically significant differences were obtained (Figure 13).

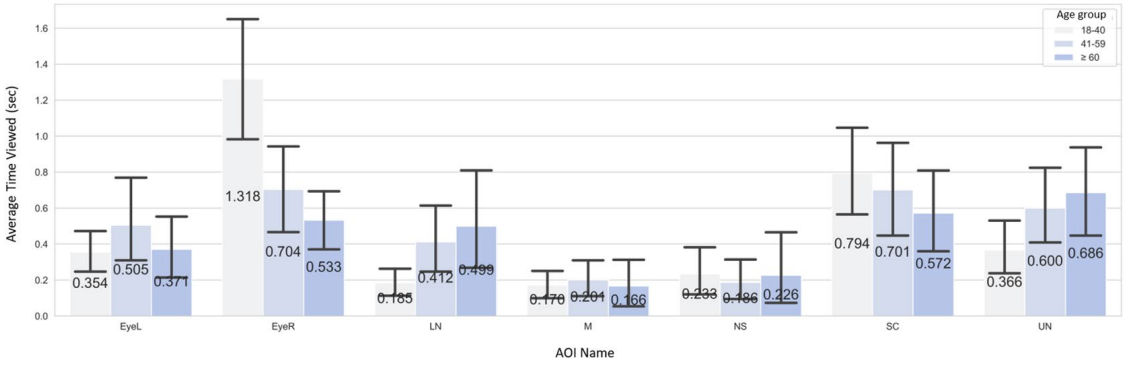


Figure 13. Average viewing time (in seconds) (y axis) of each AOI (x axis) by participants divided into three age groups (18-40, 41-59, ⩾60 years) for the pictures with the hemangioma localized on the right lower eyelid. Error bars were calculated using standard deviation between the participants' mean observation time.

Detailed results of mixed ANOVA are presented in the Tables S35-S43 in the Supplementary Appendix.

There were no statistically significant differences between age groups in mean viewing time for all AOI except for right lower eyelid location of hemangioma.

On the basis of the results of post-hoc analysis presented in the Table S44 in the Supplementary Appendix we can conclude that study participants aged between 18 and 40 spent significantly more time viewing AOI covering the right eye in the pictures of female faces with hemangioma on the right lower eyelid than participants at the age of 60 and older.

b) Impact of participant's age on the number of fixations

This analysis was conducted to verify if there were differences in number of fixations per AOI between participants belonging to one of the three age groups: 18-40, 41-59, ⩾60 years.

Average number of fixations per each AOI by study participants divided into three age groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for hemangioma locations for which statistically significant differences were obtained (Figure 14).

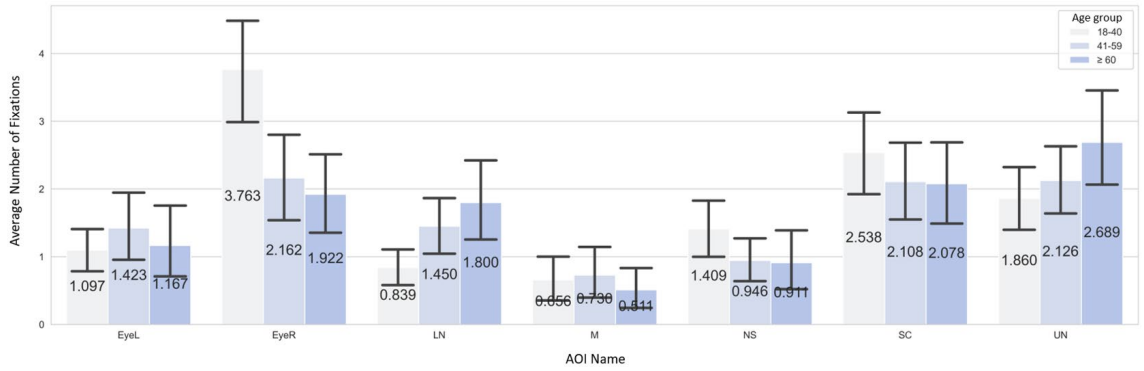


Figure 14. Average number of fixations (y axis) per each AOI (x axis) made by participants divided into three age groups (18-40, 41-59, ⩾60 years) for the pictures with the hemangioma localized on the right lower eyelid. Error bars were calculated using standard deviation between the participants' mean number of fixations.

Detailed results of mixed ANOVA are presented in the Tables S45-S53 in the Supplementary Appendix.

There were no statistically significant differences between age groups in mean number of fixations for all AOI except for right lower eyelid location of hemangioma.

On the basis of the results of post-hoc analysis presented in the Table S54 in the Supplementary Appendix we can conclude that study participants at the age of 18-40 made significantly more fixations on AOI covering the right eye in the pictures of female faces with skin change on the right lower eyelid than participants at the age of 60 and older.

c) Impact of participant's age on the number of revisits

This analysis was conducted to verify if there were differences in number of revisits per AOI between participants belonging to one of the three age groups: 18-40, 41-59, ⩾60 years.

Average number of revisits per each AOI by study participants divided into three age groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for hemangioma locations for which statistically significant differences were obtained (Figure 15).

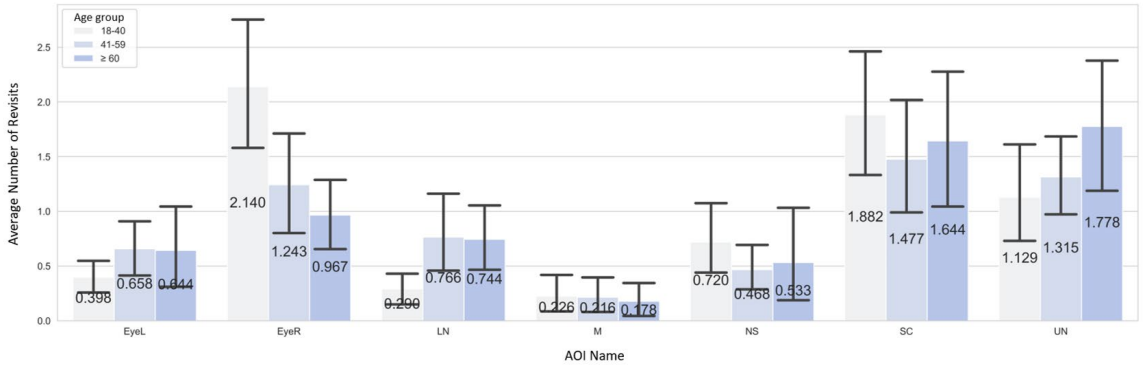


Figure 15. Average number of revisits (y axis) per each AOI (x axis) made by participants divided into three age groups (18-40, 41-59, ⩾60 years) for the pictures with the hemangioma localized on the right lower eyelid. Error bars were calculated using standard deviation between the participants' mean number of revisits.

Detailed results of mixed ANOVA are presented in the Tables S55-S63 in the Supplementary Appendix.

There were no statistically significant differences between age groups in mean number of revisits for all AOI except for right lower eyelid location of hemangioma.

On the basis of the results of post-hoc analysis presented in the Table S64 in the Supplementary Appendix we can conclude that study participants at the age of 18-40 made significantly more revisits on AOI covering the right eye in the pictures of female faces with hemangioma on the right lower eyelid than participants at the age of 60 and older.

Thus, summing up, statistically significant differences in eye gaze patterns between study participants divided into groups on the basis of their age were found only for pictures of female faces with hemangioma on the right lower eyelid and observers at the age of 18-40 years who made more fixations and revisits and also spent more time observing the area of hemangioma, namely presented female's right eye, than participants at the age of 60 and older.

4.6.2. Impact of participant's gender on eye gaze patterns

a) Impact of participant's gender on the observation time

This analysis was conducted to verify if there were between sexes differences in AOIs viewing time.

Mean observation duration of each AOI by male and female participants, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 16).

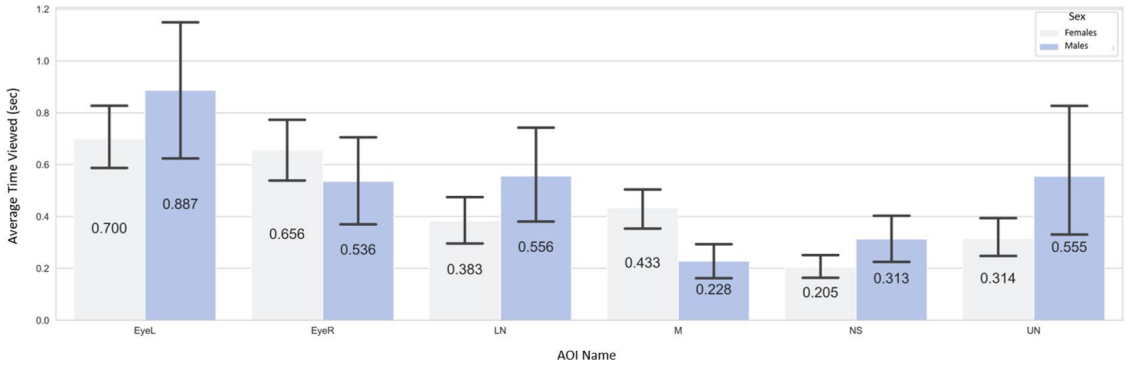


Figure 16. Average viewing time (in seconds) (y axis) of each AOI (x axis) by male and female participants for the pictures without skin changes. Error bars were calculated using standard deviation between the participants' mean observation time.

Detailed results of mixed ANOVA are presented in the Tables S65-S73 in the Supplementary Appendix.

Results of mixed ANOVA found no statistically significant differences between male and female participants in average observation time of each AOI in all images depicting facial hemangiomas.

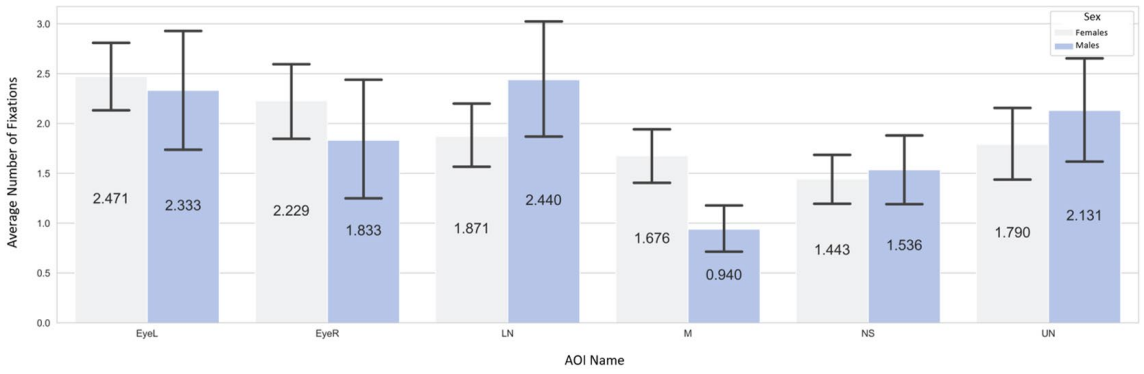
Only in control images, without hemangioma, there were statistically significant difference between genders in average observation time of perioral area. On the basis of the results of post-hoc analysis presented in the Table S74 in the Supplementary Appendix we can conclude that female participants spent significantly more time viewing AOI covering the mouth in the pictures of female faces without skin changes than male participants.

b) Impact of participant's gender on the number of fixations

This analysis was conducted to verify if there were between sexes differences in number of fixations per AOI.

Average number of fixations per each AOI by male and female participants, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 17).

a)



b)

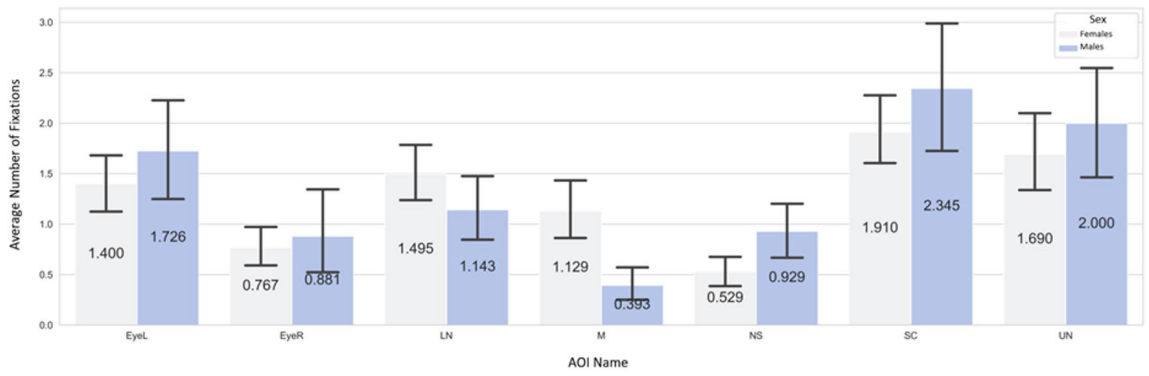


Figure 17. Average number of fixations (y axis) per each AOI (x axis) by male and female participants for the pictures without skin change (a) and with the hemangioma localized on the left side of the lower nose (b). Error bars were calculated using standard deviation between the participants' mean number of fixations.

Detailed results of mixed ANOVA are presented in the Tables S75-S83 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between male and female participants in average number of fixations per each AOI for the pictures of female faces without skin changes and with hemangioma on the left side of the lower nose ($p<0.05$). On the basis of the results of post-hoc analysis presented in the Table S84 and Table S85 in the Supplementary Appendix we can conclude that female participants made significantly more fixations viewing AOI covering the mouth in the pictures of female faces without skin changes and also when the hemangioma was on the left side of the lower nose, in comparison to male participants.

c) Impact of participant's gender on the number of revisits

This analysis was conducted to verify if there were between sexes differences in number of revisits per AOI.

Average number of revisits per each AOI by male and female participants, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 18).

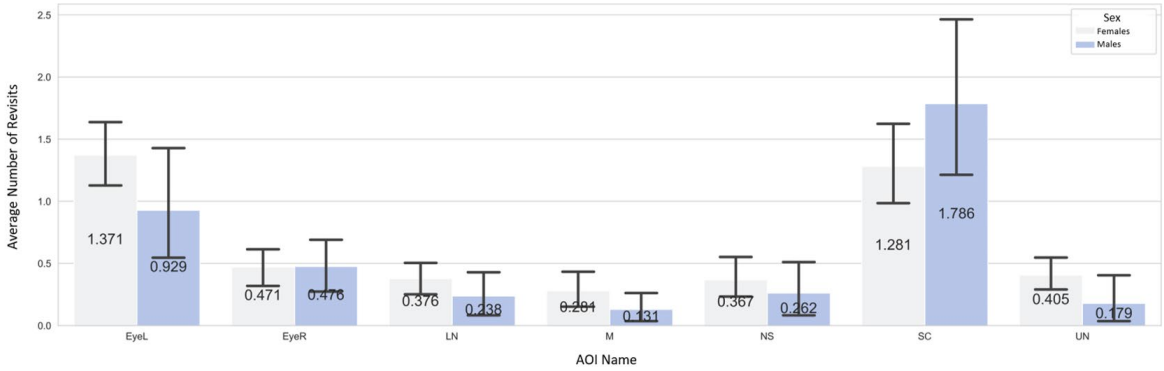


Figure 18. Average number of revisits (y axis) per each AOI (x axis) by male and female participants for the pictures with the hemangioma localized near the left eyebrow. Error bars were calculated using standard deviation between the participants' mean number of revisits.

Detailed results of mixed ANOVA are presented in the Tables S86-S94 in the Supplementary Appendix.

There were no statistically significant differences between genders in mean number of revisits for all AOI except for left eyebrow location of hemangioma. Whereas results of post-hoc analysis presented in the Table S95 in the Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, sex of the participant) these differences exist.

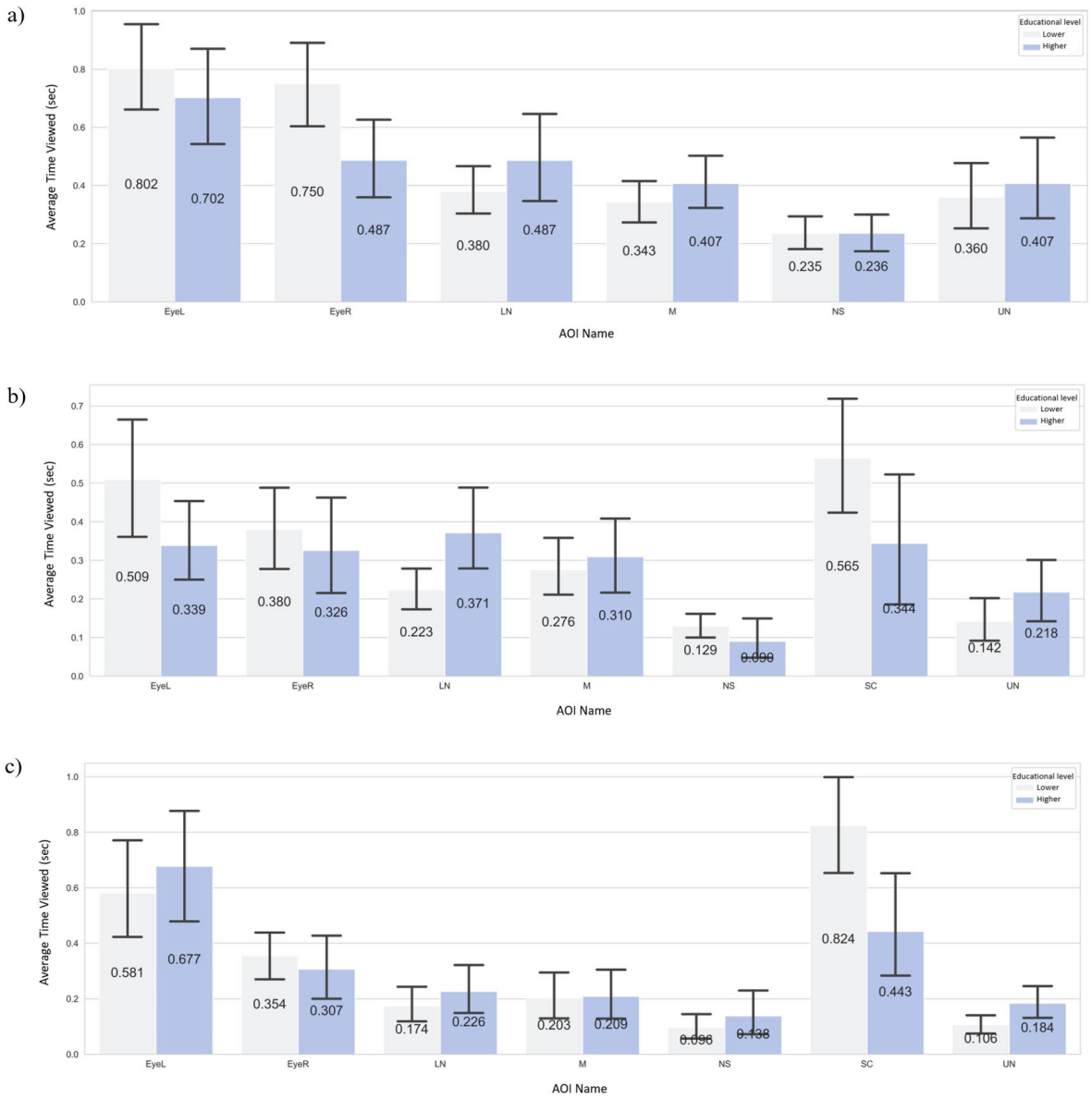
Thus, summing up, statistically significant differences in eye gaze patterns between participants of both sexes were found for pictures of female faces without skin lesions and with hemangioma on the left side of the lower nose, and near the left eyebrow. More specifically, during the observation of healthy skin faces, females spent significantly more time and made more fixations at mouth area than male participants. Moreover, females made significantly more fixations at mouth area during the observation of the faces with hemangioma on the left side of the lower nose, when compared to male participants. Statistically significant differences were also found in the number of revisits made by male and female study participants during the observation of the faces with hemangioma near the left eyebrow. Whereas the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data these differences exist.

4.6.3. Impact of participant's educational level on eye gaze patterns

a) Impact of participant's educational level on the observation time

This analysis was conducted to verify if there were differences in AOIs viewing time between participants belonging to one of the two educational level groups: lower and higher.

Mean observation duration of each AOI by study participants divided into two educational level groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 19).



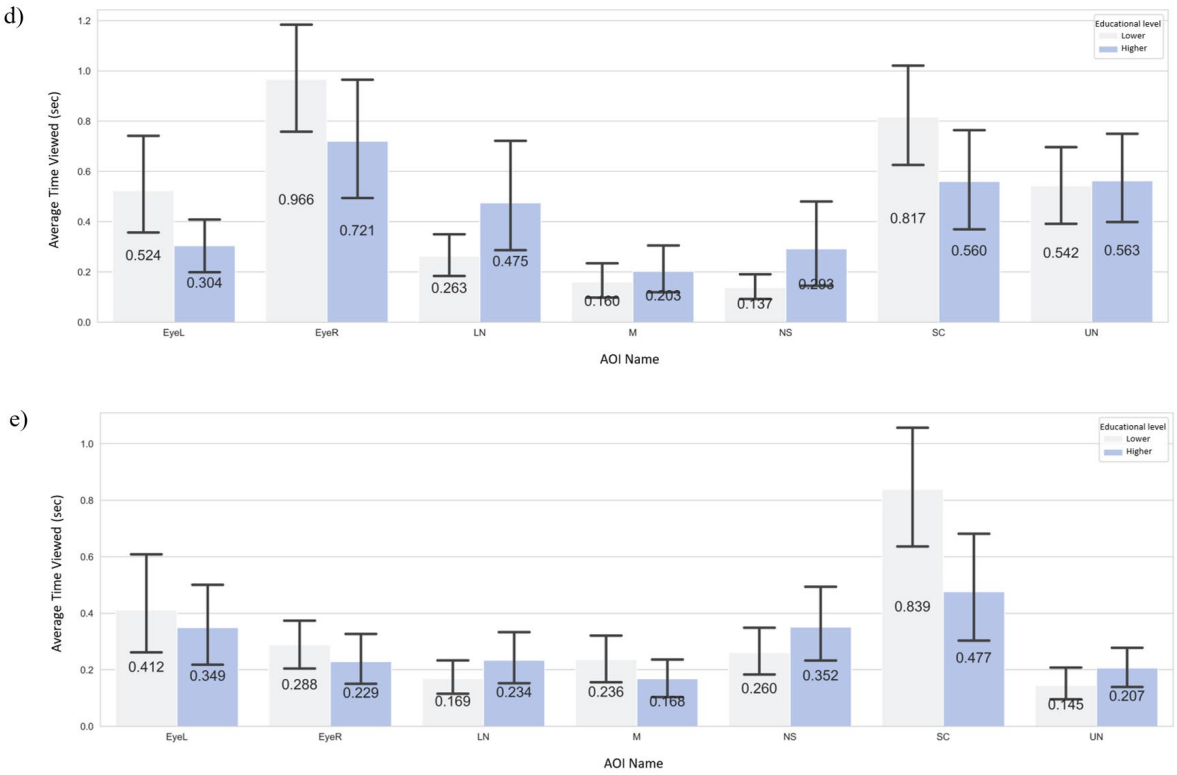


Figure 19. Average viewing time (in seconds) (y axis) of each AOI (x axis) by participants divided into two educational level groups (lower, higher) for the pictures without skin change (a) and with the hemangioma localized: b)on the right cheek, c) near the left eyebrow, d) on the right lower eyelid, e) in the middle of the forehead. Error bars were calculated using standard deviation between the participants' mean observation time.

Detailed results of mixed ANOVA are presented in the Tables S96-S104 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between different participants' educational level groups in average observation time of each AOI for the pictures of female faces with hemangioma near the left eyebrow ($p<0.05$). On the basis of the results presented in the Table S107 in the Supplementary Appendix we can conclude that study participants with lower educational level spent significantly more time viewing AOI covering hemangioma in the pictures of female faces with this lesion localized near the left eyebrow than participants with higher educational level.

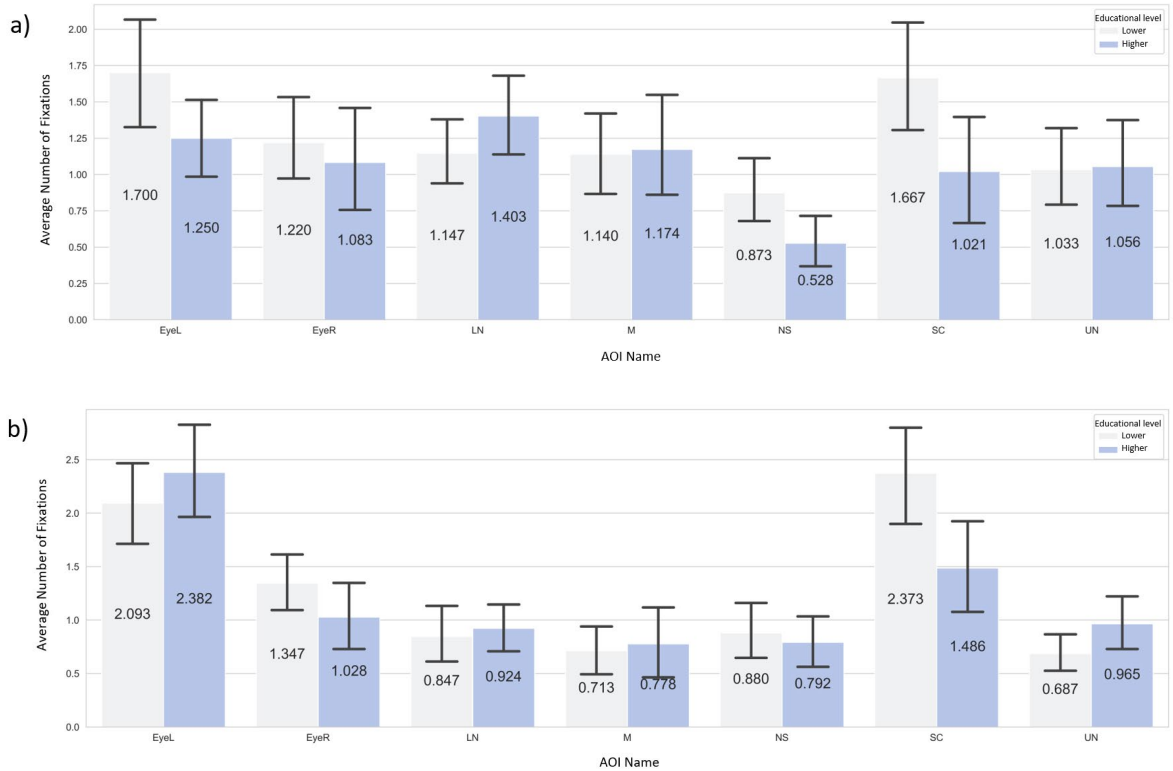
Results of mixed ANOVA also found that there were statistically significant differences between different participants' educational level groups in average observation time of each AOI for the pictures of female faces without skin lesions and with hemangioma on the right

cheek, on the right lower eyelid and in the middle of the forehead ($p<0.05$). Whereas results of post-hoc analysis presented in the Table S105, Table S106, Table S108, Table S109 in the Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, educational level) these differences exist.

b) Impact of participant's educational level on the number of fixations

This analysis was conducted to verify if there were differences in number of fixations per AOI between participants belonging to one of the two educational level groups: lower and higher.

Average number of fixations per each AOI by study participants divided into two educational level groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 20).



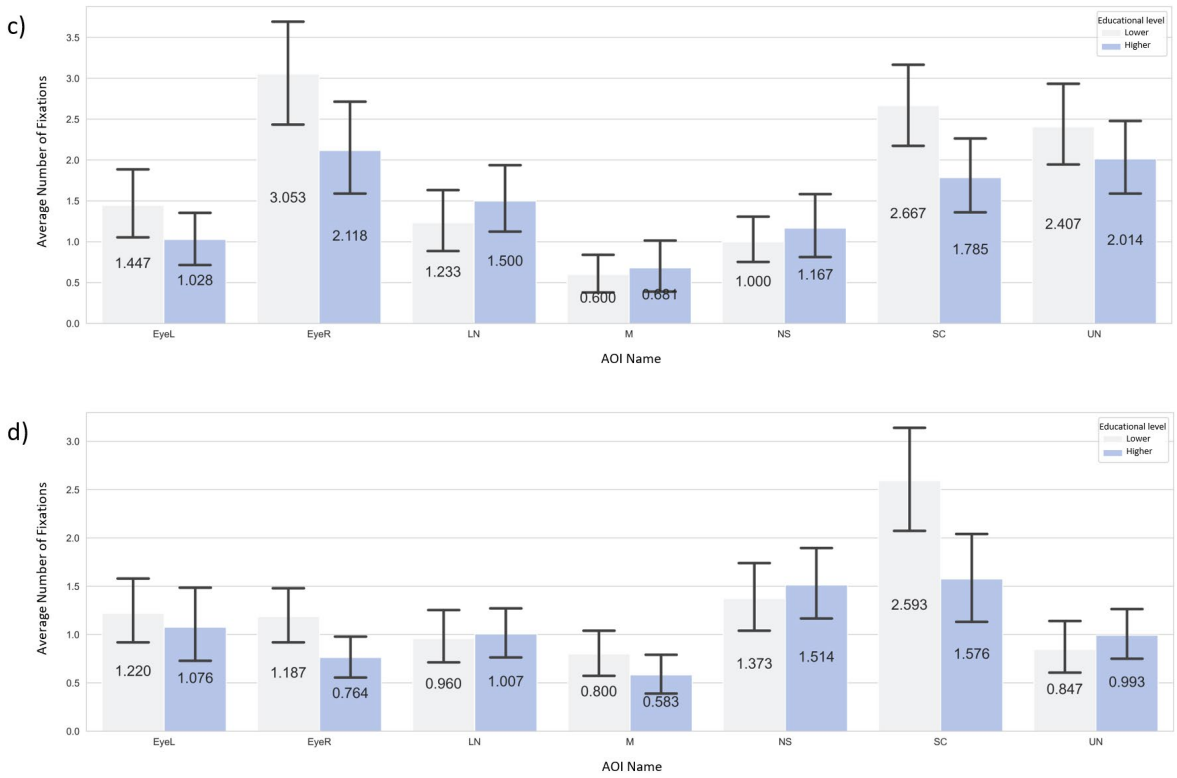


Figure 20. Average number of fixations (y axis) per each AOI (x axis) made by participants divided into two educational groups (lower, higher) for the pictures with the hemangioma localized: a) on the right cheek, b) near the left eyebrow, c) on the right lower eyelid, d) in the middle of the forehead. Error bars were calculated using standard deviation between the participants' mean number of fixations.

Detailed results of mixed ANOVA are presented in the Tables S110-S118 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between different participants' educational level groups in average number of fixations per each AOI for the pictures of female faces with hemangioma localized near the left eyebrow and in the middle of the forehead ($p<0.05$). On the basis of the results presented in the Table S120 in the Supplementary Appendix we can conclude that study participants with lower educational level made significantly more fixations viewing AOI covering the hemangioma in the pictures of female faces with this lesion localized near the left eyebrow than participants with higher educational level. On the basis of the results presented in the Table S122 in the Supplementary Appendix we can conclude that study participants with lower educational level made significantly more fixations viewing AOI covering the hemangioma in the pictures of

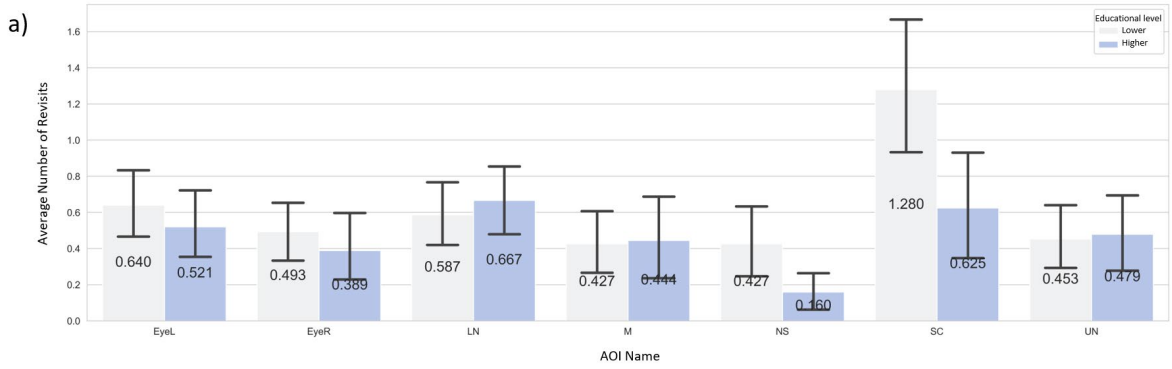
female faces with this lesion localized in the middle of the forehead than participants with higher educational level.

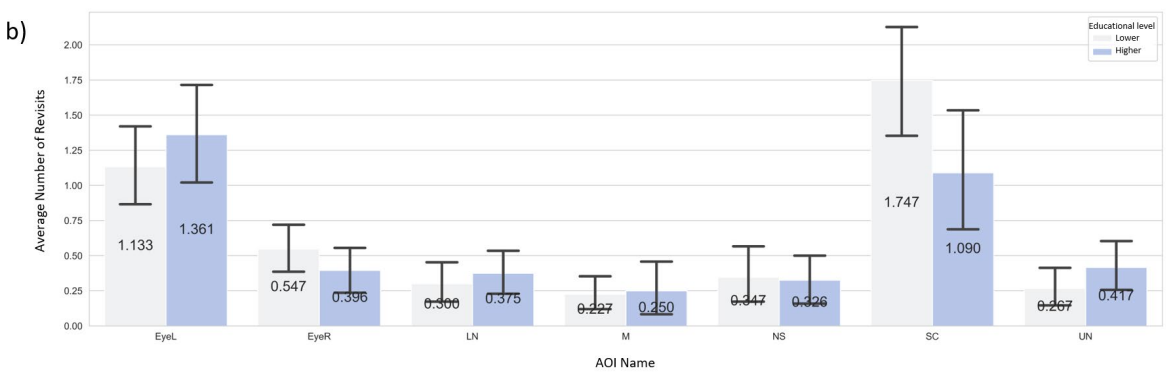
Results of mixed ANOVA also found that there were statistically significant differences between different participants' educational level groups in average number of fixations per each AOI for the pictures of female faces with hemangioma localized on the right cheek and on the right lower eyelid ($p<0.05$). Whereas results of post-hoc analysis presented in the Table S119 and Table S121 in the Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, educational level) these differences exist.

c) Impact of participant's educational level on the number of revisits

This analysis was conducted to verify if there were differences in number of revisits per AOI between participants belonging to one of the two educational level groups: lower and higher.

Average number of revisits per each AOI by study participants divided into two educational level groups, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 21).





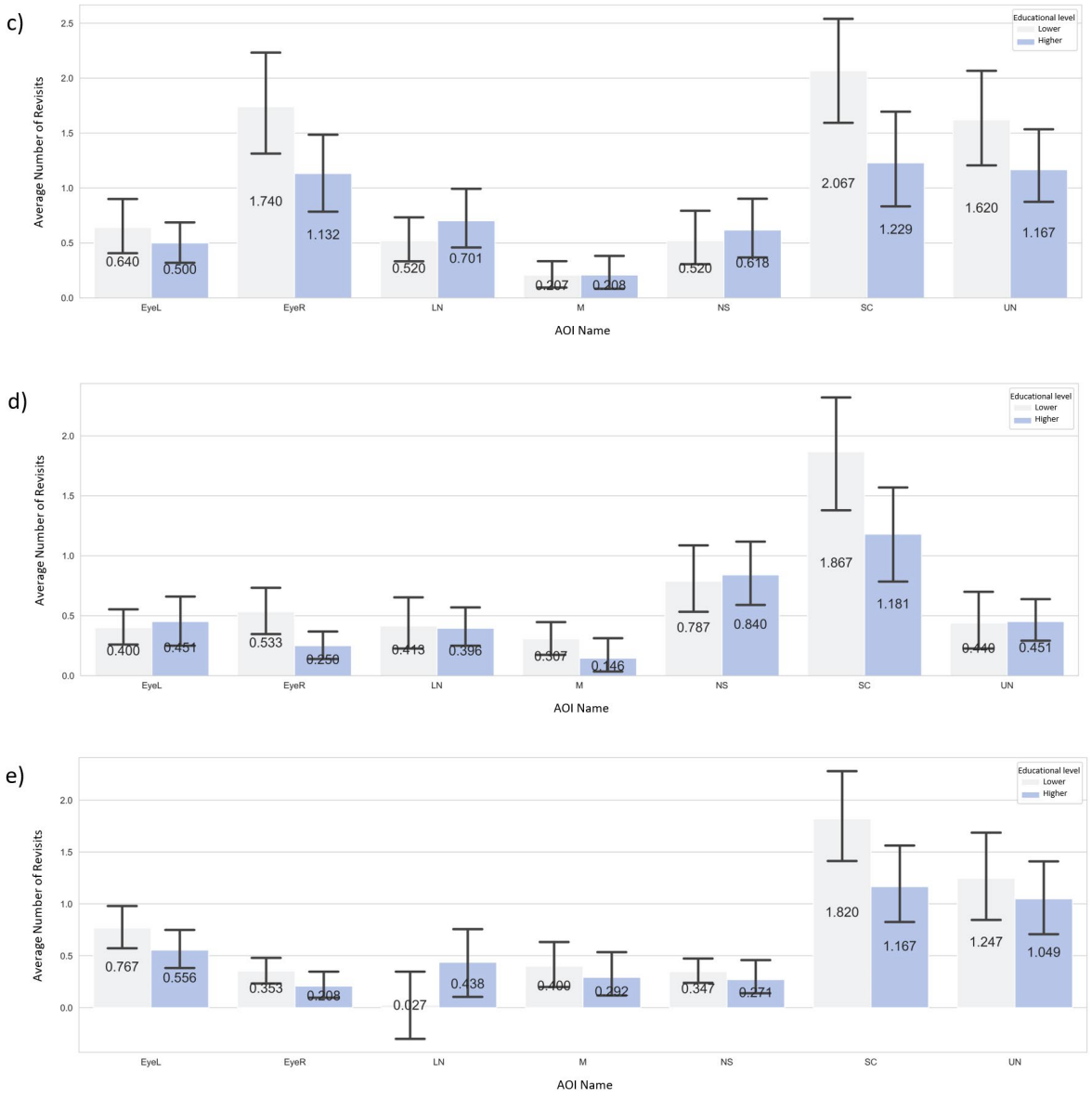


Figure 21. Average number of revisits (y axis) per each AOI (x axis) made by participants divided into two educational groups (lower, higher) for the pictures with the hemangioma localized: a) on the right cheek, b) near the left eyebrow, c) on the right lower eyelid, d) in the middle of the forehead, e) on the left side of the lower nose. Error bars were calculated using standard deviation between the participants' mean number of revisits.

Detailed results of mixed ANOVA are presented in the Tables S123-S131 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between different participants' educational level groups in average number of revisits per each AOI for the pictures of female faces with hemangioma localized on the right cheek

($p<0.05$). On the basis of the results presented in the Table S132 in the Supplementary Appendix we can conclude that study participants with lower educational level made significantly more revisits on AOI covering the skin change in the pictures of female faces with hemangioma localized on the right cheek than participants with higher educational level.

Results of mixed ANOVA also found that there were statistically significant differences between different participants' educational level groups in average number of revisits per each AOI for the pictures of female faces with hemangioma localized near the left eyebrow, on the right lower eyelid, in the middle of the forehead and on the left side of the lower nose ($p<0.05$). Whereas results of post-hoc analysis presented in the Table S133, Table S134, Table S135, Table S136 in Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, educational level) these differences exist.

Thus, summing up, statistically significant differences in eye gaze patterns between participants divided into two groups on the basis of their educational level were found for pictures of female faces with the hemangioma near the left eyebrow. More specifically, during the observation of the faces with this change near the left eyebrow, participants with lower educational level spent significantly more time and made more fixations at skin change area than participants with higher educational level. Moreover, participants with lower educational level made significantly more fixations at hemangioma area during the observation of the faces with this lesion in the middle of the forehead, when compared to participants with higher educational level. In addition, during the observation of female faces with the hemangioma on the right cheek, study participants with lower educational level made significantly more revisits at skin change area than participants with higher educational level.

Statistically significant differences were also found in the time of AOI observation between study participants with lower and higher educational level during the observation of the faces without skin changes and with the hemangioma on the right cheek, on the right lower eyelid and in the middle of the forehead. Whereas the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data these differences exist.

Similarly, statistically significant differences were found in the number of fixations per each AOI made by participants belonging to the different educational groups during the

observation of female faces with hemangioma on the right cheek and on the right lower eyelid, but we were not able to found out between which analyzed groups of data these differences exist, because of the level of significance defined at 0.05.

Statistically significant differences were also found in the number of revisits made by study participants with lower and higher educational level during the observation of the faces with the hemangioma near the left eyebrow, on the right lower eyelid, in the middle of the forehead and on the left side of the lower nose. Whereas the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data these differences exist.

Above presented analysis allows to confirm the hypothesis that differences in eye-gaze patterns between study participants depending upon their age, sex and educational level exist. Moreover, these discrepancies are also affected by localization of the hemangioma.

4.7. Impact of performed task on participants' eye gaze patterns

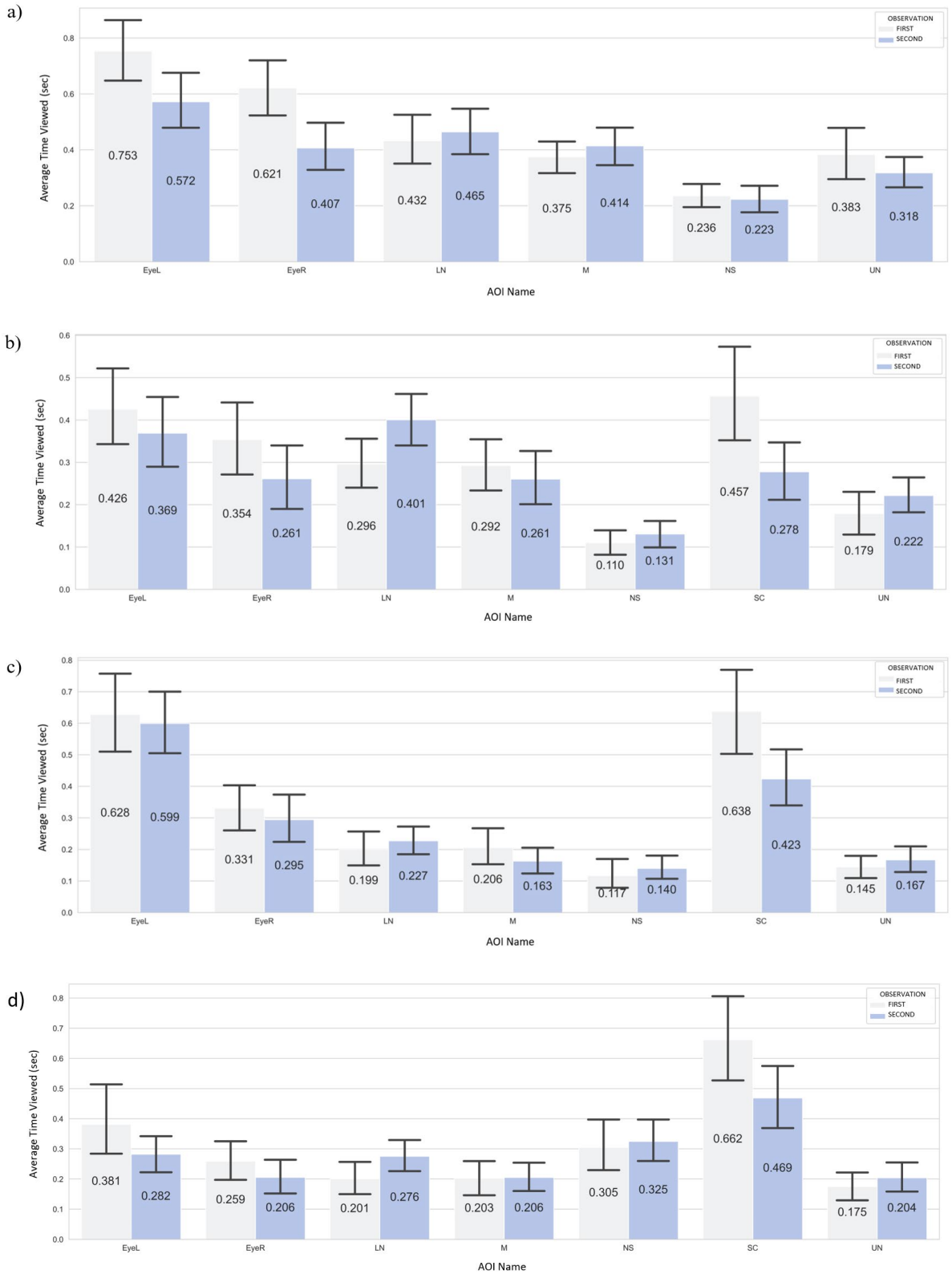
Eye movements variables obtained from the study participants were divided into two groups on the basis of the type of task performed by the participants, namely "free-observation" (called "first observation" in below presented analysis) obtained during the freely observation that was not associated with any additional task and "task-specific observation" (called "second observation" in below presented analysis) associated with attractiveness judgements of observed female faces. To verify if eye gaze patterns vary between these two conditions we analyzed the observation duration, number of fixations and revisits per each AOI for nine types of pictures (without skin lesions and with eight hemangioma locations). Detailed results of statistical analysis are presented below and in the Supplementary Appendix (Table S137 presents example results of calculations of averaged values of analyzed eye movements variables obtained from the study participants for nine types of photos, for each AOI, with the division into first and second observation).

4.7.1. Impact of performed task on the observation duration

This analysis was conducted to verify if there were differences in AOIs viewing time between "free-observation" and "task-specific observation".

Mean observation duration of each AOI by study participants obtained from the first and second part of the experiment, separately for healthy skin face as well as for eight different

hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 22).



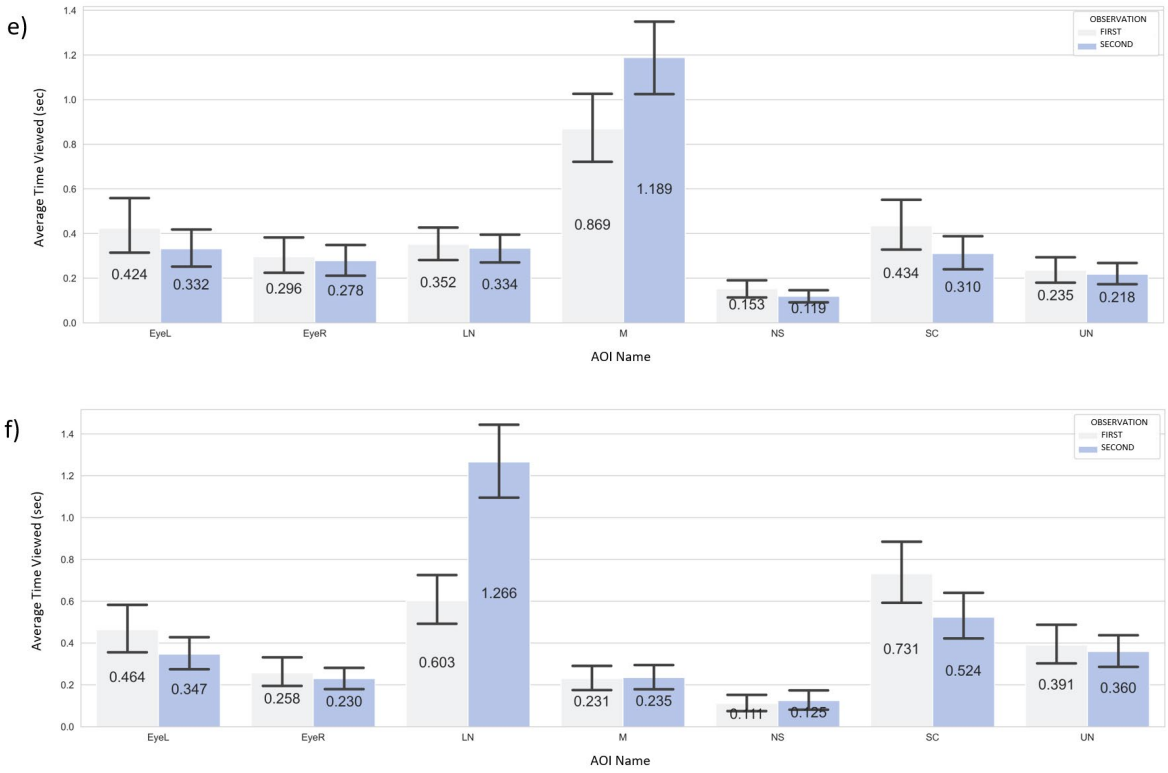


Figure 22. Average viewing time (in seconds) (y axis) of each AOI (x axis) by participants during the first and second observation of the pictures of female faces without skin change (a) and with the hemangioma localized: b) on the right cheek, c) near the left eyebrow, d) in the middle of the forehead, e) on the right side of the lower lip, f) on the left side of the lower nose. Error bars were calculated using standard deviation between the participants' mean observation time.

Detailed results of mixed ANOVA are presented in the Tables S138-S146 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between the first and second observation in average observation time of each AOI for the pictures of female faces without skin lesions, as well as with hemangioma on the right side of the lower lip and on the left side of the lower nose ($p<0.05$). On the basis of the results presented in the Table S147 in the Supplementary Appendix we can conclude that during the first observation ("free observation") study participants spent significantly more time on the observation of AOI covering the right eye in the pictures of female faces without skin changes than during the second observation ("task-specific observation"). Moreover, on the basis of the results presented in the Table S151 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants spent

significantly more time on observation of AOI covering the mouth in the pictures of female faces with hemangioma on the right side of the lower lip than during the first observation ("free observation"). Finally, on the basis of the results presented in the Table S152 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants spent significantly more time on observation of AOI covering the lower nose in the pictures of female faces with hemangioma on the left side of the lower nose than during the first observation ("free observation").

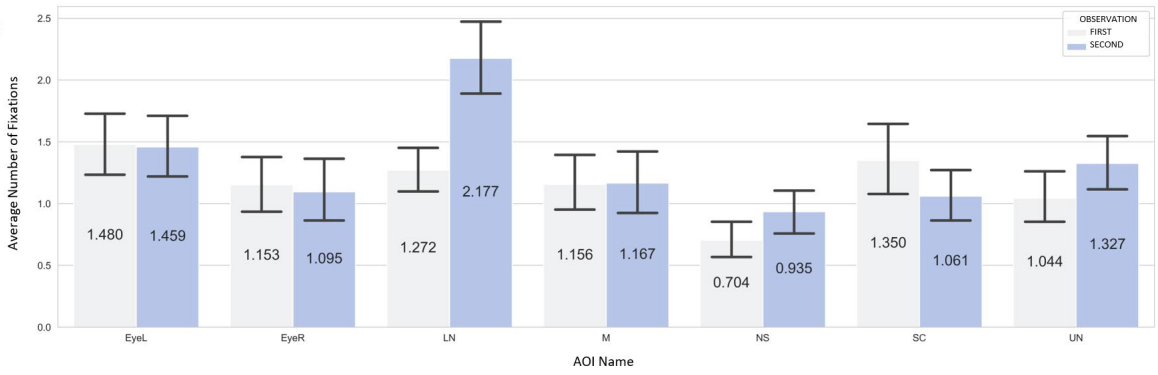
Results of mixed ANOVA also found that there were statistically significant differences between the first and second observation in average observation time of each AOI for the pictures of female faces with hemangioma on the right cheek, near the left eyebrow and in the middle of the forehead ($p<0.05$). Whereas results of post-hoc analysis presented in the Table S148, Table S149, Table S150 in the Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, first or second observation) these differences exist.

4.7.2. Impact of performed task on the number of fixations

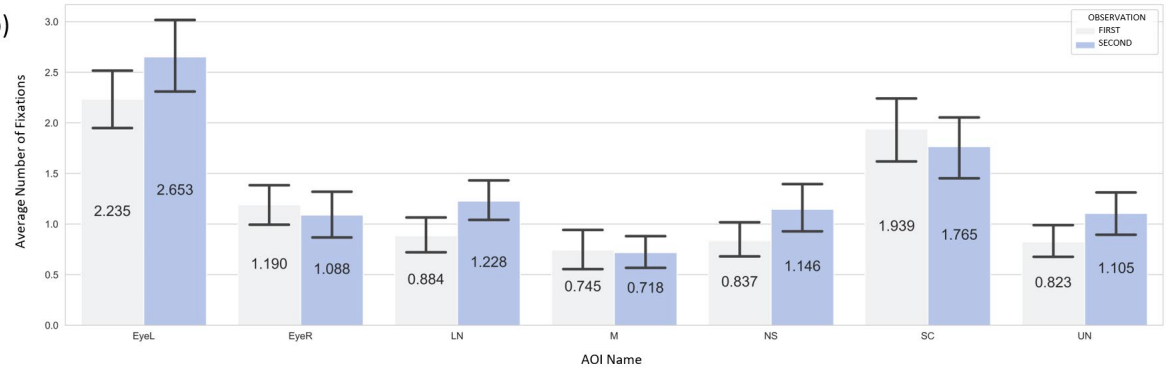
This analysis was conducted to verify if there were differences in the number of fixations per each AOI between "free-observation" and "task-specific observation".

Mean number of fixations per each AOI made by study participants during the first and second part of the experiment, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 23).

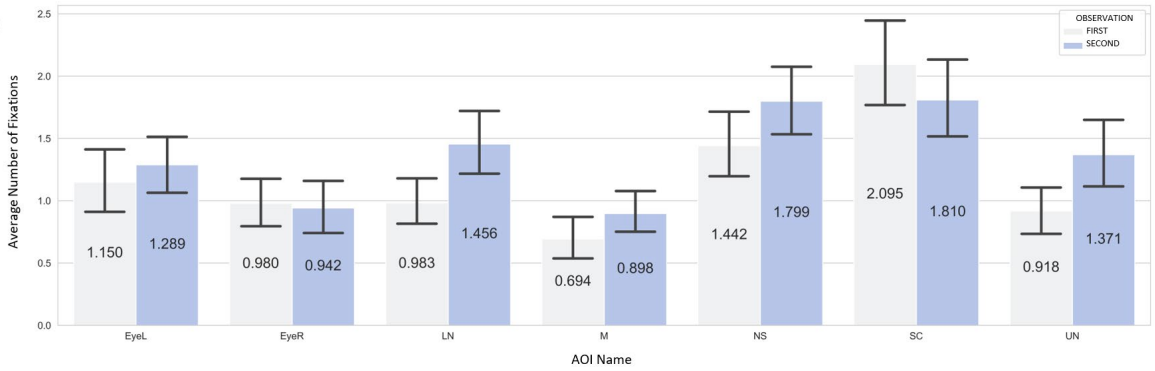
a)



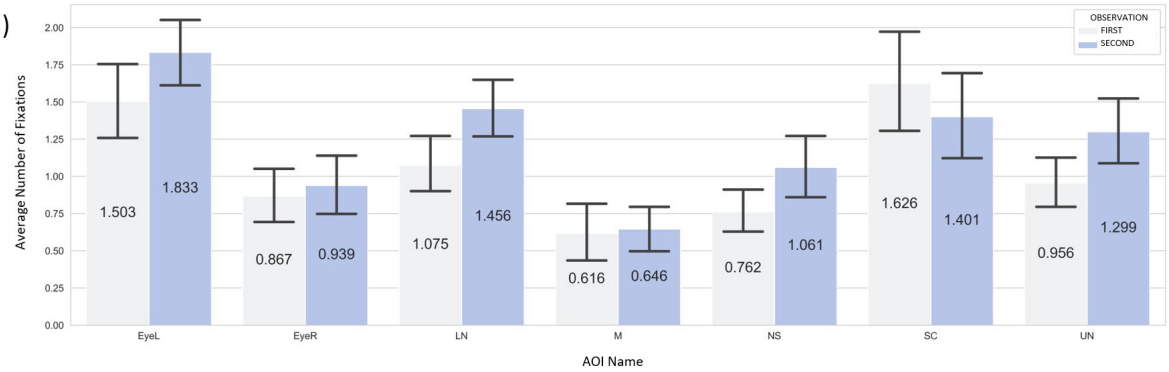
b)


OBSERVATION
FIRST
SECOND
Average Number of Fixations
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2.235
2.653
1.190
1.088
0.884
1.228
0.745
0.718
0.837
1.146
1.939
1.765
0.823
1.105
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

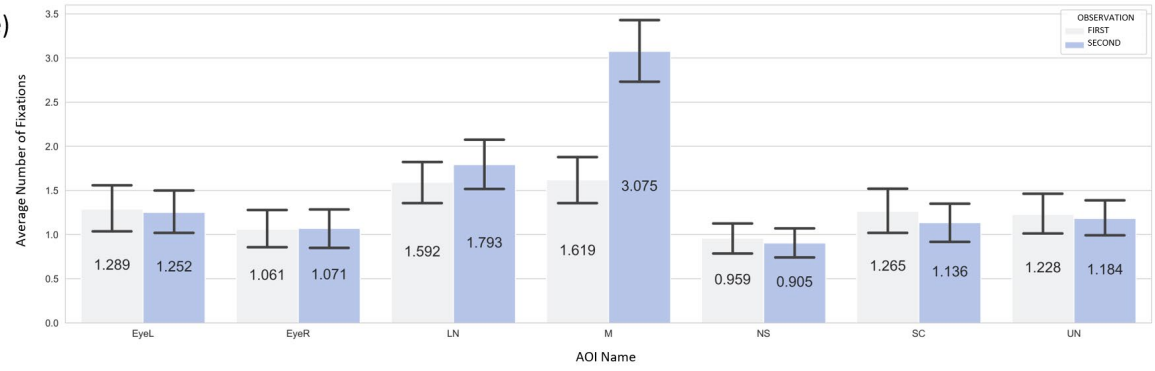
c)


OBSERVATION
FIRST
SECOND
Average Number of Fixations
2.5
2.0
1.5
1.0
0.5
0.0
1.150
1.289
0.980
0.942
0.983
1.456
0.694
0.898
1.442
1.799
2.095
1.810
0.918
1.371
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

d)


OBSERVATION
FIRST
SECOND
Average Number of Fixations
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
1.503
1.833
0.867
0.939
1.075
1.456
0.616
0.646
0.762
1.061
1.626
1.401
0.956
1.299
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

e)


OBSERVATION
FIRST
SECOND
Average Number of Fixations
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.289
1.252
1.061
1.071
1.592
1.793
1.619
3.075
0.959
0.905
1.265
1.136
1.228
1.184
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

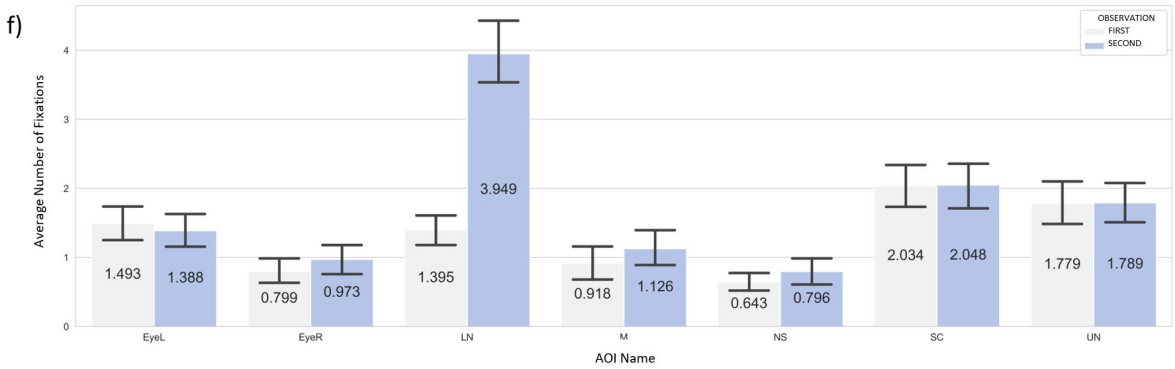


Figure 23. Average number of fixations (y axis) per each AOI (x axis) made by participants during the first and second observation of the pictures of female faces with the hemangioma localized: a) on the right cheek, b) near the left eyebrow, c) in the middle of the forehead, d) on the left side of the forehead, e) on the right side of the lower lip, f) on the left side of the lower nose. Error bars were calculated using standard deviation between the mean number of fixations made by study participants.

Detailed results of mixed ANOVA are presented in the Tables S153-S161 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between the first and second observation in average number of fixations per each AOI for the pictures of female faces with hemangioma on the right cheek, in the middle of the forehead, on the left side of the forehead, on the right side of the lower lip and on the left side of the lower nose ($p<0.05$). On the basis of the results presented in the Table S162 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more fixations on AOI covering the lower nose in the pictures of female faces with hemangioma on the right cheek than during the first observation ("free observation"). On the basis of the results presented in the Table S164 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more fixations on AOIs covering the lower and upper nose in the pictures of female faces with hemangioma in the middle of the forehead than during the first observation ("free observation"). On the basis of the results presented in the Table S165 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more fixations on AOI covering the lower nose in the pictures of female faces with hemangioma on the left side of the forehead than during the first observation ("free observation"). On the

basis of the results presented in the Table S166 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more fixations on AOI covering the mouth area in the pictures of female faces with hemangioma on the right side of the lower lip than during the first observation ("free observation"). On the basis of the results presented in the Table S167 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more fixations on AOI covering the lower nose in the pictures of female faces with hemangioma on the left side of the lower nose than during the first observation ("free observation").

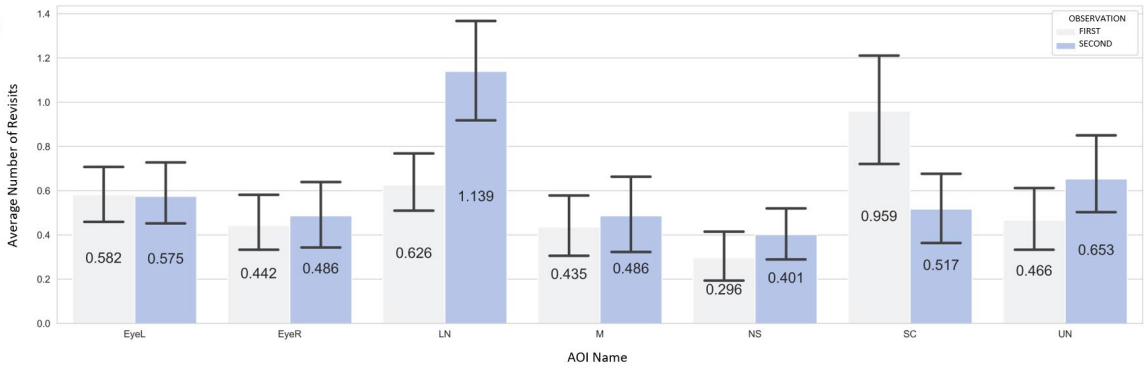
Results of mixed ANOVA also found that there were statistically significant differences between the first and second observation in average number of fixations per each AOI for the pictures of female faces with skin lesion near the left eyebrow ($p<0.05$). Whereas results of post-hoc analysis presented in the Table S163 in the Supplementary Appendix show that the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data (AOI, first or second observation) these differences exist.

4.7.3. Impact of performed task on the number of revisits

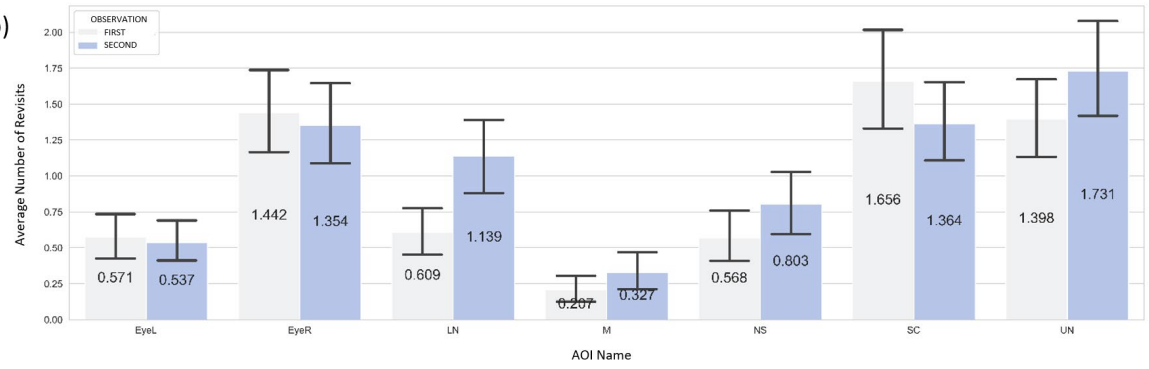
This analysis was conducted to verify if there were differences in the number of revisits per each AOI between "free-observation" and "task-specific observation".

Mean number of revisits per each AOI made by study participants during the first and second part of the experiment, separately for healthy skin face as well as for eight different hemangioma locations were calculated. Below we present results only for pictures for which statistically significant differences were obtained (Figure 24).

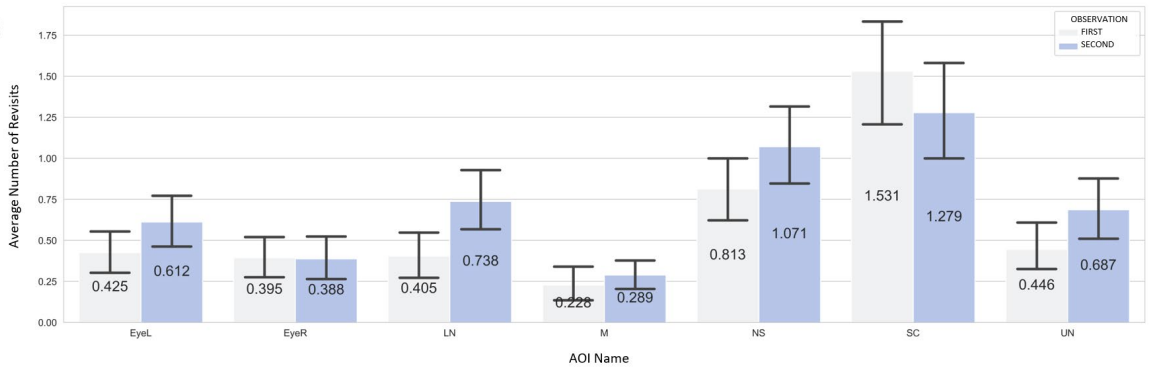
a)



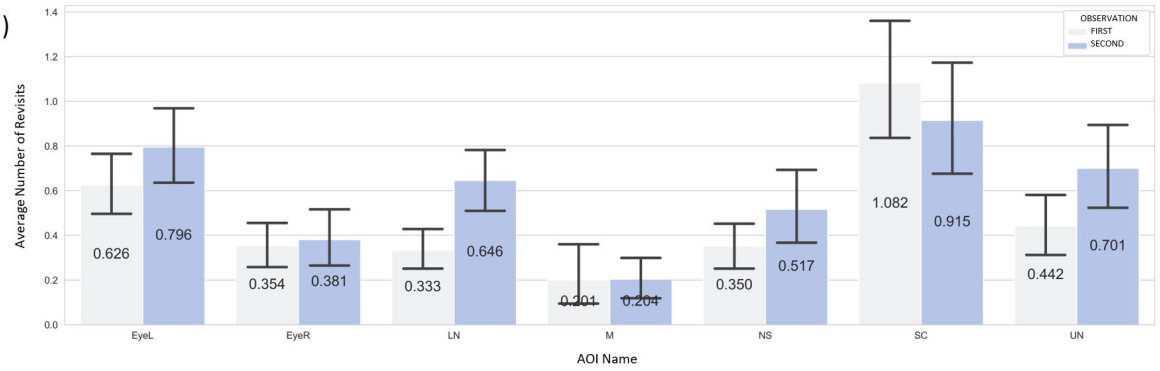
b)


OBSERVATION
FIRST
SECOND
Average Number of Revisits
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.571
0.537
1.442
1.354
0.609
1.139
0.207
0.327
0.568
0.803
1.656
1.364
1.398
1.731
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

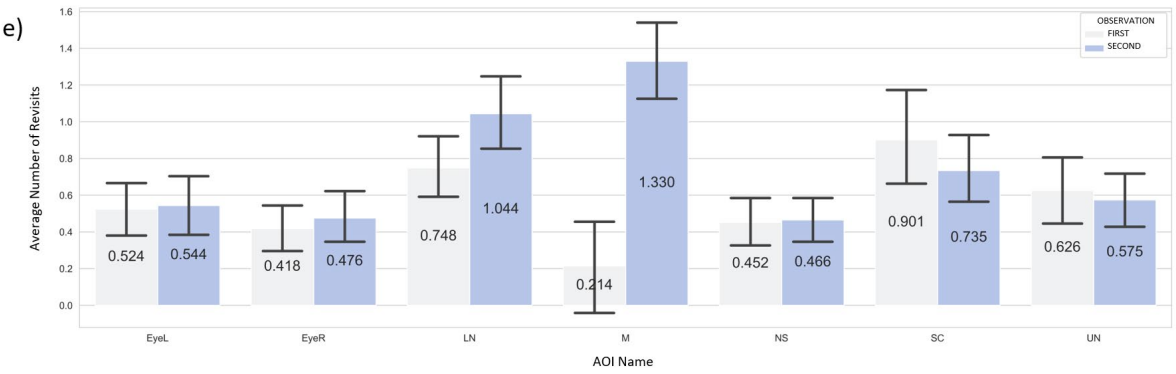
c)


OBSERVATION
FIRST
SECOND
Average Number of Revisits
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.425
0.612
0.395
0.388
0.405
0.738
0.228
0.289
0.813
1.071
1.531
1.279
0.446
0.687
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

d)


OBSERVATION
FIRST
SECOND
Average Number of Revisits
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.626
0.796
0.354
0.381
0.333
0.646
0.201
0.204
0.350
0.517
1.082
0.915
0.442
0.701
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

e)


OBSERVATION
FIRST
SECOND
Average Number of Revisits
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.524
0.544
0.418
0.476
0.748
1.044
0.214
1.330
0.452
0.466
0.901
0.735
0.626
0.575
EyeL
EyeR
LN
M
NS
SC
UN
AOI Name

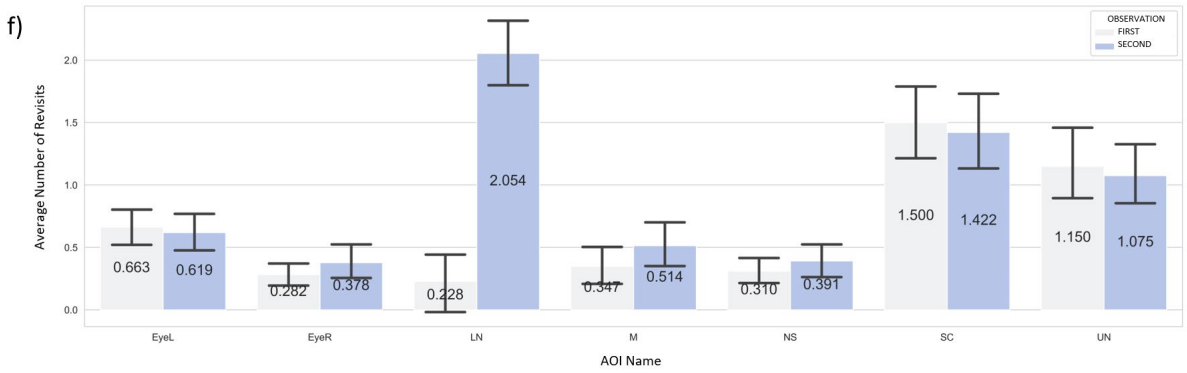


Figure 24. Average number of revisits (y axis) per each AOI (x axis) made by participants during the first and second observation of the pictures of female faces with the hemangioma localized: a) on the right cheek, b) on the right lower eyelid, c) in the middle of the forehead, d) on the left side of the forehead, e) on the right side of the lower lip, f) on the left side of the lower nose. Error bars were calculated using standard deviation between the mean number of revisits made by study participants.

Detailed results of mixed ANOVA are presented in the Tables S168-S176 in the Supplementary Appendix.

Results of mixed ANOVA found that there were statistically significant differences between the first and second observation in average number of revisits per each AOI for the pictures of female faces with hemangioma on the right cheek, on the right lower eyelid, in the middle of the forehead, on the left side of the forehead, on the right side of the lower lip and on the left side of the lower nose ($p<0.05$). On the basis of the results presented in the Table S177 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on the AOI covering the lower nose in the pictures of female faces with hemangioma on the right cheek than during the first observation ("free observation"). Another finding is fact that during the first observation ("free observation") participants of the study made significantly more revisits on the AOI covering the hemangioma than during the second observation ("task-specific observation"). On the basis of the results presented in the Table S178 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on the AOI covering the lower nose in the pictures of female faces with hemangioma on the right lower eyelid than during the first observation ("free observation"). On the basis of the results presented in the Table S179 in

the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on the AOI covering the lower nose in the pictures of female faces with hemangioma in the middle of the forehead than during the first observation ("free observation"). On the basis of the results presented in the Table S180 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on the AOI covering the lower nose in the pictures of female faces with hemangioma on the left side of the forehead than during the first observation ("free observation"). On the basis of the results presented in the Table S181 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on AOI covering the mouth in the pictures of female faces with hemangioma on the right side of the lower lip than during the first observation ("free observation"). On the basis of the results presented in the Table S182 in the Supplementary Appendix we can conclude that during the second observation ("task-specific observation") study participants made significantly more revisits on AOI covering the lower nose in the pictures of female faces with hemangioma on the left side of the lower nose than during the first observation ("free observation").

Thus, summing up, statistically significant differences in eye gaze patterns between participants divided into two groups on the basis of the type of task performed by the participants, namely "free-observation" and "task-specific observation", were found for pictures of female faces with the hemangioma on the right side of the lower lip and on the left side of the lower nose. More specifically, during the second observation ("task-specific observation") study participants made significantly more fixations and revisits as well as spent significantly more time on observation of AOI covering mouth in the pictures of female faces with hemangioma on the right side of the lower lip and on observation of lower nose AOI in the pictures of faces with this change on the left side of the lower nose, than during the first observation ("free observation"). Moreover, during the second observation ("task-specific observation") study participants made significantly more fixations on upper nose AOI in the pictures of female faces with hemangioma in the middle of the forehead and made significantly more revisits on lower nose AOI in the pictures of female faces with hemangioma on the right lower eyelid than during the first observation ("free observation"). In addition,

during the second observation (“task-specific observation”) study participants made significantly more fixations and revisits on the lower nose AOI in the pictures of female faces with hemangioma on the left side of the forehead, on the right cheek and in the middle of the forehead than during the first observation (“free observation”).

Another finding is fact that during the first observation (“free observation”) study participants spent significantly more time on observation of AOI covering right eye in the pictures of female faces without skin changes and made significantly more revisits on AOI covering the skin change in the pictures of faces with hemangioma on the right cheek than during the second observation (“task-specific observation”).

Statistically significant differences were also found in viewing time of pictures of female faces with hemangioma on the right cheek, in the middle of the forehead and near the left eyebrow and in number of fixations made by study participants during the observation of the female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and the type of observation (first or second). Whereas the significance level of 0.05 do not allow to draw conclusions between which groups of analyzed data these differences exist.

Above presented analysis allows to confirm the hypothesis that gazing strategies differ depending on the type of observation, namely eye-gaze patterns are different for “free observation” and for “task-specific observation” associated with the assessment of female faces attractiveness.

5. Discussion

Appearance of the human’s face is considered to be the most important aspect during the assessment of overall physical appearance. Humans make first impressions of the other people rapidly and instinctively. In fact, first impressions are connected to the faces and in some cases are made in about 34 msec [27, 113, 114, 115]. Facial attractiveness conveys multiple traits that are regarded as positive and provides favorable treatment. Beautiful face might have an impact on beneficial behavior toward this person in terms of dating, judgements, career and social interactions [86]. This kind of behavior is in line with “what is beautiful is good” stereotype [1]. Stereotypes are generalizations about other people made in daily life on the basis of cognitive categories that observers use during processing information associated with viewed individuals [116]. It is commonly known, that adults have a knowledge

about a lot of stereotypes and their content, such as features and behaviors that are associated with particular group of humans. Some humans believe that knowledge about content of stereotypes is gathered through observations, interactions with other people and cognitive processing of mentioned above observations and interactions. In consequence, people are unconscious of stereotype formation and activation, because this process happens automatically. For this reason, for most individuals it is very unlikely that content of stereotypes might be taught [116]. Humans prefer looking at attractive faces and this preference might underline attractiveness stereotype origin. Even infants aged from a few days to six months demonstrated preference for longer observation of humans' faces judged by the adults as being attractive than less attractive ones [117, 118]. Stereotypes development begins in children already at the age of 3 months [28, 29, 117, 119].There is an evidence that full-scale stereotypes associated with favoring attractive than unattractive humans are observed in infants by three years of age. At the age of 3 to about 6 years old, children assign positive character traits and behaviors to attractive kids, whereas negative personality traits as well as behaviors are attributed to unattractive children. Moreover they prefer attractive peers as playmates than unattractive kids [120]. These findings imply that "what is beautiful is good" stereotype that is found in adults [1], might be a continuation of presented in children categorization of faces as belonging to a particular group, preference for attractive faces as well as assessment of beautiful individuals as possessing positive characteristics.

One of probable possibilities why "beauty is good" stereotype exists is evolutionary based argument. According to this theory beautiful faces are associated with reproductive success and health [121]. In this context facial skin abnormalities might be connected with disease and result in avoidance of contacts with affected individuals, also for fear of being infected, even if this skin condition is not contagious [122, 123].

Researches on personality have shown that people's attractiveness fosters positive judgements about beautiful person. Attractive individuals are perceived to possess more favorable personal characteristics and to achieve overall success when compared to less attractive humans [124, 125]. Whereas people with acquired or congenital facial abnormalities, who are judged to be less attractive, are rated to be less trustworthy, honest, popular and employable [126, 127]. Face-altering procedures that change the impression of

the face, has also an impact on the personality beliefs [128]. These personality beliefs develop during the first meeting and are generally subconscious [129].

Leitmotif of our study assumes that a study participant's perception of observed faces is more favorable toward an individuals without skin changes on the face than of these with hemangiomas with regard to attractiveness and implicit personality traits. The specific methodology of this experiment was to use eye-tracking technology, that is broadly used in researches, to gather high-quality eye movements data from the study participants viewing female faces photographs together with the use of questionnaires to assess ratings of perceived beauty and characteristics. Eye-tracking technology allows us to assess how hemangiomas on the face impact facial perception and to define positions of these abnormalities that redirect observers attention as well as how these lesions' locations impact perceived beauty and personality traits. In our study we analyzed fixations that are the points wherein the fovea is targeted toward and remain motionless for a specific amount of time [130], usually they last about 250 ms [131]. Whereas saccades are rapid movements of individual's eyes that occur between fixations. Fixations, together with saccades, create scanpaths that visualize eye movements sequence and order in which the object was viewed [130]. The saccades are so fast, so they are not employed in the visual information gathering. Visual scanning time is divided into fixations and saccades in proportions of about 4:1 [108]. During face recognition humans perform fixations on regions that are the most valuable in the specific situation because convey the most information[132].

This study tests six hypotheses. To verify them we analyzed eye movements data for predefined AOIs. The eye-tracking analysis performed by Schurgin et al. [95] revealed that amongst 21 regions of the face that were defined by the authors, five regions of the face constituted about 88% of all fixations. These regions include eyes, nasion, upper part of the nose, lower part of the nose and upper lip. Whereas Schurgin et al. [95] analyzed eye gaze patterns during emotion recognition what might have an impact on observed facial areas. Authors of another study [133], taking advantage of previous studies highlighting that most of visual attention is usually paid to the central facial triangle including the eyes, nose and mouth of unaffected face, decided to outline AOIs around mentioned areas. Whereas, in contrary to Shurgin at al. [95] who used unaffected faces, they used pictures of faces with a cleft lip and cleft nose as well as images presenting faces with corrected aforementioned deformities.

Authors found that both: cleft lip and cleft nose are attention-drawing factors, with cleft lip playing the major role compared to cleft nose. Moreover, results found that when comparing cleft and corrected faces, cleft lips attracted more observer's visual attention than corrected lips. Comparing visual attention directed to particular AOIs, whether for cleft or corrected faces, the eyes received most attention. While in cleft faces perceivers spent more time observing the oronasal area at the expense of visual attention toward the ocular region. Liao et al. [134] analyzed visual attention directed toward various facial areas during the observation of the faces with thyroid-associated orbitopathy as well as healthy controls. Authors went a step further than researchers in previously mentioned study and as regions of interest they selected not only the eyes, nose and mouth but also central facial triangle as a whole, and the rest of the face excluding the triangular central area. Results indicated that in both: orbitopathy and healthy faces majority of visual attention was paid to the central facial triangle. Observers spent significantly more time observing the eyes and less time viewing nose in patients with orbitopathy in comparison to control faces. Authors did not find significant difference in time spent on the observation of the mouth, central facial triangle as a whole nor the remaining facial region between the patients with orbitopathy and controls. Summing up, results of this study showed that orbitopathy caused redirection of observer's visual attention from the nose toward the eyes in comparison to healthy faces. On the basis of the mentioned researches we can conclude that faces with deformities are observed differently than healthy faces and that facial abnormality distracts perceiver's visual attention. However, in both above mentioned studies, authors explored visual attention directed toward faces with abnormalities located in the central facial triangle. Jankowski et al. [109] measured visual attention directed toward different anatomical regions for faces with lesions located also out of the central triangle and found that skin changes in the high-visual attention cluster (including the frontal, nasal, ocular and perioral areas) redirected observer's gaze toward affected region and the increase of attention was the highest for the frontal area. Whereas skin lesions in low-visual attention cluster (including remaining facial areas) decreased attention paid to the high-visual attention zone. This finding is consistent with previously mentioned studies in which attention paid to one of the regions including the eyes, nose and mouth was decreased at the cost of attention redirected toward the area with abnormality. Moreover, results obtained by Jankowski et al. added to these regions also frontal area that was not taken into consideration as a separate zone in two above mentioned studies [133,

134]. Therefore, in our experiment we predefined AOIs covering the typically analyzed areas including the eyes, nose and mouth, and additionally in the pictures with hemangioma in various locations (including frontal area) we added also it's area.

Firstly, we expected that healthy skin faces will be observed in a predictable manner found in previous researches describing eye gaze patterns during the novel attractive faces observation. When people view novel face, without skin lesions or deformities, and try to gain information about the individual's emotions or identity, observers most often perform fixations on the eyes, nose and mouth [108]. In line with our expectations and findings from the previous studies [108], results of our experiment found that when the facial skin was healthy, study participants focused significant amount of visual attention on the central facial triangle including eyes, nose and mouth of presented faces. Similarly, during emotion recognition, these areas are essential for the proper mood identification [95, 96]. Thus, we can conclude that these gaze patterns are rather stable and reproducible between different people. However, there are some exceptions to this rule. The psychology studies found that in patients with diagnosed schizophrenia or autism, this conserved pattern of eye movements during emotion recognition is disturbed. In comparison to healthy observers, patients with mentioned disorders perform fewer fixations that are located away from typically observed facial regions towards the periphery [135, 136]. For this reason, in order to eliminate additional variables in eye movements analysis, individuals with neurological or psychiatric disorders were excluded from the participation in this study.

Positive impact of attractive faces on eye-gaze patterns have been found in previous researches [e.g.: 97, 98]. However, these experiments compared eye-gaze patterns in respect of faces more or less attractive as well as disfigured faces with their postoperative versions. Such differences between faces might not represent a situation that might be seen in everyday life situations where humans rather encounter individuals with not perfect skin condition. Therefore, similarly to Zapatero et al. [137] we decided to use pictures of faces with skin changes that might be relatively often seen in everyday life situations and we put them into various locations. Interestingly, Zapatero at al. found that on average, presence of a scar did not have a negative impact on the assessed facial attractiveness, friendliness, or confidence. Moreover, faces with scars received higher ratings of friendliness compared to faces without scars. Faces with scars on the forehead were assessed as more confident and friendlier than

in the case of the cheek location. Only analysis of the both factors together: scar placement and orientation showed lower judgements of attractiveness, confidence and friendliness for the perpendicular scar located at the lower-mid eyelid. In our study we received distinct findings concerning assessed attractiveness and personality traits what may result in difference in visual saliency of depicted skin lesions in the study of Zapatero et al. In study with the use of pictures of different children with digitally added different skin lesions to assess characteristics, authors suggested that future studies should use the pictures of the same face with different skin change localizations or different skin changes to examine their impact on observed human's perception [92]. We decided to use only one type and size of facial difference to reduce the impact of many overlapping variables (e.g. different faces, different types of skin lesions) on our results. Finally, stimulus set consisted of 27 pictures of three different females presented without skin lesions as well as in one of eight different locations of hemangioma. Stimuli material used in this study include pictures of only female faces. It was dictated by the willingness to reduce the impact of female hormone fluctuations on perception of observed face beauty. There is an evidence that women judgements of male faces attractiveness varies across the menstrual cycle [138].

We were especially interested in the visual attention paid of adult perceivers on the faces with hemangiomas. We hypothesized that according to the previously published researches [107, 108] observers will firstly focus their eyes on the skin change and will also spend a greater amount of time gazing on a skin lesion instead of the other facial regions. Whereas we found few exceptions to this general rule. Results of our study show that hemangioma and the surrounding area were observed as the first regions and with the longest fixation duration among the other analyzed facial regions, so the both conditions were met, only when the skin change was on the lips. Whereas we did not find similar correlations relating to the rest of analyzed locations of the skin change. Hemangioma on the lower nose attracted visual attention of the study participants as the first observed region but was not associated with the longest fixation duration, so only one condition was met. Also hemangioma on the right cheek did not have an impact on longer fixation duration of specific AOI. Placement of the skin change on the right lower eyelid resulted in longer fixation duration of the two the nearest areas including the right eye and the upper nose. Participants spent more time observing the areas covering and being closest to the skin lesion when it was

located on the left side of the forehead, in the middle of the forehead as well as near the left eyebrow, what corroborates previous results from study conducted by Jankowski et al. [109]. In these cases, observers were looking at the skin change, nasal and left eye for the longest duration. Summing up, hemangiomas on the mouth and nose attracted observers' initial visual attention. This might be caused by hemangioma's location in the central facial triangle that is usually firstly observed among the other facial areas also in healthy skin faces. Hemangioma located on the eyelid caused longer fixation time of this region but was not observed as the first of analyzed areas. These findings are in contrary to results from previous research [106] in which participants firstly fixated on the area of the eyes and mouth, and only then on the nose region that was observed for the longer duration in comparison to the eyes and mouth. These discrepancies might be caused by the fact, that in our study hemangiomas were located in the central facial triangle and disturbed typical eye gaze patterns. Moreover in the mentioned study, participants were asked to assess attractiveness of presented face, while in our study this part of the experiment was deprived of any additional task. Whereas when hemangiomas were located peripherally on the face, namely on the forehead and near the eyebrow, the observers redirected their visual attention from the central facial triangle to the region of the face with the hemangioma. As a result participants spent significantly more time gazing on the hemangioma and less time observing the central triangle what is consistent with previous findings [108].

The impact of attractiveness on the perception of personality traits has been extensively examined, especially with regard to human faces. The available literature indicates that there exist criteria of attractiveness to which observed faces are compared. Numerous studies have been conducted to define these criteria [10]. It was generally demonstrated that facial skin lesions or deformities are distracting to observers and have a negative impact on assessed attractiveness and personality traits. However, analysis of the available literature revealed that to date no studies comparing ratings of attractiveness and characteristics in adult people with facial hemangiomas in different locations were conducted. Results of the present study fill a gap in the available research. Gathering information about observed face might be analyzed on the basis of observer's gaze direction. In our study we used the eye-tracker to assess the eye gaze patterns during the observation of female faces without skin changes and with hemangiomas. In our experiment, we tested if besides the existing stereotype that "what

is beautiful is good", also opposite stereotype saying that "disfigured is bad" also exists. Individuals with facial disfigurements are judged to be less attractive and are thought to have less favorable personality traits. For example, they are assessed to be less intelligent, trustworthy, popular, happy than humans without visible facial disfigurements [91]. Even in widely available popular culture, visible facial disfigurements are applied to mark evil characters [139]. Attractive faces are symmetric and average [10]. Therefore faces with disfigurements are not average and symmetric, they deviate from the accepted norms, and as a result are not assessed to be attractive. Individuals with physical attractive appearance are believed to possess socially desirable personality traits, so disfigurements might result in negative ratings of characteristics. It might be caused by being less typical and differing from the averageness of population. This stigmatization of humans with disfigured faces provoked by stereotyped social thinking has a negative impact of their social, romantic, academic and professional life [140]. Physical appearance has a great impact on the manner in which humans are assessed and treated by other people. Attractive individuals might count on favorable treatment, but unfortunately the same mechanisms result in unfavorable treatment of people with visible facial disfigurements.

In judging the attractiveness and characteristics of a face, skin lesions might have an impact on observers ratings. However, we are aware that there might exist a disproportion in what humans consider to be more or less attractive. To answer this question, we decided to determine how different facial hemangiomas' locations affect the observer's perception of female faces beauty as well as assignment of personality traits. We would like to summarize the results in reference to our hypotheses.

Results of our study provide an evidence that manner of face perception depends on the presence of facial hemangiomas and their position. Similarly to Lee et al. [107] we used a five-point Likert scale to assess perceived attractiveness. The same rating scale was used to estimate personality. Study participants perceived all of the five analyzed personality traits as well as attractiveness to be significantly different between faces without skin changes and with facial hemangiomas ($p<0.05$). In line with our expectations, healthy skin female faces were judged as being more attractive and possessing more positive personality traits: they were rated as more intelligent, self-confident, trustworthy, kind and dominant than female

faces with visible hemangiomas, irrespectively of the abnormality location. These findings are in line with a “what is beautiful is good” stereotype [1].

On the basis of the stereotype “what is beautiful is good”, we also hypothesized that faces with hemangiomas would be rated as less intelligent, self-confident, trustworthy, kind and dominant. For the stimuli used in our research, we found support for this hypothesis.

In a previous part of our analysis we proved that during the observation of the photos of female faces without skin changes, study participants most often focused their eyes on the region of the eyes, nose and mouth of presented faces. Interestingly, results obtained during testing the impact of hemangiomas on the perception of attractiveness allowed us to note that localization of this skin change on or near the three above mentioned areas resulted in lower attractiveness ratings than those obtained by the faces with more peripherally located hemangiomas. Whereas the lowest ratings of attractiveness among all analyzed locations of skin lesion obtained faces with hemangioma on the right lower eyelid. This finding is in line with results presented by Lewis et al. [141] who used in their study healthy skin infant faces as well as with hemangiomas of the constant size and shape but varied in a vertical location: in the upper (closely to the eyes) or lower (near the mouth) half of the presented faces. Pictures also differed in a horizontal hemangioma position: on the left or right half of the face. Perceivers assessed faces with a hemangioma to be significantly less attractive than faces without abnormalities. Moreover, hemangioma in the upper left facial area (on the perceivers’ left side of the face as they observe it, so on the right side of the stimuli face) caused the greatest reduction of attractiveness ratings. Similarly, in our study hemangioma on the right lower eyelid (so on the left side of the face for the observer) received the lowest ratings of attractiveness. Thus, we can conclude that abnormalities in the area of the right eye that is a high visual attention region, decrease the facial beauty to the greatest degree when compared to different facial areas in both: adult and infant faces.

Moreover in our study, hemangiomas near the eyebrow or on the side of the forehead had less negative impact on attractiveness than skin change in the middle of the forehead. We can infer that the more peripheral the hemangioma is, the lower negative impact on attractiveness it has. Thus, we can conclude that hemangiomas located closely to the typically observed central facial triangle (eyes, nose, mouth) have a more negative impact on perception of facial beauty than skin lesions located peripherally on the face (namely on the

cheek, near the eyebrow and on the side of the forehead). Our finding that the more central the hemangioma was located, the lower the ratings of attractiveness were, is in contrary to results from the previous research in which decreased attractiveness ratings were associated with a lesion size but not with lesion location [110]. Whereas in mentioned study, participants considered larger and more centrally located lesions as important to be repaired. Summarizing, we can conclude that observers deem facial lesions to be disfiguring. Whereas the differences in the impact that lesions' size and location have on the perception of beauty in comparison to impact on the feelings of disturbance and the necessity of the lesion repairing might arise from the differences in mechanism underlying the perception of these two lesion qualities. Individual observers have unique and stable visual scanning patterns, impact on which has not been addressed by current study. Also in attractiveness scores of the disfigured faces the interindividual variables might be seen. Assessment whether certain face is attractive or not, might be very subjective and individually variable among the study participants. Nevertheless, we obtained statistically significant differences in attractiveness ratings that confirmed our hypothesis.

Study participants perceived the observed females' intelligence and trustworthiness to be significantly higher with increased distance of skin change from the central parts of the face. In fact, female faces with hemangioma on the cheek and near the eyebrow were judged to be more intelligent and trustworthy than faces with skin change localized on or very closely to the eyes and nose. Also perceived self-confidence, kindness and dominance increased if hemangiomas were located further from the central facial triangle. Namely, faces were assessed as being more self-confident, kind and dominant when skin lesion was on the cheek or near the eyebrow in comparison to ratings obtained by faces with skin changes on the area of the eyes, nose and mouth, and additionally in relation to self-confidence and with skin lesion on the cheek and near the eyebrow and also in relation to dominance and skin lesion near the left eyebrow - in the middle of the forehead. Similarly, hemangioma on the side of the forehead had less negative impact on the self-confidence and dominance perception than lesions located centrally on the face – on the eyes, mouth and nose. Faces with the hemangioma on the right lower eyelid were perceived as more diffident than faces with this skin change located in the all remining seven locations. Faces with hemangioma on the lower eyelid were perceived as more unkind than faces with skin lesion located more peripherally,

namely on the side of the forehead, on the cheek and near the eyebrow. Finally, faces with hemangioma on the right lower eyelid were judged to be more submissive than all remaining locations expecting the lower lip. Our findings are in line with previously published studies [80, 81, 86-91]. According to them, people with facial skin lesions or disfigurements received lower ratings of personality traits in comparison to healthy skin faces and also with faces after operations improving their appearance. Moreover, we showed that hemangiomas in the central facial triangle have more negative impact on assessed characteristics than hemangiomas located peripherally on the face.

Our study reports changes in perceived character traits and attractiveness that a person with facial hemangioma might encounter depending on its location. We reported improvement in the 5 perceived character traits in faces without skin changes and with peripherally located hemangiomas as compared with faces with hemangiomas in the central facial triangle, and the differences were significant.

The negative stereotypes toward individuals with facial hemangiomas observed in our study might have an impact on dermatologically affected people in many different aspects of life. With regard to children, adolescents and students, facial disfigurement might cause judging them as less hardworking and also less intelligent than their healthy facial skin peers [91]. Adults with affected facial skin in their occupational work might be assessed as less intelligent, competent and hardworking and as a consequence they are less likely to be employed or promoted [91].

On the basis of the findings from the previous studies about the differences in the eye movements strategies between women and men [106], we decided to verify the hypothesis that males make more fixations than females during the observation of healthy skin female faces. Results of our study found that there were not statistically significant differences between the average number of fixations made by male and female participants. This finding is in contradiction with the previously published research [106] in which results revealed that men made significantly more fixations than women when observing female faces. These discrepancies in between gender differences might have been caused by the experimental design. In this part of our research participants were allowed to freely view the presented faces. Whereas Zhang et al. analyzed the number of fixations during the female faces attractiveness assessment. Additional task might have an impact on the eye gaze patterns.

And, accordingly we decided to verify if also in our study during the judgements of attractiveness we will observe differences in eye gaze patterns in comparison to free-observation which is not associated with additional tasks. Moreover, we have expanded the scope of our analysis and verified the eye gaze patterns during the attractiveness judgement of not only healthy skin female faces but also of the faces with hemangiomas in eight different locations.

Results of our study revealed that eye gaze patterns vary depending upon the task that needs to be done by the observers. Eye movements during the free observation of female faces differ significantly from gaze patterns observed during the facial attractiveness assessment. Hemangiomas within the central facial triangle, specifically on the nose and mouth, caused longer observation duration and also greater number of fixations and revisits made by observers on the mouth and nose area during the attractiveness judgements than during the free observation. Whereas hemangiomas located outside this triangular facial area, namely on the cheek and in the middle or on the side of the forehead, did not attract observers' visual attention during the attractiveness assessment. In these cases, nose was the facial area associated with larger number of fixations and revisits in comparison to free observation of female faces. This finding is in line with results of previously mentioned researches [98]. According to them, nose is vital during the female face's attractiveness assessment. We proved that hemangiomas located peripherally from the central facial triangle did not change eye gaze patterns during the attractiveness judgements and as a result area of the nose is crucial in order to perform this task successfully.

Despite of the fact that facial skin lesions have established negative impact on patients' life, we did not find research allowing to understand if people in different age, of different sexes and with different educational levels perform distinct eye gaze patterns during the observation of adult individuals with facial skin changes. We predicted that different gaze patterns might be found between adult participants divided into above mentioned groups. By studying observer's eye gaze patterns with the use of eye-tracking technology we can obtain information how people divide their visual attention during observation of the faces without and with skin lesions.

Results of our study found that there are not many differences in eye gaze strategies depending upon the participant's age. The only statistically significant difference was found

for the faces with hemangioma on the right lower eyelid. In this case, participants aged between 18 and 40 made significantly more fixations and revisits as well as spent significantly more time viewing the skin lesion area, namely the right eye, than participants at the age of 60 and older. It might be caused by two reasons. Firstly, eyes are one of the most diagnostic facial regions during the face recognition [142] and abnormalities in the area of the right eye that is a high visual attention region [141] attract observer's gaze. Secondly, the Internet and television promote attractive, healthy skin faces without any visible imperfections [10]. Younger participants are more likely to be influenced by trend for attractive faces with smooth skin that are being promoted by the mass media. Skin without any imperfections is perpetuated in marketing and media as the canon of feminine beauty. For this younger generation any facial imperfections are regarded as deviation from the socially accepted norms of beauty and attract their gaze.

In line with earlier studies [94], we expected significant differences in eye gaze patterns between male and female perceivers. In fact, in this study we found between gender differences in eye gaze patterns only in two cases. Firstly, during the observation of the healthy skin female faces, women made significantly more fixations and spent significantly more time viewing the mouth in comparison to men. Females also made significantly more fixations viewing the mouth in the pictures of faces with hemangioma on the left side of the lower nose when compared male participants. Our findings are in contrary to previous research, in which males made significantly greater number of fixations and spent significantly more time observing the nose and mouth. Whereas in the mentioned study, study participants were presented with emotional faces. Use of emotional and not emotional stimuli might have an impact on discrepancies in between gender differences in gaze patterns presented in both studies.

Results of our study found that there are slight differences in eye gaze patterns depending upon the educational level. Study participants with lower educational level made significantly more fixations and spent significantly more time viewing hemangioma when it was localized near the left eyebrow in comparison to participants with higher educational level. Another finding is that participants with lower educational level made significantly more fixations viewing skin change localized in the middle of the forehead and made significantly more revisits on the skin change area localized on the right cheek, when compared to

participants with higher educational level. Thus, our findings indicate that people with lower educational level have a greater tendency to relocate their gaze from the typical central facial triangle that includes the eyes, nose and mouth, to located peripherally areas containing the hemangioma when compared to observers with higher education level. We can conclude that observers with higher education level present more predictable gaze patterns that were described in previous researches [108] and more often direct their eyes toward central facial triangle than to peripheral areas, even if the skin change was located peripherally.

To the present time and to our knowledge, this is innovative study using eye-tracking technology to better understand how a humans' perception of adult females with facial hemangiomas changes with a modification in only the skin lesion localization. Further studies might include comparison of changes in perception of attractiveness and personality traits depending on the shape, size and localization of the skin lesion. It might be presumed that a greater size of skin lesions would result in a less favorable change, but this remains to be further studied. Moreover, future studies could involve both, male and female subjects to determine reliability of our findings on the basis of a higher number of variables.

5.1. Study limitations

We admit that there are several important limitations to this study. Because images of study subjects were selected from the available on the Internet database and were all female, we have a selection bias. All models in this study were Caucasians, and all respondents were Central Europeans what is a major limitation as face perception has been shown to be culture dependent and subject to other race effect [143].

Study weaknesses include our use of stimuli presenting only female faces. As such, we did not provide data enabling an in-depth analysis of differences in the viewing strategies between female and male participants when looking at images of faces of both genders.

It should be noted that we had a limited number of male raters. With only 28 male participants and 70 females, we likely did not assure a reliable representation of the true population. Furthermore, it may have underpowered and precluded finding significant differences between genders in eye gaze patterns.

Limitations of the current study include the fact that study participants were asked to say loudly their ratings of personality traits and attractiveness. This action, instead of using

keyboard or writing answers on a piece of paper, might have influenced the results of the ratings given by the respondents. To be more precise, this could affect the participants' ability to give truthful results, unbiased by any fear of being judged by the person conducting the experiment.

Moreover, although raters were informed about study procedure and were asked to be critical of the viewed pictures, study participants most likely differed from each other in terms of personality, which could have influenced their willingness to critically judge attractiveness and personality traits of the individuals presented in the pictures.

It should be noted that we used full-face pictures, without removing variables such as hair. Due to a risk of confounding impact of hairstyle on participant's perception of faces in the photographs, this might be considered as a limitation of the study.

Moreover, although considered personality traits were taken from previously published studies about the impact of facial appearance on assigned character traits, the Likert scales used in the our study were self-generated.

Lastly, the Gazepoint GP3 software did not allow researchers to display a central fixation before each photo was shown to the study participant which is possible in the other software. By presentation of a dot for a few seconds, participants begin viewing the pictures at the center of the screen. This manipulation ensures that results are more reproducible, whilst the comparison of the data is easier. Nevertheless, this limitation might have an impact only on the localization of the first fixation, while the rest of analyzed in our study parameters are independent of this manipulation.

6. Conclusions

Facial skin changes have an attention-drawing potential. This study sought to establish whether different facial hemangiomas locations would influence the observer's eye gaze patterns as well as perception of females in terms of attractiveness and personality traits. The findings are presented below.

1. The results indicate that when looking at the healthy skin female face perceivers focused significant amount of visual attention on the central facial triangle including eyes, nose and mouth of presented faces.

2. The outcomes find that hemangioma was observed as the first area and with the longest fixation duration among the other analyzed facial regions only in case of perioral hemangioma location. Hemangioma on the lower nose attracted participant's initial visual attention. Presence of the hemangioma on the right lower eyelid as well as on the forehead resulted in longer observation of the area covering or being closest to the skin lesion.
3. Female faces with hemangioma, irrespectively of the abnormality location, were assessed as being less attractive, intelligent, self-confident, trustworthy, kind and dominant than healthy skin female faces. The outcomes suggest that hemangiomas located closely to the typically observed central facial triangle (including eyes, nose, mouth) as well as in the middle of the forehead have a more negative impact on perception of facial beauty than skin lesions located peripherally on the face (namely on the cheek, near the eyebrow and on the side of the forehead). The lowest ratings of attractiveness and self-confidence among all analyzed locations of skin lesion obtained faces with hemangioma on the right lower eyelid. We reported improvement in the 5 perceived character traits in faces without skin changes and with peripherally located hemangiomas in comparison to faces with hemangiomas in the central facial areas, and the differences were significant.
4. The outcome of the eye-tracking variables analysis suggests that during the healthy skin female face observation no significant difference in number of fixations exists between male and female participants.
5. Analysis of eye movements recordings gathered from observers gazing on the pictures of female faces without skin lesions and with hemangiomas revealed statistically significant differences in the eye movements patterns performed by study participants divided on the basis of their age, sex and educational level. The only statistically significant difference in eye gaze patterns between participants of different ages was found for the faces with hemangioma on the right lower eyelid. In this case, the right eye attracted visual attention of the participants aged between 18 and 40 stronger than of participants at the age of 60 and older. Females paid more visual attention to perioral area in healthy skin faces and with hemangioma on the left side of the lower nose when compared to males. Study participants with lower education level have a greater tendency to relocate their visual attention from the central facial triangle to

hemangiomas located peripherally (near the left eyebrow, in the middle of the forehead, on the right cheek) than observers with higher educational level.

6. We confirmed that eye movements during the free observation of female faces differ significantly from gaze patterns observed during the facial attractiveness assessment. Hemangiomas within the central facial triangle, specifically on the nose and mouth, were regions of higher visual attention during the judgement task in comparison to free observation. Whereas hemangiomas located peripherally from the central facial triangle did not attract observer's visual attention during the attractiveness judgements and then visual attention to the area of the nose increased during the attractiveness assessment when compared to the free observation.

The results suggest that facial hemangiomas negatively affected perception of females and thus women may benefit from an appropriate disfigurement treatment resulting in improvement of assessed beauty and personality. Positive changes in one's perception may also facilitate social interactions when a good first impression is of paramount importance.

7. Abstract

7.1. Abstract in English

Skin lesions localized in visible body areas have proven negative impact on the patient's quality of life. People with skin changes are assessed as less attractive, whereas many aspects of their personal and professional life are judged worse in comparison to healthy skin humans. However, it is still unknown what effect on perception of beauty and assignment of personality traits have hemangiomas located in various facial regions. There is also no information presenting what changes occur in eye gaze patterns during the observation of the faces with hemangiomas as well as healthy skin faces depending on the observer's age, sex and educational level. There are also unknown disparities in eye movements patterns between fee-observation that is not associated with additional task and face observation associated with assessment of facial attractiveness.

Research objectives:

1. Analysis of the eye movements during the healthy skin female faces observation.
2. Analysis of the eye gaze patterns during the observation of female faces with hemangiomas in different locations.
3. Investigation of the impact of locations of facial hemangiomas on assessment of attractiveness and five personality traits: intelligence, self-confidence, trustworthiness, kindness and dominance.
4. Assessment of the number of fixations made by female and male study participants during the healthy skin female faces observation.
5. Assessment of the impact of observer's age, sex and educational level on differences in eye gaze patterns during the observation of the healthy skin female faces as well as faces with hemangiomas in various locations.
6. Analysis of the observers' eye gaze patterns during the free-observation and observation associated with the facial attractiveness assessment.

Study group consisted of 98 patients of General Practitioner Practice, who viewed pictures of healthy skin female faces as well as with hemangiomas in different facial regions. The experiment was conducted with the use of the eye-tracker allowing to follow observer's eyes movements and the questionnaire to assess facial attractiveness and five analyzed

personality traits. For the purpose of detailed analysis study participants were divided into two gender groups, three age groups (18-40, 41-59, ⩾60 years) and two educational level groups (lower and higher).

Results:

1. When looking at the healthy skin female face perceivers focused significant amount of visual attention on the central facial triangle including eyes, nose and mouth of presented faces.
2. When viewing female faces with hemangiomas, study participants presented the following eye movements patterns. We found that hemangioma was observed as the first area and with the longest fixation duration among the other analyzed facial regions, thus both conditions were met, only in case of perioral hemangioma location. Hemangioma on the lower nose attracted participant's initial visual attention. Presence of the hemangioma on the right lower eyelid as well as on the forehead resulted in longer observation of the area covering or being closest to the skin lesion.
3. Female faces with hemangioma, irrespectively of the abnormality location, were assessed as being less attractive, intelligent, self-confident, trustworthy, kind and dominant than healthy skin female faces. The outcomes suggest that hemangiomas located closely to the typically observed central facial triangle (including eyes, nose, mouth) as well as in the middle of the forehead have a more negative impact on perception of facial beauty than skin lesions located peripherally on the face (namely on the cheek, near the eyebrow and on the side of the forehead). The lowest ratings of attractiveness and self-confidence among all analyzed locations of skin lesion obtained faces with hemangioma on the right lower eyelid. We reported improvement in the 5 perceived character traits in faces without skin changes and with peripherally located hemangiomas in comparison to faces with hemangiomas in the central facial areas, and the differences were significant.
4. The outcome of the eye-tracking variables analysis did not find significant difference in number of fixations between male and female participants during the healthy skin female face observation.
5. There are statistically significant differences in the eye movements patterns performed by study participants divided on the basis of their age, sex and educational

level when gazing on the pictures of female faces without skin lesions and with hemangiomas. Hemangioma on the right lower eyelid attracted visual attention of the participants aged between 18 and 40 stronger than of participants at the age of 60 and older. Females paid more visual attention to perioral area in healthy skin faces and with hemangioma on the left side of the lower nose when compared to males. Study participants with lower education level have a greater tendency to relocate their visual attention from the central facial triangle to hemangiomas located peripherally (near the left eyebrow, in the middle of the forehead, on the right cheek) than observers with higher educational level.

6. Eye movements during the free observation of female faces differ significantly from gaze patterns observed during the facial attractiveness assessment. Hemangiomas within the central facial triangle, specifically on the nose and mouth, were regions of higher visual attention during the judgement task in comparison to free observation. Whereas hemangiomas located peripherally from the central facial triangle did not attract observer's visual attention during the attractiveness judgements and then visual attention to the area of the nose increased during the attractiveness assessment when compared to the free observation.

To the present time and to our knowledge, this is innovative study using eye-tracking technology and questionnaires to better understand how humans' perception of adult females with facial hemangiomas changes with a modification only of the skin lesion localization. The results suggest that facial hemangiomas negatively affect perception of females and thus women may benefit from an appropriate disfigurement treatment resulting in improvement of assessed beauty and personality. Positive changes in one's perception may also facilitate social interactions when a good first impression is of paramount importance. Presented results might be used in practice by physicians involved in the treatment of patients with facial imperfections and might be used as an indication for taking into account, during the treatment plan development, not only medical indications but also location of the lesions and individual preferences of the patients.

7.2. Abstract in Polish

Zmiany skórne zlokalizowane w widocznych miejscach mają udowodniony negatywny wpływ na jakość życia pacjenta. Osoby ze zmianami skórnymi uważane są za mniej atrakcyjne, a wiele aspektów ich życia osobistego i zawodowego ocenianych jest gorzej w stosunku do osób pozbawionych wykwitów skórnych. Wciąż jednak nie wiadomo, jaki wpływ na postrzeganie atrakcyjności i na przypisywane danej osobie cechy charakteru mają naczyniaki zlokalizowane w różnych regionach twarzy. Brak jest także danych ukazujących jakie zmiany zachodzą we wzorcach ruchów gałek ocznych podczas obserwacji twarzy z naczyniakami oraz ze zdrową skórą w zależności od wieku, płci i poziomu wykształcenia obserwatora. Nie są również znane różnice w ruchach gałek ocznych między swobodnym oglądaniem twarzy bez zmian skórnych oraz twarzy z naczyniakami a obserwacją połączoną z oceną atrakcyjności twarzy.

Cele pracy:

1. Analiza ruchów gałek ocznych podczas obserwacji damskich twarzy bez zmian skórnych.
2. Analiza wzorca ruchów gałek ocznych w czasie obserwacji damskich twarzy z naczyniakami w różnych lokalizacjach.
3. Badanie wpływu lokalizacji naczyniaków na twarzy na ocenę atrakcyjności oraz pięciu cech charakteru: inteligencji, pewności siebie, bycia godnym zaufania, życzliwości i dominacji.
4. Ocena liczby fiksacji wykonywanych przez uczestników badania płci damskiej i męskiej podczas obserwacji damskich twarzy pozbawionych zmian skórnych.
5. Ocena wpływu wieku, płci i poziomu wykształcenia obserwatora na różnice we wzorcach ruchów gałek ocznych podczas oglądania fotografii damskich twarzy pozbawionych zmian skórnych oraz z naczyniakami w różnych lokalizacjach.
6. Analiza wzorców ruchów gałek ocznych obserwatorów w czasie swobodnego oglądania fotografii oraz podczas obserwacji twarzy celem oceny jej atrakcyjności.

Grupę badaną stanowiło 98 pacjentów poradni podstawowej opieki zdrowotnej, którzy oglądali fotografie damskich twarzy pozbawionych chorób skóry oraz z widocznymi w różnych lokalizacjach naczyniakami. Badanie zostało przeprowadzone przy użyciu urządzenia zwanego

eye-tracker, umożliwiającego śledzenie ruchów gałek ocznych obserwatora, oraz kwestionariusza do oceny atrakcyjności i pięciu analizowanych cech charakteru oglądanej twarzy. Dla celów szczegółowej analizy, uczestnicy badania zostali podzieleni na dwie grupy ze względu na płeć, na trzy grupy wiekowe (18-40, 41-59, ⩾60 lat) oraz na dwie grupy ze względu na poziom wykształcenia (niższe i wyższe).

Wyniki:

1. Podczas patrzenia na damską twarz pozbawioną zmian skórnych obserwatorzy skupiali znaczną część uwagi na centralnym trójkącie twarzy obejmującym oczy, nos i usta prezentowanej twarzy.
2. Podczas obserwacji damskich twarzy z naczyniakami, uczestnicy badania prezentowali następujące wzorce ruchów gałek ocznych. Wykazaliśmy, że naczyniak był obserwowany jako pierwszy obszar oraz przez najdłuższy czas spośród wszystkich innych analizowanych rejonów twarzy, czyli oba warunki były spełnione, tylko w przypadku naczyniaka zlokalizowanego w okolicy ust. Obserwatorzy skupiali swoją uwagę najpierw na obszarze naczyniaka, gdy był on po lewej stronie dolnej części nosa. Obecność naczyniaka na prawej dolnej powiece, a także na czole skutkowała dłuższym czasem fiksacji wzroku na obszarze twarzy z naczyniakiem lub będącym w najbliższym sąsiedztwie zmiany skórnej.
3. Twarze kobiet z naczyniakiem, niezależnie od jego lokalizacji, były oceniane jako mniej atrakcyjne, inteligentne, pewne siebie, godne zaufania, życzliwe oraz dominujące w porównaniu do twarzy bez zmian skórnych. Wyniki sugerują, że naczyniaki położone w pobliżu typowo obserwowanego centralnego trójkąta twarzy (obejmującego oczy, nos, usta), a także na środku czoła miały bardziej negatywny wpływ na postrzeganie atrakcyjności danej twarzy niż w przypadku tych samych zmian zlokalizowanych obwodowo na twarzy (czyli na policzku, w pobliżu brwi czy z boku czoła). Najniższe oceny za atrakcyjność i pewność siebie spośród wszystkich analizowanych lokalizacji naczyniaka uzyskały twarze z naczyniakiem na prawej dolnej powiece. Każda z pięciu analizowanych cech charakteru oceniana była wyżej w przypadku twarzy bez zmian skórnych oraz z naczyniakiem położonym obwodowo niż w sytuacji centralnie położonego naczyniaka.

4. Analiza danych dotyczących ruchów gałek ocznych nie wykazała istotnych statystycznie różnić w liczbie fiksacji między uczestnikami różnej płci podczas obserwacji twarzy bez zmian skórnych.
5. Pomiędzy uczestnikami badania oglądającymi zdjęcia twarzy ze zdrową skórą oraz z naczyniakami, istnieją istotne statystycznie różnice we wzorcach ruchów gałek ocznych które zależą od ich płci, wieku oraz poziomu wykształcenia. Naczyniak na dolnej powiece oka prawego silniej przyciągał uwagę uczestników badania należących do grupy wiekowej 18-40 lat niż osób w wieku 60 lat i starszych. Kobiety, w porównaniu do mężczyzn, poświęcały więcej uwagi okolicy ust w przypadku twarzy ze zdrową skórą oraz z naczyniakiem po lewej stronie dolnej części nosa. Osoby z niższym poziomem wykształcenia wykazywały większą tendencję do przenoszenia wzroku z typowo oglądanego centralnego trójkąta twarzy na naczyniaki położone obwodowo (czyli w pobliżu lewej brwi, na środku czoła czy na policzku) niż obserwatorzy z wyższym wykształceniem.
6. Ruchy gałek ocznych podczas swobodnego oglądania damskich twarzy istotnie różnią się od tych zarejestrowanych podczas obserwacji połączonej z oceną atrakcyjności twarzy. Naczyniaki w obrębie centralnego trójkąta twarzy, a szczególnie na nosie i ustach, były obszarami najsilniej przyciągającymi wzrok podczas oceny atrakcyjności w porównaniu do swobodnej obserwacji. Natomiast naczyniaki położone obwodowo w stosunku do centralnego trójkąta twarzy nie przyciągały uwagi obserwatora podczas oceny atrakcyjności i wówczas więcej uwagi poświęcano okolicy nosa niż w przypadku swobodnej obserwacji.

Przedstawione badanie jest innowacyjne, ponieważ zgodnie z naszą wiedzą, do tej pory nie przeprowadzono badania z użyciem urządzenia eye-tracker w połączeniu z danymi uzyskanymi z kwestionariusza w celu lepszego zrozumienia w jaki sposób zmienia się postrzeganie kobiet z naczyniakami na twarzy pod wpływem modyfikacji jedynie lokalizacji tych zmian. Otrzymane wyniki wskazują, że naczyniaki na twarzy negatywnie wpływają na postrzeganie kobiet, zatem odpowiednie leczenie obecnych na twarzach niedoskonałości może przynieść korzyści w postaci poprawy przypisywanych przez inne osoby atrakcyjności i cech charakteru. Pozytywne zmiany w postrzeganiu danej kobiety mogą także ułatwić interakcje społeczne, w których dobre pierwsze wrażenie ma kluczowe znaczenie.

Przedstawione wyniki mogą być wykorzystane w praktyce przez lekarzy zajmujących się leczeniem pacjentów z niedoskonałościami zlokalizowanymi na twarzy oraz stanowią wskazówkę, by podczas opracowywaniu planu terapeutycznego uwzględniać nie tylko medyczne wskazania, ale także lokalizację zmian i indywidualne preferencje pacjenta.

8. Bibliography

1. Dion K, Berscheid E, Walster E. What is beautiful is good. J Pers Soc Psychol 1972; 24(3): 285-290.
2. Riggio RE, Woll SB. The role of nonverbal cues and physical attractiveness in the selection of dating partners. J Soc Pers Relat 1984; 1(3): 347–357.
3. Walster E, Aronson V, Abrahams D, et al. Importance of physical attractiveness in dating behavior. J Pers Soc Psychol 1966; 4(5): 508–516.
4. Berscheid E, Dion K, Walster E, et al. Physical attractiveness and dating choice: a test of the matching hypothesis. J Exp Soc Psychol 1971; 7(2): 173–189.
5. Buss DM, Barnes M. Preferences in human mate selection. J Pers Soc Psychol 1986; 50(3): 559–570.
6. Li NP, Yong JC, Tov W, et al. Mate preferences do predict attraction and choices in the early stages of mate selection. J Pers Soc Psychol 2013; 105(5): 757–776.
7. Sigall H, Ostrove N. Beautiful but dangerous: effects of offender attractiveness and nature of the crime on juridical judgement. J Pers Soc Psychol 1975; 31(3):410–414.
8. Kulka RA, Kessler JB. Is justice really blind? –The influence of litigant physical attractiveness on juridical judgment. J Appl Soc Psychol 1978; 8(4): 366–381.
9. Mazzella R, Feingold A. The effects of physical attractiveness, race, socioeconomic status, and gender of defendants and victims on judgments of mock jurors: a meta-analysis. J Appl Soc Psychol 1994; 24(15): 1315–1338.
10. Little AC. Facial attractiveness. Wiley Interdiscip Rev Cogn Sci 2014; 5(6):621-634.
11. Holmes S, Hatch C. Personal appearance as related to scholastic records and marriage selection in college women. Hum Biol 1938; 10: 65–76.
12. Elder GH Jr. Appearance and education in marriage mobility. Am Sociol Rev 1969; 34(4): 519–533.
13. Cash TF, Kilcullen RN. The aye of the beholder: susceptibility to sexism and beautyism in the evaluation of managerial applicants. J Appl Soc Psychol 1985; 15(7): 591–605.
14. Marlowe CM, Schneider SL, Nelson CE. Gender and attractiveness biases in hiring decisions: are more experienced managers less biased? J Appl Psychol 1996; 81(1): 11–21.

15. Chiu RK, Babcock RD. The relative importance of facial attractiveness and gender in Hong Kong selection decisions. Int J Hum Resour Manag 2002; 13(1): 141–155.
16. Downs AC, Lyons PM. Natural observations of the links between attractiveness and initial legal judgments. Pers Soc Psychol Bull 1991; 17(5): 541–547.
17. Nummenmaa L, Hietanen JK, Santtila P, et al. Gender and visibility of sexual cues influence eye movements while viewing faces and bodies. Arch Sex Behav 2012; 41(6): 1439–1451.
18. Rhodes G, Simmons LW. Symmetry, attractiveness and sexual selection. In Dunbar R, Barrett L (Eds.), The Oxford Handbook of Evolutionary Psychology. New York: Oxford University Press 2007; 333-364.
19. Currie TE, Little AC. The relative importance of the face and body in judgments of human physical attractiveness. Evol Hum Behav 2009; 30(6): 409–416.
20. Bleske-Rechek A, Kolb CM, Stern AS, et al. Face and body: independent predictors of women's attractiveness. Arch Sex Behav 2014; 43(7): 1355–1365.
21. Little AC, Jones BC, DeBruine LM. The many faces of research on face perception. Philos Trans R Soc Lond B Biol Sci 2011; 366(1571): 1634–1637.
22. Johnson MH, Dziurawiec S, Ellis H, et al. Newborns' preferential tracking of face-like stimuli and its subsequent decline. Cognition 1991; 40(1-2): 1–19.
23. Goren CC, Sarty M, Wu PYK. Visual following and pattern discrimination of face-like stimuli by newborn infants. Pediatrics 1975; 56(4): 544–549.
24. Bruce V, Young AW. Understanding face recognition. Br J Psychol 1986; 77: 305–327.
25. Newmark C. Charles Darwin: The Expression of the Emotions in Man and Animals. In Senge K, Schützeichel R (Eds.), Hauptwerke der Emotionssoziologie. Springer VS, Wiesbaden, Germnay: 2013; 85–88.
26. Ekman P, Friesen WV. Pictures of facial affect. Palo Alto, CA: Consulting Psychological Press 1976.
27. Willis J, Todorov A. First impressions: making up your mind after a 100-ms exposure to a face. Psychol Sci 2006; 17(7): 592–598.
28. Langlois JH, Kalakanis L, Rubenstein AJ, et al. Maxims or myths of beauty? A meta-analytic and theoretical review. Psychol Bull 2000; 126(3): 390–423.
29. Langlois JH, Roggman LA, Casey RJ, et al. Infant preferences for attractive faces: rudiments of a stereotype? Dev Psychol 1987; 23(3): 363–369.

30. Samuels CA, Butterworth G, Roberts T, et al. Facial aesthetics: babies prefer attractiveness to symmetry. Perception 1994; 23(7): 823–831.
31. Langlois JH, Roggman LA. Attractive faces are only average. Psychol Sci 1990; 1(2): 115–121.
32. Symons D. An evolutionary approach: can Darwin's view of life shed light on human sexuality? In Geer JH, O'Donohoe WT (Eds.), Theories of Human Sexuality. New York: Plomin Press 1987; 91–126.
33. Henderson JJA, Anglin JM. Facial attractiveness predicts longevity. Evol Hum Behav 2003; 24: 351–356.
34. Jokela M. Physical attractiveness and reproductive success in humans: evidence from the late 20th century United States. Evol Hum Behav 2009; 30(5): 342–350.
35. Pflueger LS, Oberzaucher E, Katina S, et al. Cues to fertility: perceived attractiveness and facial shape predict reproductive success. Evol Hum Behav 2012; 33(6): 708–714.
36. Roberts SC, Havlicek J, Flegr J, et al. Female facial attractiveness increases during the fertile phase of the menstrual cycle. Proc R Soc Lond B Biol 2004; 271: S270–S272.
37. Law-Smith MJ, Perrett DI, Jones BC, et al. Facial appearance is a cue to oestrogen levels in women. Proc R Soc Lond B Biol 2006; 273(1583): 135–140.
38. Korthase KM, Trenholme I. Perceived age and perceived physical attractiveness. Percept Mot Skills 1982; 54: 1251–1258.
39. Kenrick DT, Keefe RC. Age preferences in mates reflect sex differences in human reproductive strategies. Behav Brain Sci 1992; 15(1): 75–133.
40. Tovee MJ, Reinhardt S, Emery JL, et al. Optimum body-mass index and maximum sexual attractiveness. Lancet 1998; 352(9127): 548.
41. Wade TJ, Fuller L, Bresnan J, et al. Weight halo effects: individual differences in personality evaluations and perceived life success of men as a function of weight? Pers Individ Dif 2007; 42(2): 317–324.
42. Coetzee V, Perrett DI, Stephen ID. Facial adiposity: a cue to health? Perception 2009; 38(11): 1700–1711.
43. Elliot AJ, Niesta D. Romantic red: red enhances men's attraction to women. J Pers Soc Psychol 2008; 95(5): 1150–1164.
44. Stephen ID, Smith MJL, Stirrat MR, et al. Facial skin coloration affects perceived health of human faces. Int J Primatol 2009; 30(6): 845–857.

45. Ueno A, Ito A, Kawasaki I, et al. Neural activity associated with enhanced facial attractiveness by cosmetics use. Neurosci Lett 2014; 566: 142-146.
46. Arai T, Nittono H. Cosmetic makeup enhances facial attractiveness and affective neural responses. PLoS One 2022; 17(8): e0272923.
47. Ueda S, Koyama T. Influence of make-up on facial recognition. Perception 2010; 39(2): 260-264.
48. Nash R, Fieldman G, Hussey T, et al. Cosmetics: They Influence More Than Caucasian Female Facial Attractiveness. J Appl Soc Psychol 2006; 36(2): 493-504.
49. Tagai K, Shimakura H, Isobe H, et al. The light-makeup advantage in facial processing: Evidence from event-related potentials. PLoS One 2017; 12(2): e0172489.
50. Trujillo LT, Jankowitsch JM, Langlois JH. Beauty is in the ease of the beholding: A neurophysiological test of the averageness theory of facial attractiveness. Cogn Affect Behav Neurosci 2014; 14(3): 1061-1076.
51. Reber R, Schwarz N, Winkielman P. Processing fluency and aesthetic pleasure: Is beauty in the perceiver's processing experience? Pers Soc Psychol Rev 2004; 8(4):364-382.
52. Winkielman P, Halberstadt J, Fazendeiro T, et al. Prototypes are attractive because they are easy on the mind. Psychol Sci 2006; 17(9): 799-806.
53. Fink B, Matts PJ, Klingenberg H, et al. Visual attention to variation in female facial skin color distribution. J Cosmet Dermatol 2008; 7(2): 155-161.
54. Thornhill R, Gangestad SW. Human facial beauty: averageness, symmetry, and parasite resistance. Hum Nat 1993; 4(3): 237–269.
55. Galton FJ. Composite portraits. Nature 1878; 18: 97–100.
56. Langlois JH, Roggman LA, Musselman L. What is average and what is not average about attractive faces. Psychol Sci 1994; 5(4): 214–220.
57. Trujillo LT, Jankowitsch JM, Langlois JH. Beauty is in the ease of the beholding: a neurophysiological test of the averageness theory of facial attractiveness. Cogn. Affect. Behav. Neurosci 2014; 14(3): 1061–1076.
58. Vingilis-Jaremko L, Maurer D, Gao X. The influence of averageness on judgments of facial attractiveness: no own-age or own-sex advantage among children attending single-sex schools. J Exp Child Psychol 2014; 120: 1–16.

59. Rhodes G, Tremewan T. Averageness, exaggeration, and facial attractiveness. Psychol Sci 1996; 7(2): 105–110.
60. Grammer K, Thornhill R. Human (Homo sapiens) facial attractiveness and sexual selection: the role of symmetry and averageness. J Comp Psychol 1994; 108(3): 233–242.
61. Rhodes G, Proffitt F, Grady J, et al. Facial symmetry and the perception of beauty. Psychon Bull Rev 1998; 5: 659–669.
62. Perrett DI, Burt DM, Penton-Voak IS, et al. Symmetry and human facial attractiveness. Evol Hum Behav 1999; 20: 295–307.
63. Saxton TK, Debruine LM, Jones BC, et al. A longitudinal study of adolescents' judgments of the attractiveness of facial symmetry, averageness and sexual dimorphism. J Evol Psychol 2011; 9(1): 43–55.
64. Vingilis-Jaremko L, Maurer D. The influence of symmetry on children's judgments of facial attractiveness. Perception 2013; 42(3): 302–320.
65. Penton-Voak IS, Chen JY. High salivary testosterone is linked to masculine male facial appearance in humans. Evol Hum Behav 2004; 25(4): 229–241.
66. Cunningham MR. Measuring the physical in physical attractiveness: quasi-experiments on the sociobiology of female facial beauty. J Pers Soc Psychol 1986; 50(5): 925–935.
67. Jones D, Hill K. Criteria of facial attractiveness in five populations. Hum Nat 1993; 4(3): 271–296.
68. Perrett DI, Lee KJ, Penton-Voak IS, et al. Effects of sexual dimorphism on facial attractiveness. Nature 1998; 394(6696): 884–887.
69. Cunningham MR, Barbee AP, Pike CL. What do women want? Facialmetric assessment of multiple motives in the perception of male facial physical attractiveness. J Pers Soc Psychol 1990; 59(1): 61–72.
70. Little AC, Hancock PJB. The role of masculinity and distinctiveness in judgments of human male facial attractiveness. Br J Psychol 2002; 93(4): 451–464.
71. Rhodes G, Hickford C, Jeffery L. Sex-typicality and attractiveness: are supermale and superfemale faces super-attractive? Br J Psychol 2000; 91(1): 125–140.
72. Swaddle JP, Reierson GW. Testosterone increases perceived dominance but not attractiveness in human males. Proc Biol Sci 2002; 269(1507): 2285–2289.

73. Jones BC, Little AC, Penton-Voak IS, et al. Facial symmetry and judgements of apparent health: Support for a 'good genes' explanation of the attractiveness-symmetry relationship. Evol Hum Behav 2001; 22(6): 417–429.
74. Jones BC, Perrett DI, Little AC, et al. Menstrual cycle, pregnancy and oral contraceptive use alter attraction to apparent health in faces. Proc Biol Sci 2005; 272(1561):347–354.
75. Jones BC, Little AC, Burt DM, et al. When facial attractiveness is only skin deep. Perception 2004; 33(5): 569–576.
76. Sugiyama L. Physical attractiveness in adaptationist perspective. In Buss DM (Eds.), The handbook of evolutionary psychology. New York: Wiley 2005; 292-342.
77. Fink B, Neave N. The biology of facial beauty. Int J Cosmet Sci 2005; 27(6): 317-325.
78. Fink B, Grammer K, Matts PJ. Visible skin color distribution plays a role in the perception of age, attractiveness, and health in female faces. Evol Human Behav 2006; 27(6): 433-442.
79. Samson N, Fink B, Matts PJ. Visible skin condition and perception of human facial appearance. Int J Cosmet Sci 2010; 32(3): 167–184.
80. Tsankova E, Kappas A. Facial skin smoothness as an indicator of perceived trustworthiness and related traits. Perception 2016; 45(4): 400–408.
81. Jaeger B, Wagemans FM, Evans AM, et al. Effects of facial skin smoothness and blemishes on trait impressions. Perception 2018; 47(6): 608–625.
82. Green-Armytage M, Simonds LM, John M, et al. Depictions of acne and psoriasis influence interpersonal aversion. Psychol Health Med 2019; 24(1): 94-100.
83. Buss DM. Sex differences in human mate preferences: evolutionary hypotheses tested in 37 cultures. Behav Brain Sci 1989; 12(1): 1–49.
84. Borkenau P, Liebler A. Trait inferences: sources of validity at zero acquaintance. J Pers Soc Psychol 1992; 62(4): 645–657.
85. Little AC, Burt DM, Perrett DI. What is good is beautiful: face preference reflects desired personality. Pers Individ Dif 2006; 41(6): 1107–1118.
86. Mazzaferro DM, Wes AM, Naran S, et al. Orthognathic surgery has a significant effect on perceived personality traits and emotional expressions. Plast Reconstr Surg 2017; 140(5): 971–981.

87. Reilly MJ, Tomsic JA, Fernandez SJ, et al. Effect of facial rejuvenation surgery on perceived attractiveness, femininity, and personality. JAMA Facial Plast Surg 2015; 17(3):202–207.
88. Parsa KM, Gao W, Lally J, et al. Evaluation of personality perception in men before and after facial cosmetic surgery. JAMA Facial Plast Surg 2019; 21(5): 369–374.
89. Tobiasen JM. Social judgments of facial deformity. Cleft Palate J 1987; 24(4): 323–327.
90. Rankin M, Borah GL. Perceived functional impact of abnormal facial appearance. Plast Reconstr Surg 2003; 111(7): 2140–2146.
91. Jamrozik A, Ali MO, Sarwer DB, et al. More than skin deep: Judgments of individuals with facial disfigurement. Psychol Aesthet Creat Arts 2019; 13(1): 117–129.
92. Masnari O, Schiestl C, Weibel L, et al. How children with facial differences are perceived by non-affected children and adolescents: Perceiver effects on stereotypical attitudes. Body Image 2013; 10(4): 515–523.
93. Thorndike EL. A constant error in psychological ratings. J Appl Psychol 1920; 4(1): 25–29.
94. Vassallo S, Cooper SL, Douglas JM. Visual scanning in the recognition of facial affect: Is there an observer sex difference? J Vis 2009; 9(3): 11.1–10.
95. Schurgin MW, Nelson J, Iida S, et al. Eye movements during emotion recognition in faces. J Vis 2014; 14(13): 14.
96. Eisenbarth H, Alpers GW. Happy mouth and sad eyes: Scanning emotional facial expressions. Emotion 2011; 11(4): 860–865.
97. Leder H, Tinio PP, Fuchs IM, et al. When attractiveness demands longer looks: the effects of situation and gender. Q J Exp Psychol 2010; 63(9): 1858–1871.
98. Maner JK, Kenrick DT, Becker DV, et al. Sexually selective cognition: Beauty captures the mind of the beholder. J Pers Soc Psychol 2003; 85(6): 1107–1120.
99. Maner JK, Gailliot MT, DeWall CN. Adaptive attentional attunement: evidence for mating-related perceptual bias. Evol Hum Behav 2007; 28(1): 28–36.
100. Levy B, Ariely D, Mazar N, et al. Gender differences in the motivational processing of facial beauty. Learn Motiv 2008; 39(2): 136–145.
101. Hahn AC, Xiao D, Sprengelmeyer R, et al. Gender differences in the incentive salience of adult and infant faces. Q J Exp Psychol 2013; 66(1): 200–208.

102. Lykins AD, Meana M, Strauss GP. Sex differences in visual attention to erotic and non-erotic stimuli. Arch Sex Behav 2008; 37(2): 219-228.
103. Valuch C, Pflüger LS, Wallner B, et al. Using eye tracking to test for individual differences in attention to attractive faces. Front Psychol 2015; 6: 42.
104. Shimojo S, Simion C, Shimojo E, et al. Gaze bias both refects and infuences preference. Nat Neurosci 2003; 6(12): 1317–1322.
105. Leder H, Mitrovic A, Goller J. How Beauty Determines Gaze! Facial Attractiveness and Gaze Duration in Images of Real World Scenes. Iperception 2016; 7(4): Article 2041669516664355.
106. Zhang Y, Wang X, Wang J, et al. Patterns of eye movements when observers judge female facial attractiveness. Front Psychol 2017; 8: Article 1909.
107. Lee IS, Lee AR, Lee H, et al. Psychological distress and attentional bias toward acne lesions in patients with acne. Psychol Health Med 2014; 19(6): 680–686.
108. Ishii L, Carey J, Byrne P, et al. Measuring attentional bias to peripheral facial deformities. Laryngoscope 2009; 119(3): 459–465.
109. Jankowski M, Goroncy A. Perceptive Hierarchy of Facial Skin Lesions: An Eye-tracking Study. Acta Derm Venereol 2022; 102: adv00799.
110. Godoy A, Ishii M, Byrne PJ, et al. How facial lesions impact attractiveness and perception: differential effects of size and location. Laryngoscope 2011; 121(12): 2542–2547.
111. Wassef M, Blei F, Adams D, et al. Vascular anomalies classification: recommendations from the International Society for the Study of Vascular Anomalies. Pediatrics 2015; 136(1): e203–e214.
112. Lamont AC, Stewart-Williams S, Podd J. Face recognition and aging: effects of target age and memory load. Mem Cognit 2005; 33(6): 1017-1024.
113. Bar M, Neta M, Linz H. Very first impressions. Emotion 2006; 6(2): 269–278.
114. Todorov A, Olivola CY, Dotsch R, et al. Social attributions from faces: Determinants, consequences, accuracy, and functional significance. Annu Rev Psychol 2015; 66: 519–545.
115. Porter S, England L, Juodis M, et al. Is the face a window to the soul? Investigation of the accuracy of intuitive judgments of the trustworthiness of human faces. Can J Behav Sci 2008; 40(3):171–177.

116. Ramsey JL, Langlois JH, Hoss RA, et al. Origins of a stereotype: categorization of facial attractiveness by 6-month-old infants. Dev Sci 2004; 7(2): 201-211.
117. Langlois JH, Ritter JM, Roggman LA, et al. Facial diversity and infant preferences for attractive faces. Dev Psychol 1991; 27(1), 79–84.
118. Slater A, Bremner G, Johnson SP, et al. Newborn infants' preference for attractive faces: the role of internal and external facial features. Infancy 2000; 1(2): 265–274.
119. O'Ryan F, Lassetter J. Optimizing facial esthetics in the orthognathic surgery patient. J Oral Maxillofac Surg 2011; 69(3): 702–715.
120. Dion KK. Young children's stereotyping of facial attractiveness. Dev Psychol 1973; 9(2): 183–188.
121. Grammer K, Fink B, Møller AP, et al. Darwinian aesthetics: Sexual selection and the biology of beauty. Biol Rev Camb Philos Soc 2003; 78(3): 385– 407.
122. Ackerman JM, Becker DV, Mortensen CR, et al. A pox on the mind: Disjunction of attention and memory in the processing of physical disfigurement. J Exp Soc Psychol 2009; 45(3): 478 – 485.
123. Miller SL, Maner JK. Sick body, vigilant mind: The biological immune system activates the behavioral immune system. Psychol Sci 2011; 22(12): 1467–1471.
124. Feingold A. Good-looking people are not what we think. Psychol Bull 1992; 111(2): 304–341.
125. Snyder M, Berscheid E, Glick P. Focusing on the exterior and the interior: Two investigations of the initiation of personal relationships. J Pers Soc Psychol 1985; 48(6): 1427–1439.
126. Rankin M, Borah GL. Perceived functional impact of abnormal facial appearance. Plast Reconstr Surg 2003; 111(7): 2140-2146.
127. van den Elzen ME, Versnel SL, Hovius SE, et al. Adults with congenital or acquired facial disfigurement: impact of appearance on social functioning. J Craniomaxillofac Surg 2012; 40(8): 777-782.
128. Sinko K, Jagsch R, Benes B, et al. Facial aesthetics and the assignment of personality traits before and after orthognathic surgery. Int J Oral Maxillofac Surg 2012; 41(4): 469–476.
129. Borkenau P. Implicit personality theory and the five-factor model. J Pers 1992; 60(2): 295–327.

130. Marsh PJ, Williams LM. ADHD and schizophrenia phenomenology: visual scanpaths to emotional faces as a potential psychophysiological marker? Neurosci Biobehav Rev 2006; 30(5): 651–665.
131. Galley N, Betz D, Biniossek C. Fixation durations - why are they so highly variable? In Heinen T (Eds.), Advances in visual perception research. Nova Science Publishers 2015; 83-106.
132. Noton D, Stark L. Eye movements and visual perception. Sci Am 1971; 224(6): 34–43.
133. van Schijndel O, Litschel R, Maal TJJ, et al. Eye tracker based study: Perception of faces with a cleft lip and nose deformity. J Craniomaxillofac Surg 2015; 43(8): 1620-1625.
134. Liao D, Ishii M, Darrach HM, et al. Objectively Measuring Observer Attention in Severe Thyroid-Associated Orbitopathy: A 3D Study. Laryngoscope 2019; 129(5): 1250-1254.
135. Green MJ, Williams LM, Davidson D. Visual scanpaths to threat-related faces in deluded schizophrenia. Psychiatry Res 2003; 119(3): 271–285.
136. Spezio ML, Adolphs R, Hurley RSE, et al. Analysis of face gaze in autism using ‘‘Bubbles.’’ Neuropsychologia 2007; 45(1): 144–151.
137. Zapatero ZD, Workman CI, Kalmar CL, et al. Facial Scars: Do Position and Orientation Matter? Plast Reconstr Surg 2022; 150(6): 1237-1246.
138. Penton-Voak IS, Perrett DI, Castles DL, et al. Menstrual cycle alters face preference. Nature 1999; 399(6738): 741–742.
139. Croley JA, Reese V, Wagner RF. Dermatologic features of classic movie villains: The face of evil. JAMA Dermatol 2017; 153(6): 559–564.
140. Hartung F, Jamrozik A, Rosen ME, et al. Behavioural and neural responses to facial disfigurement. Sci Rep 2019; 9(1): 8021.
141. Lewis J, Roberson D, Foulsham T. The impact of facial abnormalities and their spatial position on perception of cuteness and attractiveness of infant faces. PLoS One 2017; 12(7): e0180499.
142. Peterson MF, Eckstein MP. Looking just below the eyes is optimal across face recognition tasks. Proc Natl Acad Sci USA 2012; 109(48): E3314–E3323.
143. Blais C, Jack RE, Scheepers C, et al. Culture shapes how we look at faces. PLoS One 2008; 3(8): e3022.

9. Supplementary Appendix

- **Sex**: F/M
- **Age**:
- **Education level**:
  - Elementary
  - Secondary
  - Vocational
  - Higher
- Skin lesions on the face:
  ……
  ……
- Eye diseases:
  ……
  ……
- Neurological diseases:
  ……
  ……
- Use of psychotropic drugs:
  ……
  ……

- **ATTRACTIVENESS RATINGS OF OBSERVED FEMALE FACES:** using a 5-point Likert scale, 1= unattractive, 5= very attractive.

1.	10.	19.
2.	11.	20.
3.	12.	21.
4.	13.	22.
5.	14.	23.
6.	15.	24.
7.	16.	25.
8.	17.	26.
9.	18.	27.

Figure S1. Self-created questionnaire for study participants.

a)

Uniwersytet Mikołaja Kopernika w Toruniu
Collegium Medicum im L. Rydygiera w Bydgoszczy
KOMISJA BIOETYCZNA
Ul. M. Skłodowskiej-Curie 9, 85-094 Bydgoszcz, tel.(052) 585-35-63, fax.(052) 585-38-11

KB 533/2021 Bydgoszcz, 16.11.2021 r.

Działając na podstawie art.29 ustawy z dnia 5 grudnia 1996 roku o zawodzie lekarza (Dz.U. z 1997 r. Nr 28 poz. 152 (wraz z późniejszymi zmianami), rozporządzenia Ministra Zdrowia i Opieki Społecznej z dnia 11 maja 1999 r. w sprawie szczegółowych zasad powoływania i finansowania oraz trybu działania komisji bioetycznych (Dz.U. Nr 47 poz.480) oraz Zarządzenia Nr 21 Rektora UMK z dnia 4 marca 2009 r. z późn. zm. w sprawie powołania oraz zasad działania Komisji Bioetycznej Uniwersytetu Mikołaja Kopernika w Toruniu przy Collegium Medicum im Ludwika Rydygiera w Bydgoszczy oraz zgodnie z zasadami zawartymi w ICH – GCP

Komisja Bioetyczna przy UMK w Toruniu, Collegium Medicum w Bydgoszczy

(skład podano w załączeniu), na posiedzeniu w dniu **16.11.2021 r.** przeanalizowała wniosek, który złożyła kierownik badania:

lek. Justyna Ziandarska
Katedra Dermatologii i Wenerologii
Collegium Medicum w Bydgoszczy UMK w Toruniu

z zespołem w składzie

lek. Justyna Ziandarska, prof. dr hab. n. med. Rafał Czajkowski, dr n. med. Marek Jankowski, lek. Maria Oiszewska

w sprawie badania:

„Badanie wpływu zmian skórnych na postrzeganie piękna i przypisywanie cech charakteru".

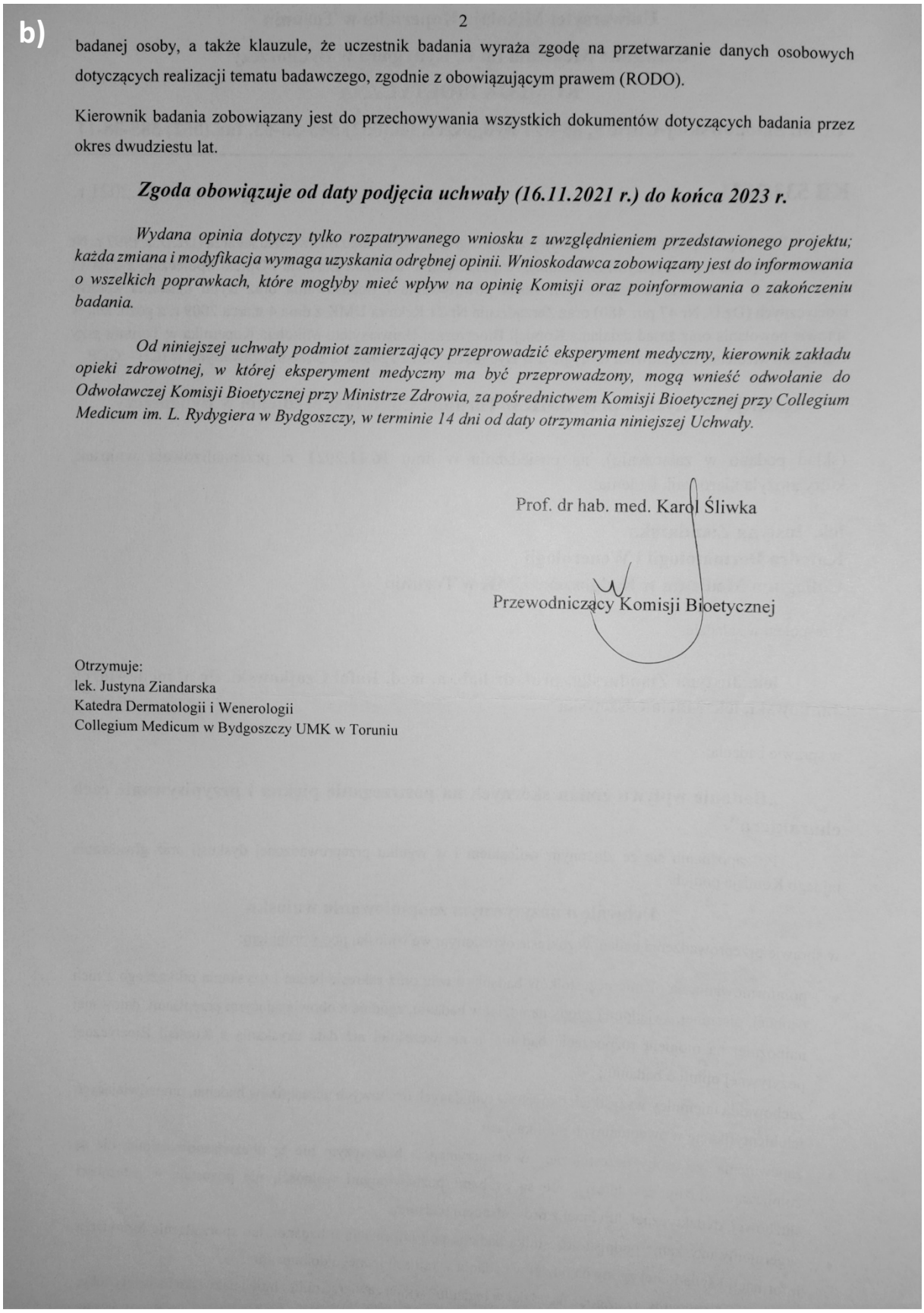
Po zapoznaniu się ze złożonym wnioskiem i w wyniku przeprowadzonej dyskusji oraz głosowania tajnego Komisja podjęła

Uchwałę o pozytywnym zaopiniowaniu wniosku

w sprawie przeprowadzenia badań, w zakresie określonym we wniosku pod warunkiem:

- poinformowania na piśmie uczestników badania o celu oraz zakresie badań i uzyskania od każdego z nich osobnej, pisemnej, świadomej zgody na udział w badaniu, zgodnie z obowiązującymi przepisami, datowanej najpóźniej na moment rozpoczęcia badania, a nie wcześniej niż data uzyskania z Komisji Bioetycznej pozytywnej opinii o badaniu ;
- zachowania tajemnicy wszystkich danych, w tym danych osobowych uczestników badania, umożliwiających ich identyfikację w ewentualnych publikacjach
- zapewnienia, że osoby uczestniczące w eksperymencie badawczym nie są ubezwłasnowolnione, nie są żołnierzami służby zasadniczej, nie są osobami pozbawionymi wolności, nie pozostają w zależności służbowej, dydaktycznej lub innej z prowadzącym badanie;
- sugerujemy uzyskanie podpisu uczestnika badania pod informacją o badaniu, lub sporządzenie formularza informacji i świadomej zgody na udział w badaniu w ramach jednego dokumentu.

Jednocześnie informujemy, iż „Zgoda na udział w badaniu" winna zawierać m.in.: imię i nazwisko badanej osoby; adres zamieszkania lub PESEL lub nr historii choroby pacjenta (L.ks.gł. Oddziału/Poradni) oraz datę i podpis



b)

2

badanej osoby, a także klauzule, że uczestnik badania wyraża zgodę na przetwarzanie danych osobowych dotyczących realizacji tematu badawczego, zgodnie z obowiązującym prawem (RODO).

Kierownik badania zobowiązany jest do przechowywania wszystkich dokumentów dotyczących badania przez okres dwudziestu lat.

Zgoda obowiązuje od daty podjęcia uchwały (16.11.2021 r.) do końca 2023 r.

Wydana opinia dotyczy tylko rozpatrywanego wniosku z uwzględnieniem przedstawionego projektu; każda zmiana i modyfikacja wymaga uzyskania odrębnej opinii. Wnioskodawca zobowiązany jest do informowania o wszelkich poprawkach, które mogłyby mieć wpływ na opinię Komisji oraz poinformowania o zakończeniu badania.

Od niniejszej uchwały podmiot zamierzający przeprowadzić eksperyment medyczny, kierownik zakładu opieki zdrowotnej, w której eksperyment medyczny ma być przeprowadzony, mogą wnieść odwołanie do Odwoławczej Komisji Bioetycznej przy Ministrze Zdrowia, za pośrednictwem Komisji Bioetycznej przy Collegium Medicum im. L. Rydygiera w Bydgoszczy, w terminie 14 dni od daty otrzymania niniejszej Uchwały.

Prof. dr hab. med. Karol Śliwka

Przewodniczący Komisji Bioetycznej

Otrzymuje:
lek. Justyna Ziandarska
Katedra Dermatologii i Wenerologii
Collegium Medicum w Bydgoszczy UMK w Toruniu

Figure S2. a) and b) Approval from the Bioethics Committee of the Nicolaus Copernicus University in Toruń functioning at Collegium Medicum in Bydgoszcz.

Table S1. Results of the Student's t-test. Because p-value is <0.05 there are reasonable grounds to presume that study participants spend significantly more time on AOIs observation than the half of the whole time of healthy skin face observation.

	T	dof	alternative	p-val	CI95%	cohen-d	BF10	Power
T-test	3.216890	97	two-sided	0.001762	[2.62 2.99]	0.324955	13.425	0.889697

Table S2. The frequency with which each AOI of each picture was observed as the first one among other AOIs.

Media Name Number	Media Name	AOI Name	Frequency
1	1 RUSSIAN	EyeL	25
		EyeR	15
		LN	14
		M	3
		NS	14
		UN	25
2	2 RUSSIAN eyebrow left	EyeL	21
		EyeR	19
		LN	11
		M	5
		NS	11
		SC	17
		UN	12
3	3 RUSSIAN cheek right	EyeL	26
		EyeR	7
		LN	8

Media Name Number	Media Name	AOI Name	Frequency
		M	11
		NS	10
		SC	25
		UN	10
4	4 RUSSIAN nose left	EyeL	10
		EyeR	6
		LN	49
		M	11
		NS	4
		UN	16
5	5 RUSSIAN forehead left	EyeL	19
		EyeR	6
		LN	18
		M	9
		NS	7
		SC	21
		UN	13
6	6 RUSSIAN eyelid lower right	EyeL	11
		EyeR	21
		LN	12
		M	3

Media Name Number	Media Name	AOI Name	Frequency
		NS	16
		SC	17
		UN	18
7	7 RUSSIAN lip upper left	EyeL	13
		EyeR	16
		LN	13
		M	17
		NS	12
		SC	4
		UN	20
8	8 RUSSIAN forehead center	EyeL	13
		EyeR	5
		LN	20
		M	9
		NS	9
		SC	23
		UN	14
9	9 RUSSIAN lip lower right	EyeL	11
		EyeR	10
		LN	8
		M	35

Media Name Number	Media Name	AOI Name	Frequency
		NS	18
		SC	2
		UN	10
10	10 BASHKIR	EyeL	12
		EyeR	17
		LN	29
		M	14
		NS	11
		UN	13
11	11 BASHKIR eyebrow left	EyeL	30
		EyeR	9
		LN	11
		M	7
		NS	8
		SC	20
		UN	9
12	12 BASHKIR cheek right	EyeL	13
		EyeR	13
		LN	15
		M	15
		NS	10

Media Name Number	Media Name	AOI Name	Frequency
		SC	19
		UN	11
13	13 BASHKIR nose left	EyeL	9
		EyeR	6
		LN	49
		M	15
		NS	7
		SC	3
		UN	8
14	14 BASHKIR forehead left	EyeL	16
		EyeR	9
		LN	17
		M	7
		NS	5
		SC	21
		UN	18
15	15 BASHKIR eyelid lower right	EyeL	12
		EyeR	28
		LN	16
		M	2
		NS	15

Media Name Number	Media Name	AOI Name	Frequency
		SC	13
		UN	9
16	16 BASHKIR lip upper left	EyeL	8
		EyeR	12
		LN	17
		M	21
		NS	10
		SC	5
		UN	19
17	17 BASHKIR forehead center	EyeL	11
		EyeR	14
		LN	17
		M	11
		NS	20
		SC	13
		UN	9
18	18 BASHKIR lip lower right	EyeL	6
		EyeR	10
		LN	20
		M	24
		NS	24

Media Name Number	Media Name	AOI Name	Frequency
		UN	11
19	19 LITHUANIAN	EyeL	16
		EyeR	19
		LN	19
		M	16
		NS	17
		UN	10
20	20 LITHUANIAN eyebrow left	EyeL	26
		EyeR	17
		LN	13
		M	7
		NS	15
		SC	13
		UN	4
21	21 LITHUANIAN cheek right	EyeL	14
		EyeR	16
		LN	11
		M	8
		NS	11
		SC	24
		UN	10

Media Name Number	Media Name	AOI Name	Frequency
22	22 LITHUANIAN nose left	EyeL	12
		EyeR	13
		LN	28
		M	9
		NS	9
		SC	6
		UN	16
23	23 LITHUANIAN forehead left	EyeL	18
		EyeR	8
		LN	18
		M	5
		NS	3
		SC	27
		UN	12
24	24 LITHUANIAN eyelid lower right	EyeL	5
		EyeR	24
		LN	9
		M	8
		NS	8
		SC	16
		UN	25

Media Name Number	Media Name	AOI Name	Frequency
25	25 LITHUANIAN lip upper left	EyeL	12
		EyeR	13
		LN	18
		M	20
		NS	8
		SC	13
		UN	11
26	26 LITHUANIAN forehead center	EyeL	9
		EyeR	7
		LN	19
		M	10
		NS	17
		SC	21
		UN	9
27	27 LITHUANIAN lip lower right	EyeL	12
		EyeR	14
		LN	20
		M	22
		NS	17
		UN	9

Table S3. Results of the correspondence analysis. EyeL, EyeR, LN, M, NS, SC, UN – AOI names. EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT – locations of the hemangioma on the presented faces.

	0	1
EyeL	0.254718	0.023079
EyeR	0.107124	-0.174791
LN	-0.307118	0.405263
M	-0.456656	-0.282756
NS	-0.114939	-0.298297
SC	0.574196	0.061065
UN	-0.017073	0.040844

	0	1
EYEBROW LEFT	0.318636	-0.048909
CHEEK RIGHT	0.283656	-0.068728
NOSE LEFT	-0.452990	0.491535
FOREHEAD LEFT	0.304128	0.214249
EYELID LOWER RIGHT	0.200618	-0.108469
LIP UPPER LEFT	-0.220280	-0.131764
FOREHEAD CENTER	0.079343	0.022255
LIP LOWER RIGHT	-0.511604	-0.367832

Table S4. Average time (in seconds) spent by study participants on AOI observation, with the division into particular types of pictures.

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
2	2 RUSSIAN eyebrow left	EyeL	0.554265
		EyeR	0.363337
		LN	0.169653
		M	0.155765
		NS	0.130265
		SC	0.830582
		UN	0.151367
3	3 RUSSIAN cheek right	EyeL	0.475765
		EyeR	0.293439
		LN	0.242633
		M	0.290622
		NS	0.113582
		SC	0.594551
		UN	0.140571
4	4 RUSSIAN nose left	EyeL	0.370286
		EyeR	0.270837
		LN	0.759173
		M	0.277582
		NS	0.086582
		SC	0.795735

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.358276
5	5 RUSSIAN forehead left	EyeL	0.452633
		EyeR	0.274173
		LN	0.284439
		M	0.163735
		NS	0.153520
		SC	0.518837
		UN	0.144704
6	6 RUSSIAN eyelid lower right	EyeL	0.414224
		EyeR	0.910796
		LN	0.344143
		M	0.170500
		NS	0.222367
		SC	0.812531
		UN	0.568020
7	7 RUSSIAN lip upper left	EyeL	0.583643
		EyeR	0.291612
		LN	0.542122
		M	0.639898
		NS	0.118622
		SC	0.615837

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.210500
8	8 RUSSIAN forehead center	EyeL	0.329031
		EyeR	0.224643
		LN	0.215510
		M	0.210500
		NS	0.322816
		SC	0.778276
		UN	0.188847
9	9 RUSSIAN lip lower right	EyeL	0.367347
		EyeR	0.281949
		LN	0.270388
		M	1.007551
		NS	0.102929
		SC	0.572245
		UN	0.220245
11	11 BASHKIR eyebrow left	EyeL	0.689571
		EyeR	0.299592
		LN	0.228786
		M	0.250214
		NS	0.095337
		SC	0.600969

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.147469
12	12 BASHKIR cheek right	EyeL	0.375388
		EyeR	0.328673
		LN	0.326612
		M	0.377398
		NS	0.084990
		SC	0.412796
		UN	0.191969
13	13 BASHKIR nose left	EyeL	0.454878
		EyeR	0.254439
		LN	0.703041
		M	0.229908
		NS	0.113235
		SC	0.630469
		UN	0.351714
14	14 BASHKIR forehead left	EyeL	0.473245
		EyeR	0.254276
		LN	0.220133
		M	0.192765
		NS	0.106663
		SC	0.418592

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.159235
15	15 BASHKIR eyelid lower right	EyeL	0.434469
		EyeR	0.799684
		LN	0.356092
		M	0.215939
		NS	0.209071
		SC	0.614061
		UN	0.564102
16	16 BASHKIR lip upper left	EyeL	0.493235
		EyeR	0.285990
		LN	0.482143
		M	0.844755
		NS	0.112429
		SC	0.534694
		UN	0.165622
17	17 BASHKIR forehead center	EyeL	0.384735
		EyeR	0.299092
		LN	0.163020
		M	0.198622
		NS	0.307857
		SC	0.638673

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.205908
18	18 BASHKIR lip lower right	EyeL	0.475673
		EyeR	0.316673
		LN	0.396714
		M	0.806908
		NS	0.180612
		SC	0.365827
		UN	0.230418
20	20 LITHUANIAN eyebrow left	EyeL	0.639745
		EyeR	0.329653
		LN	0.199673
		M	0.211469
		NS	0.124908
		SC	0.481204
		UN	0.134908
21	21 LITHUANIAN cheek right	EyeL	0.425653
		EyeR	0.438827
		LN	0.318173
		M	0.209296
		NS	0.132173
		SC	0.362745

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.204694
22	22 LITHUANIAN nose left	EyeL	0.565378
		EyeR	0.247439
		LN	0.346959
		M	0.184898
		NS	0.133010
		SC	0.767857
		UN	0.463867
23	23 LITHUANIAN forehead left	EyeL	0.429061
		EyeR	0.257827
		LN	0.261908
		M	0.171990
		NS	0.092990
		SC	0.490663
		UN	0.226112
24	24 LITHUANIAN eyelid lower right	EyeL	0.399561
		EyeR	0.827153
		LN	0.400684
		M	0.155867
		NS	0.208520
		SC	0.646194

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.525357
25	25 LITHUANIAN lip upper left	EyeL	0.457184
		EyeR	0.327796
		LN	0.518337
		M	0.690724
		NS	0.103184
		SC	0.602867
		UN	0.203806
26	26 LITHUANIAN forehead center	EyeL	0.430041
		EyeR	0.253490
		LN	0.224122
		M	0.198857
		NS	0.284500
		SC	0.567765
		UN	0.130735
27	27 LITHUANIAN lip lower right	EyeL	0.427582
		EyeR	0.290306
		LN	0.388939
		M	0.793551
		NS	0.174551
		SC	0.365041

Media Name Number	Media Name	AOI Name	Average Time Viewed (sec)
		UN	0.255704

Table S5. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the right cheek. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the right cheek.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	10.266486	0.000000	0.000000	0.085309	0.616716	False	0.137270	0.000000

Table S6. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized near the left eyebrow. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized near the left eyebrow.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	26.119323	0.000000	0.000000	0.192146	0.532482	False	0.056099	0.000000

Table S7. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the right lower eyelid. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the right lower eyelid.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	15.441665	0.000000	0.000000	0.127426	0.722324	False	0.322711	0.000000

Table S8. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized in the middle of the forehead. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized in the center of the forehead.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	13.756523	0.000000	0.000000	0.113477	0.532581	False	0.057472	0.000000

Table S9. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the left side of the forehead. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the left side of the forehead.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	12.503276	0.000000	0.000000	0.100201	0.533867	False	0.060536	0.000000

Table S10. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the right side of the lower lip. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the right side of the lower lip.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	20.539274	0.000000	0.000000	0.158837	0.522598	False	0.049940	0.000000

Table S11. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the left side of the upper lip. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the left side of the upper lip.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	17.313853	0.000000	0.000000	0.137353	0.586401	False	0.047624	0.000000

Table S12. Results of repeated-measures ANOVA for average viewing time (in seconds) for each AOI for the pictures with the hemangioma localized on the left side of the lower nose. On the basis of P value after Geisser-Greenhouse correction (p-GG-corr parameter) there is a reason to believe that there are significant differences in AOI viewing time in the pictures with the hemangioma localized on the left side of the lower nose.

	Source	ddof1	ddof2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	AOI Name	6	582	18.006479	0.000000	0.000000	0.142712	0.654222	False	0.127667	0.000000

Table S13. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the right cheek.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	1.299787	0.196754	1.000000	0.158309
1	EyeL	LN	2.186246	0.031203	0.655266	0.320222
2	EyeL	M	2.330747	0.021838	0.458594	0.321880
3	EyeL	NS	6.319888	0.000000	0.000000	0.865856
4	EyeL	SC	-0.370748	0.711634	1.000000	-0.057687
5	EyeL	UN	4.782480	0.000006	0.000130	0.635614
6	EyeR	LN	1.068306	0.288034	1.000000	0.160664
7	EyeR	M	1.246321	0.215648	1.000000	0.165690
8	EyeR	NS	5.567076	0.000000	0.000005	0.777660
9	EyeR	SC	-1.413976	0.160571	1.000000	-0.203726
10	EyeR	UN	3.682252	0.000380	0.007986	0.513123
11	LN	M	0.075215	0.940199	1.000000	0.010974
12	LN	NS	5.357317	0.000001	0.000012	0.786514
13	LN	SC	-2.235921	0.027649	0.580630	-0.348150
14	LN	UN	3.413095	0.000939	0.019709	0.430733

	A	B	T	p-unc	p-corr	hedges
15	M	NS	5.202558	0.000001	0.000023	0.728654
16	M	SC	-2.279456	0.024831	0.521453	-0.349864
17	M	UN	2.801524	0.006140	0.128950	0.400046
18	NS	SC	-5.479007	0.000000	0.000007	-0.812263
19	NS	UN	-2.670360	0.008885	0.186593	-0.336673
20	SC	UN	3.968537	0.000139	0.002912	0.621239

Table S14. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized near the left eyebrow.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	4.042098	0.000106	0.002230	0.567906
1	EyeL	LN	6.152251	0.000000	0.000000	0.864100
2	EyeL	M	5.728895	0.000000	0.000002	0.835900
3	EyeL	NS	7.243476	0.000000	0.000000	1.050950
4	EyeL	SC	-0.096944	0.922971	1.000000	-0.014609
5	EyeL	UN	7.333156	0.000000	0.000000	1.018243
6	EyeR	LN	2.976537	0.003681	0.077296	0.414592
7	EyeR	M	2.973072	0.003719	0.078099	0.377689
8	EyeR	NS	5.329763	0.000001	0.000013	0.708980
9	EyeR	SC	-3.835569	0.000223	0.004680	-0.562074
10	EyeR	UN	4.739823	0.000007	0.000154	0.658782
11	LN	M	-0.162732	0.871068	1.000000	-0.022508
12	LN	NS	2.189432	0.030964	0.650240	0.327463
13	LN	SC	-5.594996	0.000000	0.000004	-0.843054

	A	B	T	p-unc	p-corr	hedges
14	LN	UN	1.801641	0.074709	1.000000	0.239461
15	M	NS	2.169698	0.032472	0.681921	0.330349
16	M	SC	-5.370580	0.000001	0.000011	-0.817118
17	M	UN	1.770990	0.079703	1.000000	0.247173
18	NS	SC	-7.014956	0.000000	0.000000	-1.019845
19	NS	UN	-1.098725	0.274608	1.000000	-0.133966
20	SC	UN	6.787842	0.000000	0.000000	0.986889

Table S15. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the right lower eyelid.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	-4.254912	0.000048	0.001013	-0.609528
1	EyeL	LN	0.554647	0.580413	1.000000	0.084804
2	EyeL	M	3.719700	0.000334	0.007018	0.521631
3	EyeL	NS	2.724905	0.007631	0.160252	0.398611
4	EyeL	SC	-2.854514	0.005271	0.110687	-0.427357
5	EyeL	UN	-1.602191	0.112365	1.000000	-0.235736
6	EyeR	LN	4.052455	0.000102	0.002147	0.665979
7	EyeR	M	7.122530	0.000000	0.000000	1.071616
8	EyeR	NS	6.558360	0.000000	0.000000	0.953111
9	EyeR	SC	1.609815	0.110688	1.000000	0.200823
10	EyeR	UN	2.495718	0.014258	0.299417	0.408209
11	LN	M	2.709123	0.007976	0.167502	0.393947
12	LN	NS	1.892557	0.061398	1.000000	0.291075

	A	B	T	p-unc	p-corr	hedges
13	LN	SC	-3.130357	0.002307	0.048450	-0.492022
14	LN	UN	-2.309293	0.023049	0.484022	-0.311486
15	M	NS	-0.566149	0.572600	1.000000	-0.084965
16	M	SC	-6.283858	0.000000	0.000000	-0.928902
17	M	UN	-5.436488	0.000000	0.000009	-0.787432
18	NS	SC	-5.284548	0.000001	0.000016	-0.799489
19	NS	UN	-4.500668	0.000019	0.000396	-0.643162
20	SC	UN	1.646736	0.102849	1.000000	0.210390

Table S16. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized in the middle of the forehead.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	1.880620	0.063024	1.000000	0.258916
1	EyeL	LN	2.678299	0.008692	0.182529	0.391717
2	EyeL	M	2.723247	0.007667	0.161000	0.387515
3	EyeL	NS	1.028394	0.306322	1.000000	0.151574
4	EyeL	SC	-2.700857	0.008163	0.171417	-0.416809
5	EyeL	UN	3.187137	0.001934	0.040614	0.460482
6	EyeR	LN	1.287045	0.201141	1.000000	0.195316
7	EyeR	M	1.402976	0.163817	1.000000	0.188954
8	EyeR	NS	-0.898134	0.371338	1.000000	-0.127775
9	EyeR	SC	-4.699199	0.000009	0.000181	-0.701767
10	EyeR	UN	2.125744	0.036064	0.757346	0.302321
11	LN	M	-0.044034	0.964968	1.000000	-0.006338

	A	B	T	p-unc	p-corr	hedges
12	LN	NS	-2.132946	0.035453	0.744514	-0.302193
13	LN	SC	-5.370081	0.000001	0.000011	-0.816582
14	LN	UN	0.851347	0.396674	1.000000	0.099844
15	M	NS	-2.018127	0.046340	0.973130	-0.296570
16	M	SC	-5.575853	0.000000	0.000005	-0.812952
17	M	UN	0.724338	0.470602	1.000000	0.106433
18	NS	SC	-3.993276	0.000127	0.002663	-0.594992
19	NS	UN	4.039075	0.000107	0.002255	0.396891
20	SC	UN	5.729225	0.000000	0.000002	0.878505

Table S17. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the left side of the forehead.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	3.097725	0.002551	0.053569	0.397858
1	EyeL	LN	2.980940	0.003633	0.076286	0.424288
2	EyeL	M	4.499175	0.000019	0.000398	0.602397
3	EyeL	NS	5.749801	0.000000	0.000002	0.789884
4	EyeL	SC	-0.268426	0.788942	1.000000	-0.040798
5	EyeL	UN	4.433133	0.000024	0.000514	0.637210
6	EyeR	LN	0.143666	0.886062	1.000000	0.020400
7	EyeR	M	2.086763	0.039532	0.830179	0.271685
8	EyeR	NS	4.171897	0.000066	0.001383	0.547162
9	EyeR	SC	-2.898183	0.004641	0.097455	-0.429483
10	EyeR	UN	2.209081	0.029523	0.619977	0.307588

	A	B	T	p-unc	p-corr	hedges
11	LN	M	2.015899	0.046576	0.978102	0.269305
12	LN	NS	4.096172	0.000087	0.001829	0.580341
13	LN	SC	-2.996390	0.003469	0.072839	-0.455056
14	LN	UN	2.346238	0.020999	0.440973	0.311911
15	M	NS	1.848873	0.067522	1.000000	0.256872
16	M	SC	-4.000763	0.000123	0.002592	-0.624892
17	M	UN	-0.017018	0.986457	1.000000	-0.002138
18	NS	SC	-5.629382	0.000000	0.000004	-0.801481
19	NS	UN	-2.596098	0.010894	0.228768	-0.347273
20	SC	UN	4.444002	0.000023	0.000493	0.657400

Table S18. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the right side of the lower lip.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	1.981341	0.050384	1.000000	0.237576
1	EyeL	LN	0.881057	0.380465	1.000000	0.134404
2	EyeL	M	-3.889958	0.000184	0.003859	-0.634518
3	EyeL	NS	4.262129	0.000047	0.000986	0.570009
4	EyeL	SC	-0.118732	0.905733	1.000000	-0.017985
5	EyeL	UN	2.593852	0.010960	0.230167	0.377086
6	EyeR	LN	-0.909144	0.365527	1.000000	-0.140173
7	EyeR	M	-5.928891	0.000000	0.000001	-0.944114
8	EyeR	NS	3.553848	0.000588	0.012357	0.452963
9	EyeR	SC	-1.817378	0.072247	1.000000	-0.283108

	A	B	T	p-unc	p-corr	hedges
10	EyeR	UN	1.200558	0.232847	1.000000	0.173143
11	LN	M	-5.996368	0.000000	0.000001	-0.856541
12	LN	NS	4.379195	0.000030	0.000632	0.640253
13	LN	SC	-1.102739	0.272869	1.000000	-0.170177
14	LN	UN	2.642508	0.009596	0.201506	0.336586
15	M	NS	8.766822	0.000000	0.000000	1.292607
16	M	SC	6.229437	0.000000	0.000000	0.652285
17	M	UN	7.291489	0.000000	0.000000	1.102808
18	NS	SC	-4.460101	0.000022	0.000463	-0.669883
19	NS	UN	-3.193747	0.001894	0.039782	-0.330987
20	SC	UN	2.881332	0.004875	0.102379	0.444998

Table S19. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the left side of the upper lip.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	3.151263	0.002163	0.045414	0.375773
1	EyeL	LN	-0.028589	0.977251	1.000000	-0.004575
2	EyeL	M	-1.948575	0.054236	1.000000	-0.311087
3	EyeL	NS	5.847946	0.000000	0.000001	0.790542
4	EyeL	SC	-0.686269	0.494180	1.000000	-0.105936
5	EyeL	UN	4.275665	0.000045	0.000937	0.610770
6	EyeR	LN	-3.072493	0.002756	0.057866	-0.463760
7	EyeR	M	-5.166513	0.000001	0.000027	-0.779780
8	EyeR	NS	5.024542	0.000002	0.000048	0.679744

	A	B	T	p-unc	p-corr	hedges
9	EyeR	SC	-3.508557	0.000685	0.014379	-0.517096
10	EyeR	UN	2.688136	0.008457	0.177606	0.354493
11	LN	M	-2.185457	0.031263	0.656516	-0.346297
12	LN	NS	7.282114	0.000000	0.000000	1.024012
13	LN	SC	-0.824847	0.411482	1.000000	-0.114729
14	LN	UN	5.619414	0.000000	0.000004	0.778431
15	M	NS	8.596940	0.000000	0.000000	1.253590
16	M	SC	1.724385	0.087824	1.000000	0.207382
17	M	UN	7.393312	0.000000	0.000000	1.053387
18	NS	SC	-6.424705	0.000000	0.000000	-0.958114
19	NS	UN	-3.281657	0.001435	0.030135	-0.416751
20	SC	UN	5.216918	0.000001	0.000022	0.768620

Table S20. Results of the dependent samples t-student tests with Bonferroni correction for the AOIs from the photos with the hemangioma localized on the left side of the lower nose.

	A	B	T	p-unc	p-corr	hedges
0	EyeL	EyeR	3.521356	0.000656	0.013778	0.439954
1	EyeL	LN	-1.455310	0.148812	1.000000	-0.239091
2	EyeL	M	3.555854	0.000584	0.012274	0.518781
3	EyeL	NS	6.195367	0.000000	0.000000	0.843883
4	EyeL	SC	-2.631640	0.009886	0.207612	-0.398405
5	EyeL	UN	0.897592	0.371626	1.000000	0.137174
6	EyeR	LN	-4.466344	0.000022	0.000452	-0.697056
7	EyeR	M	0.575249	0.566455	1.000000	0.082146

	A	B	T	p-unc	p-corr	hedges
8	EyeR	NS	3.895624	0.000180	0.003782	0.519818
9	EyeR	SC	-5.778983	0.000000	0.000002	-0.792974
10	EyeR	UN	-2.050933	0.042970	0.902370	-0.313207
11	LN	M	5.262814	0.000001	0.000018	0.780014
12	LN	NS	7.737008	0.000000	0.000000	1.097410
13	LN	SC	-1.370804	0.173600	1.000000	-0.185469
14	LN	UN	2.809948	0.005994	0.125873	0.384225
15	M	NS	3.153650	0.002147	0.045079	0.482590
16	M	SC	-5.749495	0.000000	0.000002	-0.859602
17	M	UN	-2.499975	0.014098	0.296062	-0.395852
18	NS	SC	-7.625026	0.000000	0.000000	-1.109979
19	NS	UN	-5.486308	0.000000	0.000007	-0.755489
20	SC	UN	3.704657	0.000352	0.007392	0.527820

Table S21. Results of the correspondence analysis. EyeL, EyeR, LN, M, NS, SC, UN – AOI names. EYEBROW LEFT, CHEEK RIGHT, NOSE LEFT, FOREHEAD LEFT, EYELID LOWER RIGHT, LIP UPPER LEFT, FOREHEAD CENTER, LIP LOWER RIGHT – localizations of the hemangioma on the presented faces.

	0	1
EyeL	-0.013690	-0.193454
EyeR	-0.250872	0.215956
LN	0.083516	0.061707
M	0.620191	0.078847
NS	-0.164379	-0.165761

	0	1
SC	-0.123572	-0.138139
UN	-0.224554	0.263440

	0	1
CHEEK RIGHT	-0.005601	0.003283
EYEBROW LEFT	-0.125386	-0.239613
EYELID LOWER RIGHT	-0.357066	0.281106
FOREHEAD CENTER	-0.165236	-0.232815
FOREHEAD LEFT	-0.112734	-0.124146
LIP LOWER RIGHT	0.471020	0.105912
LIP UPPER LEFT	0.342343	0.013953
NOSE LEFT	-0.096746	0.010763

Table S22. Results of a repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of attractiveness depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	87.945004	0.000000	0.000000	0.256556	0.548963	False	0.051326	0.000000

Table S23. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in attractiveness ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	14.404129	97.000000	0.000000	0.000000	1.737017
1	BASE	EYEBROW LEFT	13.713412	97.000000	0.000000	0.000000	1.616611
2	BASE	EYELID LOWER RIGHT	18.051879	97.000000	0.000000	0.000000	2.445392
3	BASE	FOREHEAD CENTER	13.733125	97.000000	0.000000	0.000000	1.769847

	A	B	T	dof	p-unc	p-corr	hedges
4	BASE	FOREHEAD LEFT	12.516152	97.000000	0.000000	0.000000	1.532688
5	BASE	LIP LOWER RIGHT	13.972685	97.000000	0.000000	0.000000	1.873818
6	BASE	LIP UPPER LEFT	16.035237	97.000000	0.000000	0.000000	2.148450
7	BASE	NOSE LEFT	16.306121	97.000000	0.000000	0.000000	2.207977
8	CHEEK RIGHT	EYEBROW LEFT	-1.366843	97.000000	0.174834	1.000000	-0.074545
9	CHEEK RIGHT	EYELID LOWER RIGHT	10.451911	97.000000	0.000000	0.000000	0.908069
10	CHEEK RIGHT	FOREHEAD CENTER	3.166997	97.000000	0.002059	0.074138	0.295869
11	CHEEK RIGHT	FOREHEAD LEFT	-1.054533	97.000000	0.294259	1.000000	-0.068294
12	CHEEK RIGHT	LIP LOWER RIGHT	4.552809	97.000000	0.000015	0.000553	0.469725
13	CHEEK RIGHT	LIP UPPER LEFT	6.513430	97.000000	0.000000	0.000000	0.584594
14	CHEEK RIGHT	NOSE LEFT	6.345718	97.000000	0.000000	0.000000	0.569111
15	EYEBROW LEFT	EYELID LOWER RIGHT	10.433059	97.000000	0.000000	0.000000	0.965544
16	EYEBROW LEFT	FOREHEAD CENTER	4.099810	97.000000	0.000086	0.003094	0.358934
17	EYEBROW LEFT	FOREHEAD LEFT	0.058727	97.000000	0.953290	1.000000	0.003563
18	EYEBROW LEFT	LIP LOWER RIGHT	4.884203	97.000000	0.000004	0.000147	0.528766
19	EYEBROW LEFT	LIP UPPER LEFT	6.729915	97.000000	0.000000	0.000000	0.646415
20	EYEBROW LEFT	NOSE LEFT	7.165555	97.000000	0.000000	0.000000	0.632887
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-7.200093	97.000000	0.000000	0.000000	-0.558040
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-9.573239	97.000000	0.000000	0.000000	-0.936756
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	-4.788273	97.000000	0.000006	0.000217	-0.369207
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-5.986788	97.000000	0.000000	0.000001	-0.314897
25	EYELID LOWER RIGHT	NOSE LEFT	-6.123714	97.000000	0.000000	0.000001	-0.352921

	A	B	T	dof	p-unc	p-corr	hedges
26	FOREHEAD CENTER	FOREHEAD LEFT	-3.496752	97.000000	0.000712	0.025638	-0.345835
27	FOREHEAD CENTER	LIP LOWER RIGHT	1.709523	97.000000	0.090551	1.000000	0.170448
28	FOREHEAD CENTER	LIP UPPER LEFT	2.861647	97.000000	0.005163	0.185861	0.254498
29	FOREHEAD CENTER	NOSE LEFT	2.887854	97.000000	0.004783	0.172194	0.230366
30	FOREHEAD LEFT	LIP LOWER RIGHT	5.061291	97.000000	0.000002	0.000071	0.512398
31	FOREHEAD LEFT	LIP UPPER LEFT	6.322315	97.000000	0.000000	0.000000	0.624769
32	FOREHEAD LEFT	NOSE LEFT	6.299165	97.000000	0.000000	0.000000	0.610410
33	LIP LOWER RIGHT	LIP UPPER LEFT	1.161409	97.000000	0.248326	1.000000	0.071872
34	LIP LOWER RIGHT	NOSE LEFT	0.540364	97.000000	0.590185	1.000000	0.044148
35	LIP UPPER LEFT	NOSE LEFT	-0.516533	97.000000	0.606658	1.000000	-0.031147

Table S24. Results of repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of intelligence depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	22.905009	0.000000	0.000000	0.037398	0.385731	False	0.002135	0.000000

Table S25. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in the intelligence ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	6.015396	97.000000	0.000000	0.000001	0.657459
1	BASE	EYEBROW LEFT	5.802674	97.000000	0.000000	0.000003	0.639500
2	BASE	EYELID LOWER RIGHT	6.773893	97.000000	0.000000	0.000000	0.798908
3	BASE	FOREHEAD CENTER	5.902825	97.000000	0.000000	0.000002	0.679400
4	BASE	FOREHEAD LEFT	6.138379	97.000000	0.000000	0.000001	0.691828

	A	B	T	dof	p-unc	p-corr	hedges
5	BASE	LIP LOWER RIGHT	6.255207	97.000000	0.000000	0.000000	0.731467
6	BASE	LIP UPPER LEFT	6.875550	97.000000	0.000000	0.000000	0.787450
7	BASE	NOSE LEFT	6.578876	97.000000	0.000000	0.000000	0.766500
8	CHEEK RIGHT	EYEBROW LEFT	-0.851607	97.000000	0.396530	1.000000	-0.019511
9	CHEEK RIGHT	EYELID LOWER RIGHT	3.693322	97.000000	0.000366	0.013178	0.186146
10	CHEEK RIGHT	FOREHEAD CENTER	1.137248	97.000000	0.258236	1.000000	0.064043
11	CHEEK RIGHT	FOREHEAD LEFT	1.110722	97.000000	0.269434	1.000000	0.038250
12	CHEEK RIGHT	LIP LOWER RIGHT	2.384367	97.000000	0.019054	0.685939	0.128854
13	CHEEK RIGHT	LIP UPPER LEFT	2.915276	97.000000	0.004414	0.158887	0.139243
14	CHEEK RIGHT	NOSE LEFT	3.388303	97.000000	0.001018	0.036635	0.148360
15	EYEBROW LEFT	EYELID LOWER RIGHT	3.659325	97.000000	0.000411	0.014810	0.204992
16	EYEBROW LEFT	FOREHEAD CENTER	1.590990	97.000000	0.114866	1.000000	0.082823
17	EYEBROW LEFT	FOREHEAD LEFT	1.830641	97.000000	0.070224	1.000000	0.057742
18	EYEBROW LEFT	LIP LOWER RIGHT	2.447857	97.000000	0.016168	0.582061	0.147435
19	EYEBROW LEFT	LIP UPPER LEFT	2.877341	97.000000	0.004932	0.177562	0.158759
20	EYEBROW LEFT	NOSE LEFT	3.292050	97.000000	0.001388	0.049974	0.167282
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-2.289813	97.000000	0.024199	0.871169	-0.118204
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-3.137914	97.000000	0.002254	0.081140	-0.149003
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	-1.922138	97.000000	0.057523	1.000000	-0.053530
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-1.875264	97.000000	0.063764	1.000000	-0.051288
25	EYELID LOWER RIGHT	NOSE LEFT	-1.378782	97.000000	0.171133	1.000000	-0.037435
26	FOREHEAD CENTER	FOREHEAD LEFT	-0.512557	97.000000	0.609427	1.000000	-0.027120

	A	B	T	dof	p-unc	p-corr	hedges
27	FOREHEAD CENTER	LIP LOWER RIGHT	1.053382	97.000000	0.294783	1.000000	0.063468
28	FOREHEAD CENTER	LIP UPPER LEFT	1.276981	97.000000	0.204657	1.000000	0.070421
29	FOREHEAD CENTER	NOSE LEFT	1.470173	97.000000	0.144751	1.000000	0.081254
30	FOREHEAD LEFT	LIP LOWER RIGHT	1.788240	97.000000	0.076859	1.000000	0.092259
31	FOREHEAD LEFT	LIP UPPER LEFT	2.177225	97.000000	0.031890	1.000000	0.100861
32	FOREHEAD LEFT	NOSE LEFT	2.210332	97.000000	0.029433	1.000000	0.111101
33	LIP LOWER RIGHT	LIP UPPER LEFT	0.136671	97.000000	0.891574	1.000000	0.004284
34	LIP LOWER RIGHT	NOSE LEFT	0.498078	97.000000	0.619556	1.000000	0.016675
35	LIP UPPER LEFT	NOSE LEFT	0.418312	97.000000	0.676644	1.000000	0.012993

Table S26. Results of repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of self-confidence depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	73.035749	0.000000	0.000000	0.171826	0.491756	False	0.024241	0.000000

Table S27. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in self-confidence ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	11.908949	97.000000	0.000000	0.000000	1.488123
1	BASE	EYEBROW LEFT	12.015355	97.000000	0.000000	0.000000	1.465407
2	BASE	EYELID LOWER RIGHT	13.520256	97.000000	0.000000	0.000000	1.834940
3	BASE	FOREHEAD CENTER	11.918162	97.000000	0.000000	0.000000	1.541646
4	BASE	FOREHEAD LEFT	11.404976	97.000000	0.000000	0.000000	1.485167
5	BASE	LIP LOWER RIGHT	11.957042	97.000000	0.000000	0.000000	1.602531

	A	B	T	dof	p-unc	p-corr	hedges
6	BASE	LIP UPPER LEFT	12.888009	97.000000	0.000000	0.000000	1.727209
7	BASE	NOSE LEFT	12.845828	97.000000	0.000000	0.000000	1.713609
8	CHEEK RIGHT	EYEBROW LEFT	-1.990582	97.000000	0.049341	1.000000	-0.076315
9	CHEEK RIGHT	EYELID LOWER RIGHT	8.689078	97.000000	0.000000	0.000000	0.608248
10	CHEEK RIGHT	FOREHEAD CENTER	3.311492	97.000000	0.001304	0.046959	0.259272
11	CHEEK RIGHT	FOREHEAD LEFT	1.414359	97.000000	0.160458	1.000000	0.071286
12	CHEEK RIGHT	LIP LOWER RIGHT	4.411440	97.000000	0.000027	0.000958	0.402213
13	CHEEK RIGHT	LIP UPPER LEFT	5.570244	97.000000	0.000000	0.000008	0.404993
14	CHEEK RIGHT	NOSE LEFT	6.026076	97.000000	0.000000	0.000001	0.405514
15	EYEBROW LEFT	EYELID LOWER RIGHT	9.519629	97.000000	0.000000	0.000000	0.683274
16	EYEBROW LEFT	FOREHEAD CENTER	4.490969	97.000000	0.000020	0.000704	0.332467
17	EYEBROW LEFT	FOREHEAD LEFT	2.830470	97.000000	0.005650	0.203413	0.146508
18	EYEBROW LEFT	LIP LOWER RIGHT	5.355735	97.000000	0.000001	0.000021	0.473647
19	EYEBROW LEFT	LIP UPPER LEFT	6.874106	97.000000	0.000000	0.000000	0.481870
20	EYEBROW LEFT	NOSE LEFT	7.525517	97.000000	0.000000	0.000000	0.481792
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-5.706019	97.000000	0.000000	0.000005	-0.335304
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-7.790694	97.000000	0.000000	0.000000	-0.532287
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	-2.925361	97.000000	0.004284	0.154236	-0.183330
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-4.578449	97.000000	0.000014	0.000501	-0.211834
25	EYELID LOWER RIGHT	NOSE LEFT	-4.564736	97.000000	0.000015	0.000528	-0.207962
26	FOREHEAD CENTER	FOREHEAD LEFT	-2.499540	97.000000	0.014114	0.508120	-0.187797
27	FOREHEAD CENTER	LIP LOWER RIGHT	1.992515	97.000000	0.049125	1.000000	0.144566

	A	B	T	dof	p-unc	p-corr	hedges
28	FOREHEAD CENTER	LIP UPPER LEFT	1.941731	97.000000	0.055071	1.000000	0.131342
29	FOREHEAD CENTER	NOSE LEFT	2.109680	97.000000	0.037460	1.000000	0.133576
30	FOREHEAD LEFT	LIP LOWER RIGHT	3.853498	97.000000	0.000209	0.007531	0.331171
31	FOREHEAD LEFT	LIP UPPER LEFT	4.490529	97.000000	0.000020	0.000706	0.328854
32	FOREHEAD LEFT	NOSE LEFT	4.565411	97.000000	0.000015	0.000527	0.329926
33	LIP LOWER RIGHT	LIP UPPER LEFT	-0.377409	97.000000	0.706694	1.000000	-0.019891
34	LIP LOWER RIGHT	NOSE LEFT	-0.242962	97.000000	0.808548	1.000000	-0.016963
35	LIP UPPER LEFT	NOSE LEFT	0.056598	97.000000	0.954982	1.000000	0.002976

Table S28. Results of repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of trustworthiness depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	20.129742	0.000000	0.000000	0.033983	0.373230	False	0.001698	0.000000

Table S29. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in trustworthiness ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	5.522436	97.000000	0.000000	0.000010	0.574518
1	BASE	EYEBROW LEFT	5.386932	97.000000	0.000001	0.000018	0.547633
2	BASE	EYELID LOWER RIGHT	6.273480	97.000000	0.000000	0.000000	0.722247
3	BASE	FOREHEAD CENTER	5.457860	97.000000	0.000000	0.000013	0.599960
4	BASE	FOREHEAD LEFT	5.411787	97.000000	0.000000	0.000016	0.587677
5	BASE	LIP LOWER RIGHT	5.783082	97.000000	0.000000	0.000003	0.703541
6	BASE	LIP UPPER LEFT	6.175760	97.000000	0.000000	0.000001	0.692659

	A	B	T	dof	p-unc	p-corr	hedges
7	BASE	NOSE LEFT	6.148472	97.000000	0.000000	0.000001	0.715860
8	CHEEK RIGHT	EYEBROW LEFT	-1.227914	97.000000	0.222451	1.000000	-0.029841
9	CHEEK RIGHT	EYELID LOWER RIGHT	3.558120	97.000000	0.000580	0.020881	0.169913
10	CHEEK RIGHT	FOREHEAD CENTER	0.882544	97.000000	0.379665	1.000000	0.051721
11	CHEEK RIGHT	FOREHEAD LEFT	0.649020	97.000000	0.517860	1.000000	0.024120
12	CHEEK RIGHT	LIP LOWER RIGHT	2.817155	97.000000	0.005871	0.211362	0.184295
13	CHEEK RIGHT	LIP UPPER LEFT	2.904270	97.000000	0.004559	0.164110	0.131194
14	CHEEK RIGHT	NOSE LEFT	3.945831	97.000000	0.000150	0.005417	0.168850
15	EYEBROW LEFT	EYELID LOWER RIGHT	3.613862	97.000000	0.000480	0.017295	0.199433
16	EYEBROW LEFT	FOREHEAD CENTER	1.371599	97.000000	0.173353	1.000000	0.080768
17	EYEBROW LEFT	FOREHEAD LEFT	1.617698	97.000000	0.108975	1.000000	0.053648
18	EYEBROW LEFT	LIP LOWER RIGHT	2.993497	97.000000	0.003499	0.125955	0.212536
19	EYEBROW LEFT	LIP UPPER LEFT	3.137914	97.000000	0.002254	0.081140	0.160959
20	EYEBROW LEFT	NOSE LEFT	3.871020	97.000000	0.000197	0.007077	0.198161
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-2.598393	97.000000	0.010826	0.389733	-0.114802
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-3.190803	97.000000	0.001912	0.068830	-0.144515
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	0.500594	97.000000	0.617791	1.000000	0.020762
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-1.821151	97.000000	0.071667	1.000000	-0.039617
25	EYELID LOWER RIGHT	NOSE LEFT	0.000000	97.000000	1.000000	1.000000	0.000000
26	FOREHEAD CENTER	FOREHEAD LEFT	-0.580798	97.000000	0.562724	1.000000	-0.027722
27	FOREHEAD CENTER	LIP LOWER RIGHT	2.357167	97.000000	0.020424	0.735265	0.131223
28	FOREHEAD CENTER	LIP UPPER LEFT	1.992515	97.000000	0.049125	1.000000	0.076469

	A	B	T	dof	p-unc	p-corr	hedges
29	FOREHEAD CENTER	NOSE LEFT	2.370209	97.000000	0.019757	0.711235	0.114138
30	FOREHEAD LEFT	LIP LOWER RIGHT	2.649485	97.000000	0.009413	0.338866	0.159893
31	FOREHEAD LEFT	LIP UPPER LEFT	2.417362	97.000000	0.017502	0.630061	0.105908
32	FOREHEAD LEFT	NOSE LEFT	2.775720	97.000000	0.006610	0.237952	0.143641
33	LIP LOWER RIGHT	LIP UPPER LEFT	-1.352845	97.000000	0.179250	1.000000	-0.059094
34	LIP LOWER RIGHT	NOSE LEFT	-0.413467	97.000000	0.680177	1.000000	-0.020656
35	LIP UPPER LEFT	NOSE LEFT	1.239625	97.000000	0.218105	1.000000	0.039389

Table S30. Results of repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of kindness depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	22.924843	0.000000	0.000000	0.035331	0.331548	False	0.001070	0.000000

Table S31. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in kindness ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	5.608873	97.000000	0.000000	0.000007	0.593878
1	BASE	EYEBROW LEFT	5.425023	97.000000	0.000000	0.000015	0.566596
2	BASE	EYELID LOWER RIGHT	6.455947	97.000000	0.000000	0.000000	0.749531
3	BASE	FOREHEAD CENTER	5.935793	97.000000	0.000000	0.000002	0.621740
4	BASE	FOREHEAD LEFT	5.788777	97.000000	0.000000	0.000003	0.625171
5	BASE	LIP LOWER RIGHT	5.906072	97.000000	0.000000	0.000002	0.697862
6	BASE	LIP UPPER LEFT	6.407151	97.000000	0.000000	0.000000	0.720782
7	BASE	NOSE LEFT	6.265218	97.000000	0.000000	0.000000	0.729993

	A	B	T	dof	p-unc	p-corr	hedges
8	CHEEK RIGHT	EYEBROW LEFT	-1.092162	97.000000	0.277467	1.000000	-0.025127
9	CHEEK RIGHT	EYELID LOWER RIGHT	4.015001	97.000000	0.000117	0.004219	0.202895
10	CHEEK RIGHT	FOREHEAD CENTER	1.184242	97.000000	0.239211	1.000000	0.061600
11	CHEEK RIGHT	FOREHEAD LEFT	1.735455	97.000000	0.085836	1.000000	0.052988
12	CHEEK RIGHT	LIP LOWER RIGHT	2.672483	97.000000	0.008833	0.317996	0.154380
13	CHEEK RIGHT	LIP UPPER LEFT	3.374001	97.000000	0.001066	0.038379	0.169144
14	CHEEK RIGHT	NOSE LEFT	4.143090	97.000000	0.000073	0.002638	0.174360
15	EYEBROW LEFT	EYELID LOWER RIGHT	3.976489	97.000000	0.000135	0.004851	0.226212
16	EYEBROW LEFT	FOREHEAD CENTER	1.566454	97.000000	0.120499	1.000000	0.085615
17	EYEBROW LEFT	FOREHEAD LEFT	2.603323	97.000000	0.010682	0.384540	0.077375
18	EYEBROW LEFT	LIP LOWER RIGHT	2.680813	97.000000	0.008631	0.310730	0.177698
19	EYEBROW LEFT	LIP UPPER LEFT	3.482097	97.000000	0.000748	0.026917	0.192678
20	EYEBROW LEFT	NOSE LEFT	3.936011	97.000000	0.000156	0.005612	0.198002
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-3.291535	97.000000	0.001390	0.050057	-0.137968
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-3.485113	97.000000	0.000740	0.026649	-0.148595
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	-1.439899	97.000000	0.153116	1.000000	-0.045769
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-1.302373	97.000000	0.195873	1.000000	-0.033476
25	EYELID LOWER RIGHT	NOSE LEFT	-1.122382	97.000000	0.264471	1.000000	-0.029383
26	FOREHEAD CENTER	FOREHEAD LEFT	-0.214613	97.000000	0.830519	1.000000	-0.009157
27	FOREHEAD CENTER	LIP LOWER RIGHT	1.919256	97.000000	0.057891	1.000000	0.091125
28	FOREHEAD CENTER	LIP UPPER LEFT	2.811570	97.000000	0.005966	0.214781	0.104789
29	FOREHEAD CENTER	NOSE LEFT	2.408732	97.000000	0.017896	0.644271	0.109524

	A	B	T	dof	p-unc	p-corr	hedges
30	FOREHEAD LEFT	LIP LOWER RIGHT	1.846300	97.000000	0.067898	1.000000	0.101186
31	FOREHEAD LEFT	LIP UPPER LEFT	2.598393	97.000000	0.010826	0.389733	0.115114
32	FOREHEAD LEFT	NOSE LEFT	2.719556	97.000000	0.007747	0.278874	0.119957
33	LIP LOWER RIGHT	LIP UPPER LEFT	0.410330	97.000000	0.682469	1.000000	0.012630
34	LIP LOWER RIGHT	NOSE LEFT	0.463123	97.000000	0.644313	1.000000	0.016893
35	LIP UPPER LEFT	NOSE LEFT	0.127393	97.000000	0.898893	1.000000	0.004248

Table S32. Results of repeated measures ANOVA. P-value <0.05 means that there were significant differences between ratings of dominance depending upon the hemangioma localization.

	Source	ddof 1	ddof 2	F	p-unc	p-GG-corr	ng2	eps	sphericity	W-spher	p-spher
0	Localization	8	776	67.877506	0.000000	0.000000	0.147968	0.476349	False	0.022641	0.000000

Table S33. Results of post-hoc t-student tests with Bonferroni correction. Column 'p-corr' value <0.05 indicate which two types of photos differ significantly in dominance ratings.

	A	B	T	dof	p-unc	p-corr	hedges
0	BASE	CHEEK RIGHT	11.487375	97.000000	0.000000	0.000000	1.358839
1	BASE	EYEBROW LEFT	11.393571	97.000000	0.000000	0.000000	1.337273
2	BASE	EYELID LOWER RIGHT	13.043100	97.000000	0.000000	0.000000	1.690079
3	BASE	FOREHEAD CENTER	10.892474	97.000000	0.000000	0.000000	1.386882
4	BASE	FOREHEAD LEFT	11.143243	97.000000	0.000000	0.000000	1.375228
5	BASE	LIP LOWER RIGHT	11.243450	97.000000	0.000000	0.000000	1.446925
6	BASE	LIP UPPER LEFT	12.310022	97.000000	0.000000	0.000000	1.586401
7	BASE	NOSE LEFT	11.923099	97.000000	0.000000	0.000000	1.542210
8	CHEEK RIGHT	EYEBROW LEFT	-1.690873	97.000000	0.094072	1.000000	-0.065276

	A	B	T	dof	p-unc	p-corr	hedges
9	CHEEK RIGHT	EYELID LOWER RIGHT	9.034119	97.000000	0.000000	0.000000	0.539565
10	CHEEK RIGHT	FOREHEAD CENTER	3.247364	97.000000	0.001600	0.057606	0.248886
11	CHEEK RIGHT	FOREHEAD LEFT	1.653106	97.000000	0.101542	1.000000	0.082461
12	CHEEK RIGHT	LIP LOWER RIGHT	4.107008	97.000000	0.000084	0.003014	0.356594
13	CHEEK RIGHT	LIP UPPER LEFT	5.523683	97.000000	0.000000	0.000010	0.367393
14	CHEEK RIGHT	NOSE LEFT	5.450078	97.000000	0.000000	0.000014	0.365509
15	EYEBROW LEFT	EYELID LOWER RIGHT	9.454743	97.000000	0.000000	0.000000	0.604811
16	EYEBROW LEFT	FOREHEAD CENTER	4.242829	97.000000	0.000051	0.001818	0.310081
17	EYEBROW LEFT	FOREHEAD LEFT	2.761483	97.000000	0.006883	0.247772	0.147065
18	EYEBROW LEFT	LIP LOWER RIGHT	4.833465	97.000000	0.000005	0.000181	0.417034
19	EYEBROW LEFT	LIP UPPER LEFT	6.749679	97.000000	0.000000	0.000000	0.433503
20	EYEBROW LEFT	NOSE LEFT	6.556216	97.000000	0.000000	0.000000	0.429817
21	EYELID LOWER RIGHT	FOREHEAD CENTER	-4.608272	97.000000	0.000012	0.000445	-0.266393
22	EYELID LOWER RIGHT	FOREHEAD LEFT	-7.528780	97.000000	0.000000	0.000000	-0.453315
23	EYELID LOWER RIGHT	LIP LOWER RIGHT	-2.496584	97.000000	0.014225	0.512111	-0.153670
24	EYELID LOWER RIGHT	LIP UPPER LEFT	-4.461500	97.000000	0.000022	0.000790	-0.177247
25	EYELID LOWER RIGHT	NOSE LEFT	-4.156001	97.000000	0.000070	0.002514	-0.168440
26	FOREHEAD CENTER	FOREHEAD LEFT	-2.520702	97.000000	0.013343	0.480357	-0.169190
27	FOREHEAD CENTER	LIP LOWER RIGHT	1.544354	97.000000	0.125759	1.000000	0.106182
28	FOREHEAD CENTER	LIP UPPER LEFT	1.625610	97.000000	0.107277	1.000000	0.097859
29	FOREHEAD CENTER	NOSE LEFT	1.762099	97.000000	0.081203	1.000000	0.101903
30	FOREHEAD LEFT	LIP LOWER RIGHT	3.580089	97.000000	0.000539	0.019391	0.277195

	A	B	T	dof	p-unc	p-corr	hedges
31	FOREHEAD LEFT	LIP UPPER LEFT	4.513430	97.000000	0.000018	0.000645	0.281089
32	FOREHEAD LEFT	NOSE LEFT	4.482641	97.000000	0.000020	0.000728	0.281377
33	LIP LOWER RIGHT	LIP UPPER LEFT	-0.276894	97.000000	0.782451	1.000000	-0.014315
34	LIP LOWER RIGHT	NOSE LEFT	-0.131531	97.000000	0.895627	1.000000	-0.008443
35	LIP UPPER LEFT	NOSE LEFT	0.129534	97.000000	0.897203	1.000000	0.005979

Table S34. Results of t-Student test for two independent samples.

	T	dof	alternative	p-val	CI95%	cohen-d	BF10	power
T-test	-0.315966	51.644636	two-sided	0.753302	[-1.96 1.43]	0.069457	0.243	0.060903

Table S35. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces without skin change. On the basis of p value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces without skin change that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.427454	2	95	0.213727	1.514028	0.225283	nan	0.030890	nan	nan	nan	nan
1	AOI Name	17.247379	5	475	3.449476	17.220790	0.000000	0.000000	0.153455	0.679729	False	0.264652	0.000000
2	Interaction	2.678012	10	475	0.267801	1.336941	0.207629	nan	0.027376	nan	nan	nan	nan

Table S36. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of p value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right cheek that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.275287	2	95	0.137644	1.142519	0.323358	nan	0.023488	nan	nan	nan	Nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	9.200659	6	570	1.533443	10.251804	0.000000	0.000000	0.097403	0.616716	False	0.137270	0.000000
2	Interaction	1.670436	12	570	0.139203	0.930639	0.515570	nan	0.019216	nan	nan	nan	Nan

Table S37. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of p value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.178646	2	95	0.089323	0.605214	0.548049	nan	0.012581	nan	nan	nan	nan
1	AOI Name	28.941122	6	570	4.823520	26.217765	0.000000	0.000000	0.216286	0.532482	False	0.056099	0.000000
2	Interaction	2.611312	12	570	0.217609	1.182794	0.291722	nan	0.024296	nan	nan	nan	nan

Table S38. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of p value <0.05 there were grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right lower eyelid that were dependent on the AOI and age group. It can be assumed that depending upon the age group certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.308672	2	95	0.154336	0.746019	0.477008	nan	0.015463	nan	nan	nan	nan
1	AOI Name	35.268256	6	570	5.878043	16.214373	0.000000	0.000000	0.145794	0.722324	False	0.322711	0.000000
2	Interaction	14.908132	12	570	1.242344	3.426963	0.000070	nan	0.067292	nan	nan	nan	nan

Table S39. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.037122	2	95	0.018561	0.137137	0.872023	nan	0.002879	nan	nan	nan	nan
1	AOI Name	16.941598	6	570	2.823600	13.820006	0.000000	0.000000	0.126999	0.532581	False	0.057472	0.000000
2	Interaction	3.000491	12	570	0.250041	1.223816	0.262502	nan	0.025117	nan	nan	nan	nan

Table S40. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.471912	2	95	0.235956	1.665623	0.194546	nan	0.033878	nan	nan	nan	nan
1	AOI Name	11.399627	6	570	1.899938	12.318366	0.000000	0.000000	0.114783	0.533867	False	0.060536	0.000000
2	Interaction	0.523304	12	570	0.043609	0.282739	0.991866	nan	0.005917	nan	nan	nan	nan

Table S41. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.712051	2	95	0.356026	1.939846	0.149377	nan	0.039236	nan	nan	nan	nan
1	AOI Name	31.664972	6	570	5.277495	20.382482	0.000000	0.000000	0.176651	0.522598	False	0.049940	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	1.956722	12	570	0.163060	0.629763	0.817535	nan	0.013085	nan	nan	nan	nan

Table S42. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.079634	2	95	0.539817	2.739571	0.069705	nan	0.054530	nan	nan	nan	nan
1	AOI Name	29.199739	6	570	4.866623	17.438318	0.000000	0.000000	0.155092	0.586401	False	0.047624	0.000000
2	Interaction	4.516531	12	570	0.376378	1.348654	0.186801	nan	0.027609	nan	nan	nan	nan

Table S43. Results of mixed ANOVA for average viewing time (in seconds) for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.908032	2	95	0.454016	2.602841	0.079339	nan	0.051950	nan	nan	nan	nan
1	AOI Name	28.183743	6	570	4.697291	17.814092	0.000000	0.000000	0.157907	0.654222	False	0.127667	0.000000
2	Interaction	1.524545	12	570	0.127045	0.481810	0.925690	nan	0.010042	nan	nan	nan	nan

Table S44. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which two age groups differ significantly in time of AOI viewing in the pictures of female faces with hemangioma on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
24	AOI Name * Age group	EyeL	18-40	41-59	-1.115748	53.639643	0.269504	1.000000	-0.253927
25	AOI Name * Age group	EyeL	18-40	≥ 60	-0.148796	51.485452	0.882296	1.000000	-0.037842
26	AOI Name * Age group	EyeL	41-59	≥ 60	0.889083	63.559280	0.377311	1.000000	0.207982
27	AOI Name * Age group	EyeR	18-40	41-59	2.927563	59.386132	0.004837	0.101569	0.714640
28	AOI Name * Age group	EyeR	18-40	≥ 60	4.168695	46.237313	0.000133	0.002794	1.044324
29	AOI Name * Age group	EyeR	41-59	≥ 60	1.082409	61.464314	0.283299	1.000000	0.250998
30	AOI Name * Age group	LN	18-40	41-59	-2.185225	46.735358	0.033920	0.712330	-0.490972
31	AOI Name * Age group	LN	18-40	≥ 60	-2.070536	32.895967	0.046325	0.972829	-0.531161
32	AOI Name * Age group	LN	41-59	≥ 60	-0.496670	51.709687	0.621527	1.000000	-0.124573
33	AOI Name * Age group	M	18-40	41-59	-0.483298	63.265609	0.630553	1.000000	-0.112478
34	AOI Name * Age group	M	18-40	≥ 60	0.054336	45.909499	0.956903	1.000000	0.013854
35	AOI Name * Age group	M	41-59	≥ 60	0.414697	57.220470	0.679914	1.000000	0.102414
36	AOI Name * Age group	NS	18-40	41-59	0.517769	63.067476	0.606431	1.000000	0.125034
37	AOI Name * Age group	NS	18-40	≥ 60	0.052115	48.899094	0.958649	1.000000	0.013270
38	AOI Name * Age group	NS	41-59	≥ 60	-0.324414	45.948957	0.747097	1.000000	-0.082666
39	AOI Name * Age group	SC	18-40	41-59	0.513206	65.666070	0.609529	1.000000	0.122344
40	AOI Name * Age group	SC	18-40	≥ 60	1.292154	58.806019	0.201359	1.000000	0.326213
41	AOI Name * Age group	SC	41-59	≥ 60	0.746736	64.987904	0.457916	1.000000	0.177592
42	AOI Name * Age group	UN	18-40	41-59	-1.833952	62.201697	0.071446	1.000000	-0.425418
43	AOI Name * Age group	UN	18-40	≥ 60	-2.253828	47.929186	0.028817	0.605161	-0.574153
44	AOI Name * Age group	UN	41-59	≥ 60	-0.535603	60.907052	0.594183	1.000000	-0.130705

Table S45. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces without skin change. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces without skin change that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.181225	2	95	0.090613	0.036491	0.964181	nan	0.000768	nan	nan	nan	nan
1	AOI Name	70.697090	5	475	14.139418	7.573073	0.000001	0.000016	0.073831	0.731977	False	0.390924	0.000000
2	Interaction	22.243450	10	475	2.224345	1.191359	0.294171	nan	0.024468	nan	nan	nan	nan

Table S46. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.213927	2	95	0.106964	0.076843	0.926093	nan	0.001615	nan	nan	nan	nan
1	AOI Name	36.459670	6	570	6.076612	5.291871	0.000025	0.000271	0.052765	0.702324	False	0.256146	0.000000
2	Interaction	12.506071	12	570	1.042173	0.907585	0.539008	nan	0.018749	nan	nan	nan	nan

Table S47. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.762496	2	95	0.381248	0.247970	0.780887	nan	0.005193	nan	nan	nan	nan
1	AOI Name	214.430515	6	570	35.738419	28.628471	0.000000	0.000000	0.231569	0.684729	False	0.200666	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	19.151495	12	570	1.595958	1.278451	0.226959	nan	0.026209	nan	nan	nan	nan

Table S48. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of p value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and age group. It can be assumed that depending upon the age group of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	4.089360	2	95	2.044680	0.786055	0.458579	nan	0.016279	nan	nan	nan	nan
1	AOI Name	307.927114	6	570	51.321186	23.383947	0.000000	0.000000	0.197526	0.670241	False	0.238041	0.000000
2	Interaction	96.099104	12	570	8.008259	3.648877	0.000027	nan	0.071338	nan	nan	nan	nan

Table S49. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.960448	2	95	0.980224	0.655418	0.521557	nan	0.013610	nan	nan	nan	nan
1	AOI Name	126.523810	6	570	21.087302	14.725779	0.000000	0.000000	0.134205	0.620983	False	0.162001	0.000000
2	Interaction	19.903396	12	570	1.658616	1.158252	0.310243	nan	0.023804	nan	nan	nan	nan

Table S50. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of p value >0.05 there was no reason to believe that there were significant differences

in number of fixations per pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.951858	2	95	0.975929	0.683668	0.507228	nan	0.014189	nan	nan	nan	nan
1	AOI Name	83.424036	6	570	13.904006	12.343672	0.000000	0.000000	0.114992	0.583093	False	0.148323	0.000000
2	Interaction	6.110906	12	570	0.509242	0.452094	0.941373	nan	0.009428	nan	nan	nan	nan

Table S51. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	3.250966	2	95	1.625483	0.917696	0.402950	nan	0.018954	nan	nan	nan	nan
1	AOI Name	35.827340	6	570	5.971223	4.335784	0.000273	0.001452	0.043648	0.703639	False	0.217290	0.000000
2	Interaction	10.218691	12	570	0.851558	0.618327	0.827472	nan	0.012850	nan	nan	nan	nan

Table S52. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	4.499206	2	95	2.249603	1.156480	0.318980	nan	0.023768	nan	nan	nan	nan
1	AOI Name	146.218659	6	570	24.369776	15.030053	0.000000	0.000000	0.136600	0.557703	False	0.082356	0.000000
2	Interaction	21.454514	12	570	1.787876	1.102672	0.355020	nan	0.022687	nan	nan	nan	nan

Table S53. Results of mixed ANOVA for average number of fixations for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of p value >0.05 there was no reason to believe that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.511392	2	95	0.755696	0.488772	0.614913	nan	0.010185	nan	nan	nan	nan
1	AOI Name	160.949789	6	570	26.824965	17.740509	0.000000	0.000000	0.157357	0.712271	False	0.219915	0.000000
2	Interaction	20.628259	12	570	1.719022	1.136863	0.327014	nan	0.023375	nan	nan	nan	nan

Table S54. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixations differs significantly depending upon participants' age group in the pictures of female faces with hemangioma on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
24	AOI Name * Age group	EyeL	18-40	41-59	-1.081393	59.587249	0.283880	1.000000	-0.249170
25	AOI Name * Age group	EyeL	18-40	≥ 60	-0.223818	48.247480	0.823844	1.000000	-0.057008
26	AOI Name * Age group	EyeL	41-59	≥ 60	0.697210	63.478035	0.488217	1.000000	0.168261
27	AOI Name * Age group	EyeR	18-40	41-59	3.052819	61.621241	0.003344	0.070227	0.740632
28	AOI Name * Age group	EyeR	18-40	≥ 60	3.692825	54.625174	0.000514	0.010790	0.928803
29	AOI Name * Age group	EyeR	41-59	≥ 60	0.535758	64.960283	0.593955	1.000000	0.126919
30	AOI Name * Age group	LN	18-40	41-59	-2.368022	57.607558	0.021261	0.446489	-0.543235
31	AOI Name * Age group	LN	18-40	≥ 60	-2.778245	38.776541	0.008380	0.175978	-0.710657
32	AOI Name * Age group	LN	41-59	≥ 60	-0.899081	53.611335	0.372630	1.000000	-0.224331
33	AOI Name * Age group	M	18-40	41-59	-0.278153	65.725464	0.781768	1.000000	-0.065529
34	AOI Name * Age group	M	18-40	≥ 60	0.627939	58.394815	0.532492	1.000000	0.158411
35	AOI Name * Age group	M	41-59	≥ 60	0.863414	63.331773	0.391168	1.000000	0.201743

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
36	AOI Name * Age group	NS	18-40	41-59	1.671887	57.334455	0.099996	1.000000	0.410213
37	AOI Name * Age group	NS	18-40	≥ 60	1.531259	58.656297	0.131081	1.000000	0.387441
38	AOI Name * Age group	NS	41-59	≥ 60	0.121010	53.646771	0.904135	1.000000	0.030190
39	AOI Name * Age group	SC	18-40	41-59	1.034100	64.868317	0.304929	1.000000	0.247853
40	AOI Name * Age group	SC	18-40	≥ 60	1.054082	58.681669	0.296166	1.000000	0.266692
41	AOI Name * Age group	SC	41-59	≥ 60	0.070840	62.354288	0.943752	1.000000	0.017189
42	AOI Name * Age group	UN	18-40	41-59	-0.729066	65.954520	0.468543	1.000000	-0.172327
43	AOI Name * Age group	UN	18-40	≥ 60	-1.925862	51.465617	0.059654	1.000000	-0.489793
44	AOI Name * Age group	UN	41-59	≥ 60	-1.256119	57.191297	0.214180	1.000000	-0.310241

Table S55. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces without skin change. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces without skin change that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.487957	2	95	0.743979	0.467243	0.628160	nan	0.009741	nan	nan	nan	nan
1	AOI Name	28.917800	5	475	5.783560	5.627322	0.000047	0.000298	0.055922	0.763203	False	0.469141	0.000000
2	Interaction	15.320155	10	475	1.532016	1.490629	0.139518	nan	0.030427	nan	nan	nan	nan

Table S56. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of

revisits per pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age groups	0.786704	2	95	0.393352	0.593257	0.554559	nan	0.012336	nan	nan	nan	nan
1	AOI Name	26.488500	6	570	4.414750	7.620494	0.000000	0.000028	0.074259	0.554438	False	0.133390	0.000000
2	Interaction	4.597301	12	570	0.383108	0.661300	0.789042	nan	0.013731	nan	nan	nan	nan

Table S57. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.800920	2	95	0.900460	1.038145	0.358093	nan	0.021388	nan	nan	nan	nan
1	AOI Name	141.580175	6	570	23.596696	32.064345	0.000000	0.000000	0.252347	0.511287	False	0.057624	0.000000
2	Interaction	9.042389	12	570	0.753532	1.023937	0.424803	nan	0.021102	nan	nan	nan	nan

Table S58. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of p value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and age group. It can be assumed that depending upon the age group of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.997706	2	95	0.498853	0.268936	0.764772	nan	0.005630	nan	nan	nan	nan
1	AOI Name	185.548753	6	570	30.924792	25.851293	0.000000	0.000000	0.213910	0.635959	False	0.167096	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	39.060908	12	570	3.255076	2.721050	0.001370	nan	0.054181	nan	nan	nan	nan

Table S59. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.843623	2	95	0.921812	1.162116	0.317230	nan	0.023881	nan	nan	nan	nan
1	AOI Name	116.064464	6	570	19.344077	24.456271	0.000000	0.000000	0.204730	0.448288	False	0.059091	0.000000
2	Interaction	5.688130	12	570	0.474011	0.599281	0.843507	nan	0.012459	nan	nan	nan	nan

Table S60. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.027812	2	95	0.513906	0.921805	0.401329	nan	0.019037	nan	nan	nan	nan
1	AOI Name	50.650146	6	570	8.441691	14.459743	0.000000	0.000000	0.132101	0.451785	False	0.080639	0.000000
2	Interaction	3.691310	12	570	0.307609	0.526903	0.897813	nan	0.010971	nan	nan	nan	nan

Table S61. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of p value >0.05 there is no reason to believe that there were significant differences

in number of revisits per pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.422834	2	95	0.711417	0.804189	0.450473	nan	0.016648	nan	nan	nan	nan
1	AOI Name	30.243602	6	570	5.040600	5.423812	0.000018	0.001063	0.054009	0.508050	False	0.098006	0.000000
2	Interaction	6.663854	12	570	0.555321	0.597539	0.844939	nan	0.012423	nan	nan	nan	nan

Table S62. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	1.460249	2	95	0.730124	0.608226	0.546422	nan	0.012643	nan	nan	nan	nan
1	AOI Name	74.658568	6	570	12.443095	15.053122	0.000000	0.000000	0.136781	0.592492	False	0.101367	0.000000
2	Interaction	8.108962	12	570	0.675747	0.817490	0.632499	nan	0.016919	nan	nan	nan	nan

Table S63. Results of mixed ANOVA for average number of revisits for age groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of p value >0.05 there is no reason to believe that there were significant differences in number of revisits per pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and age group.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Age group	0.591265	2	95	0.295632	0.301996	0.740048	nan	0.006318	nan	nan	nan	nan
1	AOI Name	146.291221	6	570	24.381870	23.085984	0.000000	0.000000	0.195501	0.501622	False	0.045172	0.000000
2	Interaction	13.300251	12	570	1.108354	1.049446	0.401427	nan	0.021616	nan	nan	nan	nan

Table S64. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' age group in the pictures of female faces with the hemangioma on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
24	AOI Name * Age group	EyeL	18-40	41-59	-1.692000	57.857169	0.096026	1.000000	-0.388360
25	AOI Name * Age group	EyeL	18-40	≥ 60	-1.157630	38.166943	0.254208	1.000000	-0.296198
26	AOI Name * Age group	EyeL	41-59	≥ 60	0.055673	52.100879	0.955815	1.000000	0.013949
27	AOI Name * Age group	EyeR	18-40	41-59	2.313061	58.748374	0.024240	0.509033	0.565557
28	AOI Name * Age group	EyeR	18-40	≥ 60	3.334420	46.776977	0.001679	0.035263	0.835519
29	AOI Name * Age group	EyeR	41-59	≥ 60	0.949365	62.373310	0.346099	1.000000	0.220892
30	AOI Name * Age group	LN	18-40	41-59	-2.514457	49.353118	0.015229	0.319818	-0.567673
31	AOI Name * Age group	LN	18-40	≥ 60	-2.584953	42.086892	0.013295	0.279195	-0.660221
32	AOI Name * Age group	LN	41-59	≥ 60	0.091087	64.977616	0.927704	1.000000	0.021674
33	AOI Name * Age group	M	18-40	41-59	0.078438	64.955341	0.937721	1.000000	0.018791
34	AOI Name * Age group	M	18-40	≥ 60	0.405101	58.584904	0.686879	1.000000	0.102225
35	AOI Name * Age group	M	41-59	≥ 60	0.330489	64.885693	0.742095	1.000000	0.078827
36	AOI Name * Age group	NS	18-40	41-59	1.289798	50.797709	0.202962	1.000000	0.321250
37	AOI Name * Age group	NS	18-40	≥ 60	0.675650	54.322298	0.502129	1.000000	0.171576
38	AOI Name * Age group	NS	41-59	≥ 60	-0.266233	41.160920	0.791389	1.000000	-0.068793
39	AOI Name * Age group	SC	18-40	41-59	1.029069	63.253329	0.307367	1.000000	0.248342
40	AOI Name * Age group	SC	18-40	≥ 60	0.548654	58.464656	0.585332	1.000000	0.138865
41	AOI Name * Age group	SC	41-59	≥ 60	-0.406108	59.533690	0.686119	1.000000	-0.099574
42	AOI Name * Age group	UN	18-40	41-59	-0.631594	61.471969	0.529994	1.000000	-0.153296
43	AOI Name * Age group	UN	18-40	≥ 60	-1.698483	53.712000	0.095203	1.000000	-0.431464
44	AOI Name * Age group	UN	41-59	≥ 60	-1.281228	49.353767	0.206101	1.000000	-0.323422

Table S65. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces without skin change. On the basis of P value <0.05 there were grounds for believing that there were significant differences in viewing time of pictures of female faces without skin change that were dependent on the AOI and sex of the participant. It can be assumed that depending upon the sex of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.492288	1	96	0.492288	3.541167	0.062893	nan	0.035575	nan	nan	nan	nan
1	AOI Name	17.247379	5	480	3.449476	17.523882	0.000000	0.000000	0.154363	0.679729	False	0.264652	0.000000
2	Interaction	3.339444	5	480	0.667889	3.392980	0.005054	nan	0.034137	nan	nan	nan	nan

Table S66. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right cheek that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.004110	1	96	0.004110	0.033674	0.854789	nan	0.000351	nan	nan	nan	nan
1	AOI Name	9.200659	6	576	1.533443	10.271338	0.000000	0.000000	0.096652	0.616716	False	0.137270	0.000000
2	Interaction	0.936822	6	576	0.156137	1.045839	0.394412	nan	0.010777	nan	nan	nan	nan

Table S67. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.067283	1	96	0.067283	0.457050	0.500631	nan	0.004738	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	28.941122	6	576	4.823520	25.945707	0.000000	0.000000	0.212764	0.532482	False	0.056099	0.000000
2	Interaction	0.396250	6	576	0.066042	0.355238	0.906886	nan	0.003687	nan	nan	nan	nan

Table S68. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right lower eyelid that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.087310	1	96	0.087310	0.421724	0.517629	nan	0.004374	nan	nan	nan	nan
1	AOI Name	35.268256	6	576	5.878043	15.398779	0.000000	0.000000	0.138231	0.722324	False	0.322711	0.000000
2	Interaction	1.673311	6	576	0.278885	0.730599	0.625110	nan	0.007553	nan	nan	nan	nan

Table S69. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.179498	1	96	0.179498	1.355169	0.247261	nan	0.013920	nan	nan	nan	nan
1	AOI Name	16.941598	6	576	2.823600	13.665659	0.000000	0.000000	0.124612	0.532581	False	0.057472	0.000000
2	Interaction	0.445430	6	576	0.074238	0.359299	0.904487	nan	0.003729	nan	nan	nan	nan

Table S70. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there was no reason to believe that there were significant differences

in viewing time of pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.013134	1	96	0.013134	0.090600	0.764067	nan	0.000943	nan	nan	nan	nan
1	AOI Name	11.399627	6	576	1.899938	12.525862	0.000000	0.000000	0.115418	0.533867	False	0.060536	0.000000
2	Interaction	1.069554	6	576	0.178259	1.175221	0.317825	nan	0.012094	nan	nan	nan	nan

Table S71. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.377926	1	96	0.377926	2.041724	0.156282	nan	0.020825	nan	nan	nan	nan
1	AOI Name	31.664972	6	576	5.277495	20.491343	0.000000	0.000000	0.175904	0.522598	False	0.049940	0.000000
2	Interaction	1.195494	6	576	0.199249	0.773639	0.590840	nan	0.007994	nan	nan	nan	nan

Table S72. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.694848	1	96	0.694848	3.491700	0.064726	nan	0.035095	nan	nan	nan	nan
1	AOI Name	29.199739	6	576	4.866623	17.492559	0.000000	0.000000	0.154130	0.586401	False	0.047624	0.000000
2	Interaction	3.340520	6	576	0.556753	2.001191	0.063666	nan	0.020420	nan	nan	nan	nan

Table S73. Results of mixed ANOVA for average viewing time (in seconds) for sex and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value >0.05 there was no reason to believe that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and participants' sex.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.486997	1	96	0.486997	2.751402	0.100433	nan	0.027862	nan	nan	nan	nan
1	AOI Name	28.183743	6	576	4.697291	18.155996	0.000000	0.000000	0.159045	0.654222	False	0.127667	0.000000
2	Interaction	2.802605	6	576	0.467101	1.805441	0.095777	nan	0.018460	nan	nan	nan	nan

Table S74. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' gender in the pictures of females without skin change.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
16	AOI Name * Sex	EyeL	Female	Male	-1.233401	37.862832	0.225029	1.000000	-0.318810
17	AOI Name * Sex	EyeR	Female	Male	1.070863	54.260823	0.288971	1.000000	0.228384
18	AOI Name * Sex	LN	Female	Male	-1.581786	39.185836	0.121737	0.730425	-0.399889
19	AOI Name * Sex	M	Female	Male	4.112794	86.800507	0.000089	0.000531	0.719495
20	AOI Name * Sex	NS	Female	Male	-2.088805	42.472552	0.042755	0.256532	-0.503279
21	AOI Name * Sex	UN	Female	Male	-1.792283	31.546404	0.082684	0.496102	-0.533646

Table S75. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces without skin change. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces without skin change that were dependent on the AOI and sex of the participant. It can be assumed that depending upon the sex of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.237037	1	96	0.237037	0.096485	0.756763	nan	0.001004	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	70.697090	5	480	14.139418	7.659854	0.000001	0.000016	0.073894	0.731977	False	0.390924	0.000000
2	Interaction	23.061376	5	480	4.612275	2.498643	0.030033	nan	0.025367	nan	nan	nan	nan

Table S76. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	2.617493	1	96	2.617493	1.935385	0.167386	nan	0.019762	nan	nan	nan	nan
1	AOI Name	36.459670	6	576	6.076612	5.323628	0.000023	0.000271	0.052541	0.702324	False	0.256146	0.000000
2	Interaction	9.561872	6	576	1.593645	1.396169	0.213869	nan	0.014335	nan	nan	nan	nan

Table S77. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	spheri city	W-spher	p-spher
0	Sex	3.135730	1	96	3.135730	2.095040	0.151036	nan	0.021357	nan	nan	nan	nan
1	AOI Name	214.430515	6	576	35.738419	28.507078	0.000000	0.000000	0.228959	0.684729	False	0.200666	0.000000
2	Interaction	8.599417	6	576	1.433236	1.143234	0.335658	nan	0.011769	nan	nan	nan	nan

Table S78. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in

number of fixations per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.158746	1	96	0.158746	0.060705	0.805911	nan	0.000632	nan	nan	nan	nan
1	AOI Name	307.927114	6	576	51.321186	22.086040	0.000000	0.000000	0.187033	0.670241	False	0.238041	0.000000
2	Interaction	8.641367	6	576	1.440228	0.619801	0.714546	nan	0.006415	nan	nan	nan	nan

Table S79. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.114286	1	96	0.114286	0.076230	0.783066	nan	0.000793	nan	nan	nan	nan
1	AOI Name	126.523810	6	576	21.087302	14.666812	0.000000	0.000000	0.132531	0.620983	False	0.162001	0.000000
2	Interaction	7.995238	6	576	1.332540	0.926819	0.475024	nan	0.009562	nan	nan	nan	nan

Table S80. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	2.953175	1	96	2.953175	2.106115	0.149971	nan	0.021468	nan	nan	nan	nan
1	AOI Name	83.424036	6	576	13.904006	12.384356	0.000000	0.000000	0.114263	0.583093	False	0.148323	0.000000
2	Interaction	1.483900	6	576	0.247317	0.220286	0.970274	nan	0.002289	nan	nan	nan	nan

Table S81. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	1.526547	1	96	1.526547	0.862077	0.355487	nan	0.008900	nan	nan	nan	nan
1	AOI Name	35.827340	6	576	5.971223	4.381966	0.000243	0.001452	0.043653	0.703639	False	0.217290	0.000000
2	Interaction	10.315743	6	576	1.719291	1.261697	0.273210	nan	0.012972	nan	nan	nan	nan

Table S82. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.010949	1	96	0.010949	0.005553	0.940752	nan	0.000058	nan	nan	nan	nan
1	AOI Name	146.218659	6	576	24.369776	15.123215	0.000000	0.000000	0.136094	0.557703	False	0.082356	0.000000
2	Interaction	17.479300	6	576	2.913217	1.807862	0.095302	nan	0.018484	nan	nan	nan	nan

Table S83. Results of mixed ANOVA for average number of fixations for sex and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and sex of the participant. It can be assumed that depending upon the sex of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.707499	1	96	0.707499	0.459899	0.499303	nan	0.004768	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	160.949789	6	576	26.824965	17.995641	0.000000	0.000000	0.157863	0.712271	False	0.219915	0.000000
2	Interaction	23.903725	6	576	3.983954	2.672653	0.014461	nan	0.027086	nan	nan	nan	nan

Table S84. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixations differs significantly depending upon participants' gender in the pictures of female faces without skin change.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
16	AOI Name * Sex	EyeL	Female	Male	0.384534	44.414034	0.702418	1.000000	0.090394
17	AOI Name * Sex	EyeR	Female	Male	1.064729	49.647868	0.292150	1.000000	0.236566
18	AOI Name * Sex	LN	Female	Male	-1.597973	42.047099	0.117538	0.705227	-0.387233
19	AOI Name * Sex	M	Female	Male	4.057515	87.576734	0.000107	0.000645	0.706600
20	AOI Name * Sex	NS	Female	Male	-0.418377	56.347423	0.677262	1.000000	-0.087763
21	AOI Name * Sex	UN	Female	Male	-1.042255	55.232955	0.301834	1.000000	-0.220546

Table S85. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixations differs significantly depending upon participants' gender in the pictures of female faces with hemangioma localized on the left side of the lower nose.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Sex	EyeL	Female	Male	-1.055930	42.505308	0.296965	1.000000	-0.254306
23	AOI Name * Sex	EyeR	Female	Male	-0.493839	39.029966	0.624188	1.000000	-0.125162
24	AOI Name * Sex	LN	Female	Male	1.609694	63.388613	0.112434	0.787037	0.321407
25	AOI Name * Sex	M	Female	Male	4.161404	95.020940	0.000069	0.000486	0.650277
26	AOI Name * Sex	NS	Female	Male	-2.508095	43.189084	0.015974	0.111818	-0.598662
27	AOI Name * Sex	SC	Female	Male	-1.141041	42.551677	0.260234	1.000000	-0.274634
28	AOI Name * Sex	UN	Female	Male	-0.900097	57.235481	0.371840	1.000000	-0.187545

Table S86. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces without skin change. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces without skin change that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	1.088435	1	96	1.088435	0.688950	0.408581	nan	0.007125	nan	nan	nan	nan
1	AOI Name	28.917800	5	480	5.783560	5.623831	0.000047	0.000298	0.055340	0.763203	False	0.469141	0.000000
2	Interaction	9.875057	5	480	1.975011	1.920466	0.089463	nan	0.019613	nan	nan	nan	nan

Table S87. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	2.552786	1	96	2.552786	4.002894	0.048246	nan	0.040028	nan	nan	nan	nan
1	AOI Name	26.488500	6	576	4.414750	7.645060	0.000000	0.000028	0.073762	0.554438	False	0.133390	0.000000
2	Interaction	2.193586	6	576	0.365598	0.633109	0.703814	nan	0.006552	nan	nan	nan	nan

Table S88. Table 88. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and sex of the participant. It can be assumed that depending upon the sex of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.871785	1	96	0.871785	1.004340	0.318782	nan	0.010354	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	141.580175	6	576	23.596696	32.493159	0.000000	0.000000	0.252879	0.511287	False	0.057624	0.000000
2	Interaction	10.220959	6	576	1.703493	2.345747	0.030161	nan	0.023852	nan	nan	nan	nan

Table S89. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.178571	1	96	0.178571	0.096833	0.756339	nan	0.001008	nan	nan	nan	nan
1	AOI Name	185.548753	6	576	30.924792	24.765331	0.000000	0.000000	0.205070	0.635959	False	0.167096	0.000000
2	Interaction	1.668707	6	576	0.278118	0.222724	0.969439	nan	0.002315	nan	nan	nan	nan

Table S90. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.042128	1	96	0.042128	0.052417	0.819397	nan	0.000546	nan	nan	nan	nan
1	AOI Name	116.064464	6	576	19.344077	24.605459	0.000000	0.000000	0.204016	0.448288	False	0.059091	0.000000
2	Interaction	3.704697	6	576	0.617450	0.785389	0.581584	nan	0.008115	nan	nan	nan	nan

Table S91. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in

number of revisits per pictures of female faces with hemangioma on the left side of the forehead that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.948558	1	96	0.948558	1.716792	0.193233	nan	0.017569	nan	nan	nan	nan
1	AOI Name	50.650146	6	576	8.441691	14.483806	0.000000	0.000000	0.131094	0.451785	False	0.080639	0.000000
2	Interaction	0.747133	6	576	0.124522	0.213649	0.972483	nan	0.002221	nan	nan	nan	nan

Table S92. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right side of the lower lip that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.171833	1	96	0.171833	0.193407	0.661084	nan	0.002011	nan	nan	nan	nan
1	AOI Name	30.243602	6	576	5.040600	5.457953	0.000017	0.001063	0.053795	0.508050	False	0.098006	0.000000
2	Interaction	4.436216	6	576	0.739369	0.800588	0.569684	nan	0.008270	nan	nan	nan	nan

Table S93. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the left side of the upper lip that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	1.251765	1	96	1.251765	1.051829	0.307663	nan	0.010838	nan	nan	nan	nan
1	AOI Name	74.658568	6	576	12.443095	15.158300	0.000000	0.000000	0.136367	0.592492	False	0.101367	0.000000
2	Interaction	6.452996	6	576	1.075499	1.310184	0.250443	nan	0.013464	nan	nan	nan	nan

Table S94. Results of mixed ANOVA for average number of revisits for sex and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the left side of the lower nose that were dependent on the AOI and sex of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Sex	0.195983	1	96	0.195983	0.201453	0.654562	nan	0.002094	nan	nan	nan	nan
1	AOI Name	146.291221	6	576	24.381870	23.273289	0.000000	0.000000	0.195126	0.501622	False	0.045172	0.000000
2	Interaction	11.859346	6	576	1.976558	1.886689	0.080975	nan	0.019274	nan	nan	nan	nan

Table S95. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' gender in the pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Sex	EyeL	Female	Male	1.687524	46.158910	0.098250	0.687748	0.388741
23	AOI Name * Sex	EyeR	Female	Male	-0.036565	57.555508	0.970958	1.000000	-0.007601
24	AOI Name * Sex	LN	Female	Male	1.199537	53.218108	0.235632	1.000000	0.258060
25	AOI Name * Sex	M	Female	Male	1.605633	93.915706	0.111712	0.781984	0.267243
26	AOI Name * Sex	NS	Female	Male	0.767104	57.168107	0.446176	1.000000	0.159915
27	AOI Name * Sex	SC	Female	Male	-1.367908	41.448934	0.178712	1.000000	-0.334242
28	AOI Name * Sex	UN	Female	Male	1.891512	52.763011	0.064051	0.448355	0.408511

Table S96. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces without skin change. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces without skin change that were dependent on the AOI and

educational level of the participant. It can be assumed that depending upon the level of education of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.083727	1	96	0.083727	0.584381	0.446475	nan	0.006050	nan	nan	nan	nan
1	AOI Name	17.247379	5	480	3.449476	17.329803	0.000000	0.000000	0.152915	0.679729	False	0.264652	0.000000
2	Interaction	2.281288	5	480	0.456258	2.292190	0.044665	nan	0.023320	nan	nan	nan	nan

Table S97. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the level of education of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.180902	1	96	0.180902	1.504979	0.222907	nan	0.015435	nan	nan	nan	nan
1	AOI Name	9.200659	6	576	1.533443	10.466415	0.000000	0.000000	0.098307	0.616716	False	0.137270	0.000000
2	Interaction	2.539588	6	576	0.423265	2.888965	0.008792	nan	0.029214	nan	nan	nan	nan

Table S98. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the level of education of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.084415	1	96	0.084415	0.574120	0.450482	nan	0.005945	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	28.941122	6	576	4.823520	26.854685	0.000000	0.000000	0.218589	0.532482	False	0.056099	0.000000
2	Interaction	4.020805	6	576	0.670134	3.730935	0.001192	nan	0.037410	nan	nan	nan	nan

Table S99. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the level of education of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.295694	1	96	0.295694	1.443399	0.232546	nan	0.014813	nan	nan	nan	nan
1	AOI Name	35.268256	6	576	5.878043	15.688034	0.000000	0.000000	0.140463	0.722324	False	0.322711	0.000000
2	Interaction	5.727298	6	576	0.954550	2.547618	0.019206	nan	0.025852	nan	nan	nan	nan

Table S100. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the level of education of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.388446	1	96	0.388446	2.981683	0.087428	nan	0.030124	nan	nan	nan	nan
1	AOI Name	16.941598	6	576	2.823600	14.028027	0.000000	0.000000	0.127495	0.532581	False	0.057472	0.000000
2	Interaction	3.519746	6	576	0.586624	2.914429	0.008288	nan	0.029464	nan	nan	nan	nan

Table S101. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma on the left side of the forehead that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.028208	1	96	0.028208	0.194793	0.659950	nan	0.002025	nan	nan	nan	nan
1	AOI Name	11.399627	6	576	1.899938	12.605183	0.000000	0.000000	0.116064	0.533867	False	0.060536	0.000000
2	Interaction	1.619340	6	576	0.269890	1.790591	0.098735	nan	0.018310	nan	nan	nan	nan

Table S102. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.130754	1	96	0.130754	0.696701	0.405967	nan	0.007205	nan	nan	nan	nan
1	AOI Name	31.664972	6	576	5.277495	20.729413	0.000000	0.000000	0.177585	0.522598	False	0.049940	0.000000
2	Interaction	2.899210	6	576	0.483202	1.897962	0.079096	nan	0.019387	nan	nan	nan	nan

Table S103. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.293920	1	96	0.293920	1.446627	0.232028	nan	0.014845	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	29.199739	6	576	4.866623	17.432666	0.000000	0.000000	0.153683	0.586401	False	0.047624	0.000000
2	Interaction	2.789958	6	576	0.464993	1.665646	0.127095	nan	0.017055	nan	nan	nan	nan

Table S104. Results of mixed ANOVA for average viewing time (in seconds) for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.346216	1	96	0.346216	1.939953	0.166891	nan	0.019808	nan	nan	nan	nan
1	AOI Name	28.183743	6	576	4.697291	18.105417	0.000000	0.000000	0.158673	0.654222	False	0.127667	0.000000
2	Interaction	2.386298	6	576	0.397716	1.532973	0.164951	nan	0.015717	nan	nan	nan	nan

Table S105. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' educational level in the pictures of female faces without skin change.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
16	AOI Name * Educational level	EyeL	Lower	Higher	0.838777	92.392317	0.403759	1.000000	0.168711
17	AOI Name * Educational level	EyeR	Lower	Higher	2.565012	95.805110	0.011869	0.071216	0.513345
18	AOI Name * Educational level	LN	Lower	Higher	-1.204110	75.515350	0.232308	1.000000	-0.243836
19	AOI Name * Educational level	M	Lower	Higher	-1.059138	90.096369	0.292368	1.000000	-0.213293
20	AOI Name * Educational level	NS	Lower	Higher	-0.024357	92.213417	0.980621	1.000000	-0.004900

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
21	AOI Name * Educational level	UN	Lower	Higher	-0.506812	92.891456	0.613488	1.000000	-0.101909

Table S106. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	1.757133	85.344204	0.082481	0.577370	0.349455
23	AOI Name * Educational level	EyeR	Lower	Higher	0.649449	92.357729	0.517660	1.000000	0.130633
24	AOI Name * Educational level	LN	Lower	Higher	-2.528267	70.585241	0.013702	0.095911	-0.512837
25	AOI Name * Educational level	M	Lower	Higher	-0.518773	88.061728	0.605220	1.000000	-0.104569
26	AOI Name * Educational level	NS	Lower	Higher	1.244985	77.190435	0.216904	1.000000	0.251969
27	AOI Name * Educational level	SC	Lower	Higher	1.903517	94.946315	0.060002	0.420013	0.382141
28	AOI Name * Educational level	UN	Lower	Higher	-1.545814	80.720342	0.126061	0.882430	-0.312468

Table S107. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	-0.736350	94.689299	0.463338	1.000000	-0.147864
23	AOI Name * Educational level	EyeR	Lower	Higher	0.653562	85.609530	0.515145	1.000000	0.131871
24	AOI Name * Educational level	LN	Lower	Higher	-0.954661	89.567052	0.342319	1.000000	-0.192301

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
25	AOI Name * Educational level	M	Lower	Higher	-0.088016	94.477950	0.930050	1.000000	-0.017678
26	AOI Name * Educational level	NS	Lower	Higher	-0.888531	73.248595	0.377164	1.000000	-0.180068
27	AOI Name * Educational level	SC	Lower	Higher	2.873365	95.744392	0.005003	0.035018	0.576204
28	AOI Name * Educational level	UN	Lower	Higher	-2.188328	73.347711	0.031831	0.222815	-0.443468

Table S108. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	1.990977	76.613844	0.050049	0.350344	0.394764
23	AOI Name * Educational level	EyeR	Lower	Higher	1.489531	95.353561	0.139648	0.977536	0.298889
24	AOI Name * Educational level	LN	Lower	Higher	-1.764013	61.974380	0.082658	0.578607	-0.358884
25	AOI Name * Educational level	M	Lower	Higher	-0.697860	86.534782	0.487136	1.000000	-0.140757
26	AOI Name * Educational level	NS	Lower	Higher	-1.704094	55.472349	0.093960	0.657718	-0.347534
27	AOI Name * Educational level	SC	Lower	Higher	1.806185	95.990852	0.074023	0.518163	0.361741
28	AOI Name * Educational level	UN	Lower	Higher	-0.171863	93.578349	0.863917	1.000000	-0.034542

Table S109. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized in the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	0.527086	93.661382	0.599380	1.000000	0.105244
23	AOI Name * Educational level	EyeR	Lower	Higher	0.926690	95.723038	0.356418	1.000000	0.185840
24	AOI Name * Educational level	LN	Lower	Higher	-1.151022	81.078355	0.253106	1.000000	-0.232636
25	AOI Name * Educational level	M	Lower	Higher	1.205122	89.281230	0.231341	1.000000	0.240057
26	AOI Name * Educational level	NS	Lower	Higher	-1.127983	80.652405	0.262672	1.000000	-0.228014
27	AOI Name * Educational level	SC	Lower	Higher	2.477430	95.455621	0.014991	0.104939	0.495508
28	AOI Name * Educational level	UN	Lower	Higher	-1.306949	92.178640	0.194481	1.000000	-0.262912

Table S110. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces without skin change. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces without skin change that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	16.852238	1	96	16.852238	7.379495	0.007826	nan	0.071383	nan	nan	nan	nan
1	AOI Name	70.697090	5	480	14.139418	7.597094	0.000001	0.000016	0.073333	0.731977	False	0.390924	0.000000
2	Interaction	15.741691	5	480	3.148338	1.691599	0.135018	nan	0.017316	nan	nan	nan	nan

Table S111. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma on the right

cheek that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	5.608294	1	96	5.608294	4.244573	0.042082	nan	0.042342	nan	nan	nan	nan
1	AOI Name	36.459670	6	576	6.076612	5.364683	0.000021	0.000271	0.052925	0.702324	False	0.256146	0.000000
2	Interaction	14.593426	6	576	2.432238	2.147280	0.046566	nan	0.021878	nan	nan	nan	nan

Table S112. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	1.200702	1	96	1.200702	0.791552	0.375855	nan	0.008178	nan	nan	nan	nan
1	AOI Name	214.430515	6	576	35.738419	29.167337	0.000000	0.000000	0.233027	0.684729	False	0.200666	0.000000
2	Interaction	24.945834	6	576	4.157639	3.393190	0.002684	nan	0.034139	nan	nan	nan	nan

Table S113. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and educational level of the participant. It can

be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	15.649767	1	96	15.649767	6.378091	0.013191	nan	0.062299	nan	nan	nan	nan
1	AOI Name	307.927114	6	576	51.321186	22.537928	0.000000	0.000000	0.190133	0.670241	False	0.238041	0.000000
2	Interaction	35.477357	6	576	5.912893	2.596673	0.017188	nan	0.026336	nan	nan	nan	nan

Table S114. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	7.520053	1	96	7.520053	5.288068	0.023639	nan	0.052208	nan	nan	nan	nan
1	AOI Name	126.523810	6	576	21.087302	14.972466	0.000000	0.000000	0.134921	0.620983	False	0.162001	0.000000
2	Interaction	24.901376	6	576	4.150229	2.946758	0.007688	nan	0.029781	nan	nan	nan	nan

Table S115. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	1.158942	1	96	1.158942	0.815650	0.368716	nan	0.008425	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	83.424036	6	576	13.904006	12.580752	0.000000	0.000000	0.115865	0.583093	False	0.148323	0.000000
2	Interaction	11.579112	6	576	1.929852	1.746187	0.108083	nan	0.017864	nan	nan	nan	nan

Table S116. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	3.838797	1	96	3.838797	2.197753	0.141487	nan	0.022381	nan	nan	nan	nan
1	AOI Name	35.827340	6	576	5.971223	4.377233	0.000246	0.001452	0.043608	0.703639	False	0.217290	0.000000
2	Interaction	9.467051	6	576	1.577842	1.156644	0.328093	nan	0.011905	nan	nan	nan	nan

Table S117. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	3.475258	1	96	3.475258	1.795425	0.183430	nan	0.018359	nan	nan	nan	nan
1	AOI Name	146.218659	6	576	24.369776	15.042235	0.000000	0.000000	0.135464	0.557703	False	0.082356	0.000000
2	Interaction	12.482426	6	576	2.080404	1.284129	0.262480	nan	0.013200	nan	nan	nan	nan

Table S118. Results of mixed ANOVA for average number of fixations for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations per pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	13.219956	1	96	13.219956	9.388895	0.002834	nan	0.089088	nan	nan	nan	nan
1	AOI Name	160.949789	6	576	26.824965	17.570145	0.000000	0.000000	0.154707	0.712271	False	0.219915	0.000000
2	Interaction	3.110872	6	576	0.518479	0.339600	0.915884	nan	0.003525	nan	nan	nan	nan

Table S119. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon participants' educational level in pictures of female faces with hemangioma localized on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	1.894517	90.886007	0.061336	0.429352	0.377668
23	AOI Name * Educational level	EyeR	Lower	Higher	0.590558	91.057864	0.556280	1.000000	0.118872
24	AOI Name * Educational level	LN	Lower	Higher	-1.383943	92.709468	0.169699	1.000000	-0.278312
25	AOI Name * Educational level	M	Lower	Higher	-0.148726	91.095025	0.882099	1.000000	-0.029936
26	AOI Name * Educational level	NS	Lower	Higher	2.374716	94.065799	0.019593	0.137150	0.474304
27	AOI Name * Educational level	SC	Lower	Higher	2.379154	95.419842	0.019343	0.135401	0.477358
28	AOI Name * Educational level	UN	Lower	Higher	-0.108584	93.002193	0.913766	1.000000	-0.021832

Table S120. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	-0.955858	93.016242	0.341622	1.000000	-0.192187
23	AOI Name * Educational level	EyeR	Lower	Higher	1.544528	91.853075	0.125899	0.881292	0.310762
24	AOI Name * Educational level	LN	Lower	Higher	-0.440273	94.339174	0.660746	1.000000	-0.087955
25	AOI Name * Educational level	M	Lower	Higher	-0.318824	84.295376	0.750648	1.000000	-0.064362
26	AOI Name * Educational level	NS	Lower	Higher	0.481462	95.806445	0.631286	1.000000	0.096357
27	AOI Name * Educational level	SC	Lower	Higher	2.819932	95.876327	0.005837	0.040859	0.564470
28	AOI Name * Educational level	UN	Lower	Higher	-1.751844	87.685902	0.083297	0.583078	-0.353175

Table S121. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	1.566316	89.396582	0.120808	0.845655	0.312022
23	AOI Name * Educational level	EyeR	Lower	Higher	2.223385	94.824150	0.028565	0.199953	0.444369
24	AOI Name * Educational level	LN	Lower	Higher	-0.953273	94.670512	0.342879	1.000000	-0.191427
25	AOI Name * Educational level	M	Lower	Higher	-0.382461	84.399700	0.703081	1.000000	-0.077206
26	AOI Name * Educational level	NS	Lower	Higher	-0.691597	86.380695	0.491045	1.000000	-0.139502
27	AOI Name * Educational level	SC	Lower	Higher	2.624167	95.916458	0.010107	0.070750	0.525352

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
28	AOI Name * Educational level	UN	Lower	Higher	1.159976	95.615277	0.248947	1.000000	0.232063

Table S122. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized in the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	0.557768	95.670427	0.578305	1.000000	0.111867
23	AOI Name * Educational level	EyeR	Lower	Higher	2.242261	88.963778	0.027430	0.192013	0.446590
24	AOI Name * Educational level	LN	Lower	Higher	-0.238118	95.982150	0.812297	1.000000	-0.047686
25	AOI Name * Educational level	M	Lower	Higher	1.283611	94.517203	0.202416	1.000000	0.256472
26	AOI Name * Educational level	NS	Lower	Higher	-0.542148	95.674790	0.588977	1.000000	-0.108733
27	AOI Name * Educational level	SC	Lower	Higher	2.840590	94.185328	0.005519	0.038630	0.567406
28	AOI Name * Educational level	UN	Lower	Higher	-0.763039	95.847635	0.447314	1.000000	-0.152726

Table S123. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces without skin change. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces without skin change that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	8.552066	1	96	8.552066	5.693402	0.018991	nan	0.055986	nan	nan	nan	nan
1	AOI Name	28.917800	5	480	5.783560	5.575736	0.000053	0.000298	0.054892	0.763203	False	0.469141	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	5.617153	5	480	1.123431	1.083062	0.368836	nan	0.011156	nan	nan	nan	nan

Table S124. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right cheek that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	3.653774	1	96	3.653774	5.834217	0.017610	nan	0.057291	nan	nan	nan	nan
1	AOI Name	26.488500	6	576	4.414750	7.814215	0.000000	0.000028	0.075271	0.554438	False	0.133390	0.000000
2	Interaction	9.393828	6	576	1.565638	2.771217	0.011539	nan	0.028057	nan	nan	nan	nan

Table S125. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma near the left eyebrow that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	spheri city	W-spher	p-spher
0	Educational level	0.431980	1	96	0.431980	0.495049	0.483387	nan	0.005130	nan	nan	nan	nan
1	AOI Name	141.580175	6	576	23.596696	32.683680	0.000000	0.000000	0.253985	0.511287	False	0.057624	0.000000
2	Interaction	12.659296	6	576	2.109883	2.922389	0.008136	nan	0.029542	nan	nan	nan	nan

Table S126. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	10.809735	1	96	10.809735	6.236215	0.014219	nan	0.060998	nan	nan	nan	nan
1	AOI Name	185.548753	6	576	30.924792	25.484877	0.000000	0.000000	0.209778	0.635959	False	0.167096	0.000000
2	Interaction	21.976432	6	576	3.662739	3.018434	0.006504	nan	0.030484	nan	nan	nan	nan

Table S127. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma in the middle of the forehead that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	3.721620	1	96	3.721620	4.862362	0.029836	nan	0.048208	nan	nan	nan	nan
1	AOI Name	116.064464	6	576	19.344077	24.983237	0.000000	0.000000	0.206502	0.448288	False	0.059091	0.000000
2	Interaction	10.552123	6	576	1.758687	2.271377	0.035533	nan	0.023113	nan	nan	nan	nan

Table S128. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on

the left side of the forehead that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	0.927901	1	96	0.927901	1.678750	0.198197	nan	0.017186	nan	nan	nan	nan
1	AOI Name	50.650146	6	576	8.441691	14.692874	0.000000	0.000000	0.132736	0.451785	False	0.080639	0.000000
2	Interaction	5.524087	6	576	0.920681	1.602458	0.144044	nan	0.016418	nan	nan	nan	nan

Table S129. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the right side of the lower lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	1.217843	1	96	1.217843	1.387761	0.241696	nan	0.014250	nan	nan	nan	nan
1	AOI Name	30.243602	6	576	5.040600	5.441422	0.000017	0.001063	0.053641	0.508050	False	0.098006	0.000000
2	Interaction	2.820181	6	576	0.470030	0.507406	0.802932	nan	0.005258	nan	nan	nan	nan

Table S130. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the left side of the upper lip that were dependent on the AOI and educational level of the participant.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	6.289798	1	96	6.289798	5.528985	0.020748	nan	0.054457	nan	nan	nan	nan
1	AOI Name	74.658568	6	576	12.443095	15.135812	0.000000	0.000000	0.136192	0.592492	False	0.101367	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	5.750479	6	576	0.958413	1.165816	0.322993	nan	0.011998	nan	nan	nan	nan

Table S131. Results of mixed ANOVA for average number of revisits for educational level groups and each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits per pictures of female faces with hemangioma on the left side of the lower nose that were dependent on the AOI and educational level of the participant. It can be assumed that depending upon the educational level of the study participant certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	Educational level	3.365717	1	96	3.365717	3.581197	0.061450	nan	0.035963	nan	nan	nan	nan
1	AOI Name	146.291221	6	576	24.381870	23.364550	0.000000	0.000000	0.195741	0.501622	False	0.045172	0.000000
2	Interaction	14.216345	6	576	2.369391	2.270529	0.035600	nan	0.023105	nan	nan	nan	nan

Table S132. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' educational level in the pictures of female faces with hemangioma localized on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	0.887770	95.936538	0.376885	1.000000	0.177932
23	AOI Name * Educational level	EyeR	Lower	Higher	0.802823	94.908485	0.424083	1.000000	0.161177
24	AOI Name * Educational level	LN	Lower	Higher	-0.594837	94.083989	0.553380	1.000000	-0.119509
25	AOI Name * Educational level	M	Lower	Higher	-0.120069	87.635684	0.904704	1.000000	-0.024207
26	AOI Name * Educational level	NS	Lower	Higher	2.444850	75.767619	0.016815	0.117702	0.484622

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
27	AOI Name * Educational level	SC	Lower	Higher	2.767402	91.667547	0.006836	0.047850	0.551900
28	AOI Name * Educational level	UN	Lower	Higher	-0.179615	93.231112	0.857845	1.000000	-0.036109

Table S133. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' educational level in pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	-0.981524	88.395222	0.329013	1.000000	-0.197817
23	AOI Name * Educational level	EyeR	Lower	Higher	1.210183	95.907622	0.229183	1.000000	0.242578
24	AOI Name * Educational level	LN	Lower	Higher	-0.694421	93.993993	0.489131	1.000000	-0.139526
25	AOI Name * Educational level	M	Lower	Higher	-0.204181	80.937001	0.838725	1.000000	-0.041270
26	AOI Name * Educational level	NS	Lower	Higher	0.154420	95.161093	0.877606	1.000000	0.030874
27	AOI Name * Educational level	SC	Lower	Higher	2.193888	95.303691	0.030675	0.214723	0.440254
28	AOI Name * Educational level	UN	Lower	Higher	-1.334284	89.915134	0.185480	1.000000	-0.268726

Table S134. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' educational level in pictures of female faces with hemangioma localized on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	0.854609	92.004078	0.394988	1.000000	0.170465
23	AOI Name * Educational level	EyeR	Lower	Higher	2.086629	91.611510	0.039700	0.277900	0.416121

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
24	AOI Name * Educational level	LN	Lower	Higher	-1.040025	88.154062	0.301172	1.000000	-0.209629
25	AOI Name * Educational level	M	Lower	Higher	-0.017019	89.642214	0.986459	1.000000	-0.003428
26	AOI Name * Educational level	NS	Lower	Higher	-0.521369	95.800864	0.603313	1.000000	-0.104539
27	AOI Name * Educational level	SC	Lower	Higher	2.607417	94.425042	0.010604	0.074226	0.520933
28	AOI Name * Educational level	UN	Lower	Higher	1.650711	90.984901	0.102245	0.715718	0.329083

Table S135. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' educational level in pictures of female faces with hemangioma localized in the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	-0.401270	86.875948	0.689207	1.000000	-0.080924
23	AOI Name * Educational level	EyeR	Lower	Higher	2.475158	79.199392	0.015453	0.108169	0.491186
24	AOI Name * Educational level	LN	Lower	Higher	0.126711	90.376160	0.899450	1.000000	0.025253
25	AOI Name * Educational level	M	Lower	Higher	1.595449	95.986911	0.113899	0.797294	0.319523
26	AOI Name * Educational level	NS	Lower	Higher	-0.266761	95.975945	0.790226	1.000000	-0.053455
27	AOI Name * Educational level	SC	Lower	Higher	2.172121	94.446134	0.032350	0.226453	0.433973
28	AOI Name * Educational level	UN	Lower	Higher	-0.079123	89.859157	0.937111	1.000000	-0.015765

Table S136. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon participants' educational level in pictures of female faces with hemangioma localized on the left side of the lower nose.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * Educational level	EyeL	Lower	Higher	1.455190	95.669925	0.148890	1.000000	0.291151
23	AOI Name * Educational level	EyeR	Lower	Higher	1.609077	95.996057	0.110883	0.776184	0.322372
24	AOI Name * Educational level	LN	Lower	Higher	-1.715375	95.810681	0.089509	0.626562	-0.343309
25	AOI Name * Educational level	M	Lower	Higher	0.685659	95.081673	0.494596	1.000000	0.137074
26	AOI Name * Educational level	NS	Lower	Higher	0.741109	88.366957	0.460592	1.000000	0.149365
27	AOI Name * Educational level	SC	Lower	Higher	2.236620	90.755423	0.027761	0.194329	0.445837
28	AOI Name * Educational level	UN	Lower	Higher	0.681440	91.058722	0.497322	1.000000	0.135856

Table S137. Averaged values of three analyzed variables: time viewed, number of fixations, number of revisits for specific type of the photograph (PHOTO) on the basis of hemangioma localization, for particular AOI (AOI Name) and for different study participants (User Name). Analysis was performed with the division into first ("free observation") and second observation ("task-specific observation").

	PHOTO	AOI Name	User Name	OBSERVATION	Time Viewed (sec)	Fixations (#)	Revisits (#)
1131	CHEEK RIGHT	SC	107	FIRST	0.776333	2.666667	1.333333
1916	EYEBROW LEFT	UN	110	SECOND	0.159667	0.666667	0.666667
2000	EYELID LOWER RIGHT	EyeL	82	SECOND	0.439667	1.333333	1.333333
2603	EYELID LOWER RIGHT	UN	111	FIRST	0.057333	0.666667	0.000000
3331	FOREHEAD CENTER	UN	196	SECOND	0.000000	0.333333	0.000000
4165	LIP LOWER RIGHT	EyeR	99	FIRST	0.000000	0.000000	0.000000
4255	LIP LOWER RIGHT	LN	84	SECOND	0.030667	0.666667	0.333333

	PHOTO	AOI Name	User Name	OBSERVATION	Time Viewed (sec)	Fixations (#)	Revisits (#)
4354	LIP LOWER RIGHT	M	86	SECOND	1.385333	3.666667	2.000000
5146	LIP UPPER LEFT	NS	102	SECOND	0.583333	2.333333	0.666667
5239	LIP UPPER LEFT	SC	92	SECOND	0.111000	0.666667	0.333333

Table S138. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces without skin change. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces without skin change that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	1.317355	1	194	1.317355	9.393636	0.002487	nan	0.046185	nan	nan	nan	nan
1	AOI Name	21.412017	5	970	4.282403	25.082921	0.000000	0.000000	0.114491	0.707452	False	0.365802	0.000000
2	Interaction	2.892259	5	970	0.578452	3.388112	0.004854	nan	0.017165	nan	nan	nan	nan

Table S139. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right cheek that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.256870	1	194	0.256870	2.293262	0.131564	nan	0.011683	nan	nan	nan	nan
1	AOI Name	11.378320	6	1164	1.896387	15.048728	0.000000	0.000000	0.071987	0.703666	False	0.201434	0.000000
2	Interaction	2.583461	6	1164	0.430577	3.416831	0.002391	nan	0.017308	nan	nan	nan	nan

Table S140. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.429277	1	194	0.429277	3.164123	0.076839	nan	0.016048	nan	nan	nan	nan
1	AOI Name	43.607493	6	1164	7.267915	49.372009	0.000000	0.000000	0.202866	0.564436	False	0.077031	0.000000
2	Interaction	2.100516	6	1164	0.350086	2.378185	0.027411	nan	0.012110	nan	nan	nan	nan

Table S141. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right lower eyelid that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.221339	1	194	0.221339	1.253952	0.264183	nan	0.006422	nan	nan	nan	nan
1	AOI Name	62.974625	6	1164	10.495771	30.761365	0.000000	0.000000	0.136862	0.639388	False	0.222163	0.000000
2	Interaction	2.723296	6	1164	0.453883	1.330255	0.240462	nan	0.006810	nan	nan	nan	nan

Table S142. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and type

of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.333780	1	194	0.333780	2.851404	0.092901	nan	0.014485	nan	nan	nan	nan
1	AOI Name	19.836652	6	1164	3.306109	21.111706	0.000000	0.000000	0.098143	0.569878	False	0.122881	0.000000
2	Interaction	2.440951	6	1164	0.406825	2.597850	0.016639	nan	0.013214	nan	nan	nan	nan

Table S143. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.032074	1	194	0.032074	0.256220	0.613304	nan	0.001319	nan	nan	nan	nan
1	AOI Name	17.388789	6	1164	2.898131	24.136836	0.000000	0.000000	0.110650	0.573715	False	0.106545	0.000000
2	Interaction	0.789726	6	1164	0.131621	1.096194	0.362457	nan	0.005619	nan	nan	nan	nan

Table S144. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.001984	1	194	0.001984	0.010137	0.919906	nan	0.000052	nan	nan	nan	nan
1	AOI Name	100.450383	6	1164	16.741730	74.847801	0.000000	0.000000	0.278402	0.480075	False	0.046149	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	6.258311	6	1164	1.043052	4.663206	0.000107	nan	0.023473	nan	nan	nan	nan

Table S145. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.543307	1	194	0.543307	2.732640	0.099934	nan	0.013890	nan	nan	nan	nan
1	AOI Name	53.726704	6	1164	8.954451	37.233127	0.000000	0.000000	0.161020	0.617851	False	0.064898	0.000000
2	Interaction	1.773962	6	1164	0.295660	1.229373	0.288357	nan	0.006297	nan	nan	nan	nan

Table S146. Results of mixed ANOVA for average viewing time for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value <0.05 there are grounds for believing that there were significant differences in viewing time of pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.623403	1	194	0.623403	2.715910	0.100971	nan	0.013806	nan	nan	nan	nan
1	AOI Name	91.591318	6	1164	15.265220	62.536345	0.000000	0.000000	0.243772	0.561725	False	0.097103	0.000000
2	Interaction	23.785579	6	1164	3.964263	16.240221	0.000000	nan	0.077246	nan	nan	nan	nan

Table S147. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in the pictures of female faces without skin change.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
16	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-2.330388	194.000000	0.020814	0.124882	-0.331624
17	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-3.201718	194.000000	0.001597	0.009579	-0.455618
18	AOI Name * OBSERVATION	LN	SECOND	FIRST	0.535092	194.000000	0.593199	1.000000	0.076146
19	AOI Name * OBSERVATION	M	SECOND	FIRST	0.866048	194.000000	0.387534	1.000000	0.123242
20	AOI Name * OBSERVATION	NS	SECOND	FIRST	-0.389197	194.000000	0.697557	1.000000	-0.055384
21	AOI Name * OBSERVATION	UN	SECOND	FIRST	-1.200421	194.000000	0.231440	1.000000	-0.170825

Table S148. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in pictures of female faces with hemangioma localized on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.876943	194.000000	0.381602	1.000000	-0.124793
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-1.638069	194.000000	0.103028	0.721198	-0.233104
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.423636	194.000000	0.016284	0.113986	0.344893
25	AOI Name * OBSERVATION	M	SECOND	FIRST	-0.679773	194.000000	0.497459	1.000000	-0.096735
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.931964	194.000000	0.352514	1.000000	0.132622
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-2.596073	194.000000	0.010151	0.071059	-0.369432
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	1.309256	194.000000	0.191996	1.000000	0.186313

Table S149. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.345037	194.000000	0.730440	1.000000	-0.049100
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.702579	194.000000	0.483160	1.000000	-0.099980
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	0.792843	194.000000	0.428838	1.000000	0.112825
25	AOI Name * OBSERVATION	M	SECOND	FIRST	-1.139040	194.000000	0.256091	1.000000	-0.162090
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.783575	194.000000	0.434245	1.000000	0.111506
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-2.551547	194.000000	0.011495	0.080467	-0.363096
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	0.809898	194.000000	0.418991	1.000000	0.115252

Table S150. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in pictures of female faces with hemangioma localized in the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-1.477008	194.000000	0.141295	0.989066	-0.210184
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-1.265448	194.000000	0.207229	1.000000	-0.180078
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	1.926736	194.000000	0.055474	0.388316	0.274182
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.075708	194.000000	0.939730	1.000000	0.010774
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.373806	194.000000	0.708957	1.000000	0.053194
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-2.102334	194.000000	0.036814	0.257700	-0.299171

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	0.851986	194.000000	0.395273	1.000000	0.121241

Table S151. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right side of the lower lip.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-1.184657	194.000000	0.237602	1.000000	-0.168582
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.329270	194.000000	0.742307	1.000000	-0.046857
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	-0.347121	194.000000	0.728877	1.000000	-0.049397
25	AOI Name * OBSERVATION	M	SECOND	FIRST	2.780687	194.000000	0.005959	0.041713	0.395703
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	-1.402163	194.000000	0.162465	1.000000	-0.199534
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.826116	194.000000	0.069370	0.485590	-0.259864
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	-0.460704	194.000000	0.645527	1.000000	-0.065560

Table S152. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's viewing time differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the left side of the lower nose.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	Hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-1.691759	194.000000	0.092297	0.646082	-0.240744
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.609057	194.000000	0.543199	1.000000	-0.086671
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	6.023116	194.000000	0.000000	0.000000	0.857114

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	Hedges
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.104133	194.000000	0.917171	1.000000	0.014819
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.455949	194.000000	0.648937	1.000000	0.064883
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-2.187902	194.000000	0.029872	0.209102	-0.311348
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	-0.502798	194.000000	0.615676	1.000000	-0.071550

Table S153. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces without skin change. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations for pictures of female faces without skin change that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.328893	1	194	0.328893	0.113414	0.736655	nan	0.000584	nan	nan	nan	nan
1	AOI Name	116.917706	5	970	23.383541	12.668542	0.000000	0.000000	0.061299	0.767259	False	0.454861	0.000000
2	Interaction	14.271447	5	970	2.854289	1.546373	0.172772	nan	0.007908	nan	nan	nan	nan

Table S154. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma localized on the right cheek that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	7.883382	1	194	7.883382	5.036010	0.025955	nan	0.025302	nan	nan	nan	nan
1	AOI Name	95.587302	6	1164	15.931217	12.467841	0.000000	0.000000	0.060386	0.773931	False	0.304911	0.000000

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
2	Interaction	43.039521	6	1164	7.173253	5.613820	0.000009	nan	0.028123	nan	nan	nan	nan

Table S155. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	7.732507	1	194	7.732507	4.357637	0.038149	nan	0.021969	nan	nan	nan	nan
1	AOI Name	436.860544	6	1164	72.810091	54.342357	0.000000	0.000000	0.218820	0.706867	False	0.213178	0.000000
2	Interaction	17.247651	6	1164	2.874609	2.145486	0.045914	nan	0.010938	nan	nan	nan	nan

Table S156. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	7.435131	1	194	7.435131	2.748066	0.098988	nan	0.013967	nan	nan	nan	nan
1	AOI Name	558.279883	6	1164	93.046647	37.602602	0.000000	0.000000	0.162358	0.620136	False	0.161149	0.000000
2	Interaction	26.766116	6	1164	4.461019	1.802815	0.095239	nan	0.009207	nan	nan	nan	nan

Table S157. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that

there were significant differences in number of fixations for pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	11.879576	1	194	11.879576	6.093518	0.014433	nan	0.030453	nan	nan	nan	nan
1	AOI Name	182.232102	6	1164	30.372017	21.133056	0.000000	0.000000	0.098232	0.676603	False	0.242426	0.000000
2	Interaction	22.413508	6	1164	3.735585	2.599245	0.016586	nan	0.013221	nan	nan	nan	nan

Table S158. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	10.612569	1	194	10.612569	6.633713	0.010751	nan	0.033064	nan	nan	nan	nan
1	AOI Name	157.158406	6	1164	26.193068	23.774958	0.000000	0.000000	0.109172	0.660941	False	0.209382	0.000000
2	Interaction	14.770651	6	1164	2.461775	2.234507	0.037756	nan	0.011387	nan	nan	nan	nan

Table S159. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSRRVATION	13.746680	1	194	13.746680	6.520693	0.011431	nan	0.032519	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	275.505669	6	1164	45.917611	33.609392	0.000000	0.000000	0.147663	0.674946	False	0.216313	0.000000
2	Interaction	93.205701	6	1164	15.534284	11.370317	0.000000	nan	0.055365	nan	nan	nan	nan

Table S160. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma on the left side of the upper lip that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	3.470117	1	194	3.470117	1.429892	0.233242	nan	0.007317	nan	nan	nan	nan
1	AOI Name	399.126660	6	1164	66.521110	40.456823	0.000000	0.000000	0.172556	0.603606	False	0.115170	0.000000
2	Interaction	19.601879	6	1164	3.266980	1.986912	0.064672	nan	0.010138	nan	nan	nan	nan

Table S161. Results of mixed ANOVA for average number of fixations for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of fixations for pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	63.286038	1	194	63.286038	26.208522	0.000001	nan	0.119017	nan	nan	nan	nan
1	AOI Name	580.904600	6	1164	96.817433	55.948198	0.000000	0.000000	0.223839	0.643859	False	0.174440	0.000000
2	Interaction	261.733236	6	1164	43.622206	25.208103	0.000000	nan	0.114996	nan	nan	nan	nan

Table S162. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.117677	194.000000	0.906446	1.000000	-0.016746
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.340011	194.000000	0.734216	1.000000	-0.048385
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	5.143623	194.000000	0.000001	0.000005	0.731959
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.056885	194.000000	0.954695	1.000000	0.008095
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.982000	194.000000	0.048891	0.342238	0.282047
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.644156	194.000000	0.101764	0.712345	-0.233970
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	1.914037	194.000000	0.057087	0.399610	0.272375

Table S163. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixations differs significantly depending upon type of observation (first or second) in pictures of female faces with hemangioma localized near the left eyebrow.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	1.842664	194.000000	0.066904	0.468329	0.262219
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.650206	194.000000	0.516328	1.000000	-0.092527
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.621347	194.000000	0.009453	0.066169	0.373029
25	AOI Name * OBSERVATION	M	SECOND	FIRST	-0.215797	194.000000	0.829373	1.000000	-0.030709
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	2.074482	194.000000	0.039354	0.275481	0.295207
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-0.774565	194.000000	0.439540	1.000000	-0.110224

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	2.069825	194.000000	0.039793	0.278554	0.294545

Table S164. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma in the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	0.802200	194.000000	0.423419	1.000000	0.114156
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.253773	194.000000	0.799939	1.000000	-0.036113
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.916996	194.000000	0.003951	0.027657	0.415101
25	AOI Name * OBSERVATION	M	SECOND	FIRST	1.690973	194.000000	0.092448	0.647135	0.240632
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.895560	194.000000	0.059505	0.416535	0.269746
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.162945	194.000000	0.246280	1.000000	-0.165492
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	2.747204	194.000000	0.006577	0.046038	0.390939

Table S165. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the left side of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	1.915955	194.000000	0.056841	0.397888	0.272648
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	0.511837	194.000000	0.609347	1.000000	0.072837
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.863857	194.000000	0.004646	0.032520	0.407539

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.249654	194.000000	0.803119	1.000000	0.035527
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	2.409098	194.000000	0.016927	0.118488	0.342825
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-0.997816	194.000000	0.319612	1.000000	-0.141993
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	2.451357	194.000000	0.015117	0.105820	0.348838

Table S166. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixation differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right side of the lower lip.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.200899	194.000000	0.840988	1.000000	-0.028589
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	0.064381	194.000000	0.948733	1.000000	0.009162
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	1.121762	194.000000	0.263350	1.000000	0.159631
25	AOI Name * OBSERVATION	M	SECOND	FIRST	6.582118	194.000000	0.000000	0.000000	0.936663
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	-0.449062	194.000000	0.653888	1.000000	-0.063903
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-0.730063	194.000000	0.466233	1.000000	-0.103891
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	-0.288092	194.000000	0.773584	1.000000	-0.040997

Table S167. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of fixations differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the left side of the lower nose.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.594001	194.000000	0.553204	1.000000	-0.084529
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	1.221716	194.000000	0.223297	1.000000	0.173855
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	9.879560	194.000000	0.000000	0.000000	1.405902
25	AOI Name * OBSERVATION	M	SECOND	FIRST	1.197313	194.000000	0.232646	1.000000	0.170383
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.301225	194.000000	0.194725	1.000000	0.185170
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	0.060979	194.000000	0.951439	1.000000	0.008678
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	0.046094	194.000000	0.963282	1.000000	0.006559

Table S168. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces without skin change. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits for pictures of female faces without skin change that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF1	DF2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	0.517385	1	194	0.517385	0.250088	0.617580	nan	0.001287	nan	nan	nan	nan
1	AOI Name	54.601663	5	970	10.920333	9.944655	0.000000	0.000000	0.048762	0.826658	False	0.593288	0.000000
2	Interaction	5.342026	5	970	1.068405	0.972948	0.433194	nan	0.004990	nan	nan	nan	nan

Table S169. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right cheek. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma

localized on the right cheek that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	1.432540	1	194	1.432540	1.710331	0.192490	nan	0.008739	nan	nan	nan	nan
1	AOI Name	38.810334	6	1164	6.468389	10.727125	0.000000	0.000000	0.052397	0.739766	False	0.278306	0.000000
2	Interaction	23.558957	6	1164	3.926493	6.511665	0.000001	nan	0.032475	nan	nan	nan	nan

Table S170. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma near the left eyebrow. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized near the left eyebrow that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	3.674198	1	194	3.674198	3.736195	0.054701	nan	0.018895	nan	nan	nan	nan
1	AOI Name	253.054260	6	1164	42.175710	54.349498	0.000000	0.000000	0.218843	0.591644	False	0.116159	0.000000
2	Interaction	8.655167	6	1164	1.442528	1.858906	0.084756	nan	0.009491	nan	nan	nan	nan

Table S171. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right lower eyelid. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma on the right lower eyelid that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	4.510528	1	194	4.510528	2.363752	0.125813	nan	0.012038	nan	nan	nan	nan

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
1	AOI Name	310.674279	6	1164	51.779047	38.653267	0.000000	0.000000	0.166141	0.657338	False	0.162735	0.000000
2	Interaction	22.755912	6	1164	3.792652	2.831230	0.009683	nan	0.014384	nan	nan	nan	nan

Table S172. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma in the middle of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized in the middle of the forehead that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	4.742792	1	194	4.742792	4.540375	0.034363	nan	0.022869	nan	nan	nan	nan
1	AOI Name	177.222708	6	1164	29.537118	35.542764	0.000000	0.000000	0.154842	0.533121	False	0.109701	0.000000
2	Interaction	11.838840	6	1164	1.973140	2.374330	0.027649	nan	0.012091	nan	nan	nan	nan

Table S173. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the forehead. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized on the left side of the forehead that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	4.173064	1	194	4.173064	5.137387	0.024519	nan	0.025798	nan	nan	nan	nan
1	AOI Name	77.977324	6	1164	12.996221	21.374022	0.000000	0.000000	0.099241	0.551584	False	0.145599	0.000000
2	Interaction	8.075802	6	1164	1.345967	2.213623	0.039537	nan	0.011282	nan	nan	nan	nan

Table S174. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the right side of the lower lip. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized on the right side of the lower lip that were dependent on the AOI and type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	11.571429	1	194	11.571429	10.826710	0.001188	nan	0.052858	nan	nan	nan	nan
1	AOI Name	38.639132	6	1164	6.439855	8.025119	0.000000	0.000003	0.039723	0.698900	False	0.244429	0.000000
2	Interaction	55.390023	6	1164	9.231670	11.504180	0.000000	nan	0.055980	nan	nan	nan	nan

Table S175. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the upper lip. On the basis of P value >0.05 there are no grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized on the left side of the upper lip that were dependent on the AOI and type of observation (first or second).

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	3.174927	1	194	3.174927	2.225638	0.137361	nan	0.011342	nan	nan	nan	nan
1	AOI Name	204.399093	6	1164	34.066515	39.174523	0.000000	0.000000	0.168005	0.614402	False	0.102336	0.000000
2	Interaction	10.233236	6	1164	1.705539	1.961272	0.068304	nan	0.010008	nan	nan	nan	nan

Table S176. Results of mixed ANOVA for average number of revisits for the first and second observation as well as for each AOI for the pictures of female faces with hemangioma on the left side of the lower nose. On the basis of P value <0.05 there are grounds for believing that there were significant differences in number of revisits for pictures of female faces with hemangioma localized on the left side of the lower nose that were dependent on the AOI and

type of observation (first or second). It can be assumed that depending upon the type of the observation certain AOI were observed differently.

	Source	SS	DF 1	DF 2	MS	F	p-unc	p-GG-corr	np2	eps	sphericity	W-spher	p-spher
0	OBSERVATION	27.243278	1	194	27.243278	19.205999	0.000019	nan	0.090082	nan	nan	nan	nan
1	AOI Name	241.702300	6	1164	40.283717	39.893307	0.000000	0.000000	0.170562	0.647680	False	0.112626	0.000000
2	Interaction	139.033366	6	1164	23.172228	22.947654	0.000000	nan	0.105775	nan	nan	nan	nan

Table S177. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right cheek.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.070253	194.000000	0.944065	1.000000	-0.009997
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	0.429713	194.000000	0.667881	1.000000	0.061150
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	3.845199	194.000000	0.000163	0.001143	0.547188
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.445689	194.000000	0.656319	1.000000	0.063423
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.287651	194.000000	0.199401	1.000000	0.183238
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-3.059716	194.000000	0.002529	0.017702	-0.435410
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	1.678048	194.000000	0.094948	0.664636	0.238793

Table S178. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right lower eyelid.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.311623	194.000000	0.755662	1.000000	-0.044345
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.429143	194.000000	0.668295	1.000000	-0.061069
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	3.277853	194.000000	0.001239	0.008676	0.466452
25	AOI Name * OBSERVATION	M	SECOND	FIRST	1.425140	194.000000	0.155724	1.000000	0.202803
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.585720	194.000000	0.114431	0.801020	0.225655
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.365674	194.000000	0.173623	1.000000	-0.194341
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	1.527407	194.000000	0.128289	0.898021	0.217356

Table S179. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma the middle of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	1.799188	194.000000	0.073543	0.514801	0.256032
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	-0.075965	194.000000	0.939525	1.000000	-0.010810
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.912032	194.000000	0.004012	0.028081	0.414394
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.910936	194.000000	0.363460	1.000000	0.129630
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.659230	194.000000	0.098685	0.690796	0.236115
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.141856	194.000000	0.254921	1.000000	-0.162491

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	2.058481	194.000000	0.040880	0.286163	0.292930

Table S180. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the left side of the forehead.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	1.516624	194.000000	0.130989	0.916926	0.215822
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	0.330587	194.000000	0.741313	1.000000	0.047044
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	3.569184	194.000000	0.000451	0.003159	0.507910
25	AOI Name * OBSERVATION	M	SECOND	FIRST	0.042784	194.000000	0.965918	1.000000	0.006088
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	1.753404	194.000000	0.081112	0.567784	0.249517
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-0.881449	194.000000	0.379166	1.000000	-0.125434
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	2.277147	194.000000	0.023868	0.167079	0.324047

Table S181. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the right side of the lower lip.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	0.186835	194.000000	0.851985	1.000000	0.026587
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	0.591849	194.000000	0.554641	1.000000	0.084223
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	2.172447	194.000000	0.031034	0.217241	0.309148

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
25	AOI Name * OBSERVATION	M	SECOND	FIRST	6.493426	194.000000	0.000000	0.000000	0.924041
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.151721	194.000000	0.879565	1.000000	0.021590
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-1.006407	194.000000	0.315473	1.000000	-0.143216
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	-0.415806	194.000000	0.678012	1.000000	-0.059171

Table S182. Post-hoc analysis results. Column 'p-corr' value <0.05 indicate which AOI's number of revisits differs significantly depending upon type of observation (first or second) in the pictures of female faces with hemangioma on the left side of the lower nose.

	Contrast	AOI Name	A	B	T	dof	p-unc	p-corr	hedges
22	AOI Name * OBSERVATION	EyeL	SECOND	FIRST	-0.413782	194.000000	0.679491	1.000000	-0.058883
23	AOI Name * OBSERVATION	EyeR	SECOND	FIRST	1.156710	194.000000	0.248813	1.000000	0.164605
24	AOI Name * OBSERVATION	LN	SECOND	FIRST	9.992446	194.000000	0.000000	0.000000	1.421967
25	AOI Name * OBSERVATION	M	SECOND	FIRST	1.409522	194.000000	0.160282	1.000000	0.200581
26	AOI Name * OBSERVATION	NS	SECOND	FIRST	0.972718	194.000000	0.331905	1.000000	0.138422
27	AOI Name * OBSERVATION	SC	SECOND	FIRST	-0.373986	194.000000	0.708823	1.000000	-0.053220
28	AOI Name * OBSERVATION	UN	SECOND	FIRST	-0.393281	194.000000	0.694543	1.000000	-0.055966

10. List of Figures and Tables

10.1. List of Figures

10.2. List of Tables

10.3. List of Figures in the Supplementary Appendix

10.4. List of Tables in the Supplementary Appendix