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FACIAL IMPRINT: EFFECT OF FACIAL TRAITS AND EXPRESSIONS ON
TRAVELLER PREFERENCES IN ACCOMMODATION SHARING
SERVICES

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TABLE OF CONTENTS

FOREWORD.....	iii
TABLE OF CONTENTS	iv
ABBREVIATIONS	vii
LIST OF FIGURES	viii
LIST OF TABLES.....	ix
ABSTRACT	x
ÖZET.....	xiv
INTRODUCTION.....	1
ROLE OF TRUST IN THE ACCOMMODATION SHARING	4
THE IMPORTANCE OF THE PROFILE PICTURES IN THE FORMATION OF THE TRUST AMONG PEERS ON THE ACCOMMODATION SHARING PLATFORMS	9
2.1. THE DIMENSIONS USED TO EVALUATE OTHER INDIVIDUALS	9
2.2. THE HUMAN FACE AS A SOURCE OF INFORMATION IN EVALUATION OF OTHERS.....	11
2.3. THE MENTAL MECHANISMS THAT INTERPRET THE INFORMATION TAKEN FROM HUMAN FACES.....	14
2.4. EMOTIONAL EXPRESSIONS AND THEIR EFFECT ON EVALUATION OF THE TRUSTWORTHINESS OF OTHERS	17
2.5. THE CONDITIONS UNDER WHICH THE INFORMATION OBTAINED FROM THE HUMAN FACE MIGHT BE MISLEADING....	19
2.5.1. Perceived Person-Based Illusions	20
2.5.2. Perceiving Person-Based Overgeneralizations	24
2.5.3. Context, Age, and Gender	25
2.6. THE PRACTICAL IMPLICATIONS OF INFORMATION OBTAINED FROM THE HUMAN FACE.....	27

2.7. SECTION SUMMARY	30
EFFECT OF HOSTS' FACIAL TRAITS AND EXPRESSIONS ON TRAVELERS' PREFERENCES IN ACCOMMODATION SHARING SERVICES.....	33
3.1. THE BABY-FACE OVERGENERALIZATION HYPOTHESIS	33
3.2. THE FACIAL IDENTITY OVERGENERALIZATION HYPOTHESIS	36
3.3. THE ANOMALOUS FACE OVERGENERALIZATION HYPOTHESIS.....	41
3.4. THE EMOTION FACE OVERGENERALIZATION HYPOTHESIS	49
3.5. THE FACIAL WIDTH-HEIGHT RATIO	58
PERSONALITY	63
THE MOST IMPORTANT SOURCE OF INFORMATION ON PLACE PREFERENCE SCREENS: THE HUMAN FACE	67
RESEARCH MODEL AND HYPOTHESES	68
RESEARCH DESIGN	70
7.1. ONLINE RESEARCH	70
7.1.1. Participants.....	70
7.1.2. Surveys	70
7.1.3. Results	79
7.2. OFFLINE RESEARCH	90
7.2.1. Participants.....	90
7.2.2. Surveys	90
7.2.3. Results	91
GENERAL DISCUSSION.....	96
REFERENCES.....	103
APPENDIX A PROFILE PICTURES USED IN THE RESEARCH.....	134
APPENDIX B ROOM PICTURES USED IN THE RESEARCH.....	139

APPENDIX C PLACE EXPLANATIONS USED IN THE RESEARCH ...	143
APPENDIX D PERSONALITY INVENTORY	145
APPENDIX E SCENARIO TEXT IN TURKISH.....	146



ABBREVIATIONS

AOI: Area of Interest

B2C: Business to Consumer

BAS: Behavioral Activation System

BIS: Behavioral Inhibition System

CEO: Chief Executive Officer

FACS: Facial Action Coding System

fWHR: Facial Width-Height Ratio

MS: Millisecond

NEO: Neuroticism-Extraversion-Openness

SD: Standard Deviation

U.S.: United States

LIST OF FIGURES

Figure 2.1 Causal Roots of Appearance-Trait Relations.....	20
Figure 2.2 Four Possible Developmental Relationships between Facial Appearance and Psychological Traits.....	22
Figure 3.1 Reference Points Used in fWHR Calculation on Human Skull.....	58
Figure 3.2 Normal and Manipulated fWHR.....	60
Figure 6.1 Research Model.....	68
Figure 7.1 A Sample Place Evaluation Screen.....	72
Figure 7.2 A Sample Male Profile Showing All Three Picture Types. Happy, Neutral and fWHR Manipulated Types Respectively.....	75
Figure 7.3 A Sample Profile Picture Evaluation Survey Screen.....	78
Figure 7.4 The Heat Map of the Raw Eye-Tracking Data for a Single Screen.....	92
Figure 7.5 A Sample AOI Marking Screen.....	93

LIST OF TABLES

Table 7.1 Original and Manipulation Data of fWHRs (Widths and Heights are in Pixels).....	75
Table 7.2 Place Pictures Paired Samples T-test Results.....	77
Table 7.3 Frequency Distribution of the Respondents with Respect to Their Age Group and Generation.....	79
Table 7.4 Frequency Distribution of the Respondents with Respect to Their Education Levels.....	80
Table 7.5 Frequency Distribution of the Respondents with Respect to Their Monthly Income.....	80
Table 7.6 Paired Samples T-Test Results of Average User Preferences for Each Type of Profile Pictures.....	81
Table 7.7 Paired Samples T-Test Results of Average Trustworthiness Points for Each Type of Profile Pictures.....	81
Table 7.8 Neuroticism Personality Inventory Factor Analysis.....	83
Table 7.9 Extroversion Personality Inventory Factor Analysis.....	83
Table 7.10 Uncertainty Avoidance Personality Inventory Factor Analysis.....	84
Table 7.11 Generation Based Analysis of Place Preference Points.....	89
Table 7.12 Generation Based Analysis of Trustworthiness Points.....	89
Table 7.13 Frequency Distribution of the Respondents with Respect to Their Monthly Income.....	91
Table 7.14 Summary of Percentiles for All Three Types of Profile Pictures (Values are in Milliseconds).....	95

ABSTRACT

Today, in parallel with the development of communication tools, the sharing economy resurfaces in a similar way as in the hunter-gatherer society. Accommodation sharing is one of the leading methods of the sharing economy. Since the vast majority of accommodation sharing takes place among those who have not known each other before, trust between the people who share a place is essential. In this thesis, it is argued and researched that, during decision making of preferences to stay in the related places the profile pictures of the hosts on the accommodation sharing platforms have significant effect on trust.

The researches show that the valence and the dominance are the two main dimensions of evaluating the others when contacting them (either communicating or just seeing). It is also proved that the valence dimension affects the individual's perceptions and decisions more than the dominance dimension, shaping the trust in the other person. The human face is one of the basic sources of information used for evaluation of an individual from the valence dimension. For this reason, the variables on the human face and their effects on the perception of individuals are also extensively studied and summarized in the literature. Accordingly, the positive emotions expressed on the face increase the perceived trustworthiness, while the negative ones decrease it. At the width-height ratio, low-rate faces are perceived more trustworthy, while high-rate faces perceived low in it.

In addition to these variables the literature review shows that extroversion, neuroticism and uncertainty avoidance personality dimensions have an influence on trust. For this reason, the effect of those personality dimensions to the preference and the trustworthiness perception of travelers are also integrated to this study.

In the thesis, quantitative data were collected by two separate methods, online and

offline. In the online method, a web site as close as possible to the real accommodation sharing platforms was built and data were collected from the participants by this web site. The site consisted of four parts: a demographic questionnaire, place alternatives, profile picture evaluation screens and a personality inventory test. In place alternatives, 9 different alternatives were shown to each participant and they were asked to what extent they wanted to stay in each place. In the screens where the place alternatives were shown, the profile picture, the place picture, the place description and the hosts rating score (according to the 5-star system) were shown in a similar manner to the real accommodation sharing platforms. Only male profile pictures were used in the research to eliminate the impact of gender difference of host on trust. Three positive looking, three neutral looking, and three width-height ratios increased profile pictures were shown to each participant in the place alternatives. In the profile pictures evaluation survey, the profile pictures that were shown to the participants in the place evaluation survey were displayed again in the same order to each participant. Then they were asked to answer the questions of how trustworthy the people in the profile pictures are and how much they look like a Turk (to understand the impact of nationality of the host). In the offline research, almost every detail was the same as the online research, but in addition to the online research, the eye tracking device recorded the points that the users looked on the screen during the response. Therefore, participants were invited to a controlled environment for the offline survey and data collection was performed in this environment.

As a result of the analysis of the collected data, it was found that positive looking profile pictures increase the perceived trustworthiness of the hosts, and the travelers prefer more to stay in the places of those who have this type of profile picture. It was found that the perceived trustworthiness is lowered in profile pictures with increased width-height ratios and travelers prefer less to stay in the places with this type of profile pictures.

Although it was found in the literature that people with neuroticism dominant personality tend to perceive all faces as untrustworthy relative to non-dominant individuals, these findings could not be validated for neutral looking and high width-height ratio profile pictures in this study. It was found that participants with neuroticism dominant and non-dominant personality trust at a similar level to both neutral looking and high width-height ratio profile pictures. In parallel to this finding, no difference was found at the preference levels to stay in the place alternatives where neutral looking and high width-height ratio profile pictures were used between the participants with neuroticism dominant and non-dominant personality.

It was verified that extroverts and introverts are not distinguished, in the perceived trustworthiness of the neutral looking profiles and high width-height ratio profiles. Additionally, preferences for staying in the respective places were undifferentiated from each other. As an additional finding, it was found that extrovert women tend to stay in places launched by hosts with positive looking profile pictures, more than the introvert women.

It was found that uncertainty avoidance personality dominant and non-dominant individuals do not differ from each other significantly about the preference for staying in the places where the positive looking and high width-height ratio profile pictures used. On the other hand, it was found that those with this personality dimension dominant personality trust more to the persons having profile pictures with the increased width-height ratio. This finding is thought to be related to the increased expert trust to the dominant people in their speeches, which Brownlow (1992) found in his study.

In the analysis of the offline survey conducted with the eye tracking device, it was found that, among four variables (the profile picture, the place picture, place description and the rating score) on the screen the profile picture grabbed the travelers' attention most.

It was found that the Z generation was more willing to stay in the relevant place alternatives than the other generations. The youngest participants were more willing to use accommodation sharing platforms during their travels.

It was found that fWHR manipulated (negative) faces perceived more like Turk when compared with positive ones. In other words, the more negative the face is, the more it is perceived as Turk.

Finally, it was found that people with income levels of 0-1000 TL are more likely to use accommodation sharing platforms than the other income groups. The preference points of this income group to stay in the places were significantly higher from the 2501-4500 TL income level in all profile picture types.

Keywords: trustworthiness, decision making, human face, personality, Sharing Economy

ÖZET

Günümüzde iletişim araçlarının gelişmesine paralel olarak avcı-toplayıcı toplumdakine benzer şekilde paylaşım ekonomisi yeniden canlanmaya başlamıştır. Mekân paylaşımı paylaşım ekonomisinin başı çeken yöntemlerinden birisidir. Bu değişimlerin büyük çoğunluğu, birbirlerini daha önce tanımayanlar arasında gerçekleştiği için mekân paylaşımı yapan kişiler arasında güven oluşması gereklidir. Başka bir deyişle, birbirini tanımayan kişiler sınırlı bir süre için aynı yerde yaşamaktadırlar. Bu tez çalışmasında söz konusu paylaşım platformlarında, üyelere ait profil fotoğraflarının, seyahat eden ve mekân paylaşım platformları aracılığı ile kalacak yer bakan kişilerin mekân sahiplerine duyduğu güveni ve ilgili mekânlarda kalma tercihlerini etkilediği savunulmuş ve araştırılmıştır.

Bireyler arasındaki değerlendirmelerin nasıl yapıldığına dair yapılan literatür taraması ile değerlendirmede niyet ve niyeti hayata geçirebilme kapasitesi boyutlarının kullanıldığı tespit edilmiştir. Ayrıca niyet boyutunun niyeti hayata geçirebilme kapasitesinden daha öncelikli değerlendirildiği ve bireyin kararındaki etkisinin daha baskın olduğu tespit edilmiştir. Niyet boyutu temelde karşıdaki kişiye duyulan güveni de şekillendiren boyuttur. İnsan yüzü ise niyet değerlendirmesine kullanılan temel bilgi kaynaklarından birisidir. Bu nedenle insan yüzüne ait değişkenler ve bunun bireylerin algısı üzerine etkileri de geniş çaplı olarak incelenmiş ve özetlenmiştir. Yapılan tüm bu çalışmalar sonucunda insan yüzünden hareket ile güveni etkileyen değişkenlerin yüze yansıyan duygular ve son yıllarda literatürde yer almaya başlayan insan yüzünün en-boy oranı olduğu tespit edilmiştir. Buna göre yüze yansıyan pozitif duygular güveni arttırırken, negatif duygular azaltmaktadır. En-boy oranında ise düşük oranlı yüzler daha güvenilir algılanırken, yüksek oranlı yüzler algılanan güveni düşürmektedir.

Bu değişkenlere ek olarak bireylerin kişiliklerinin de algılanan güvene etki

edeceği düşüncesi ile bireylerin kişilik boyutları ve bu boyutların güven üzerine etkisi ile ilgili de bir literatür taraması yapılmıştır. Bu literatür taraması neticesinde dışa dönüklük, nörotisizm ve belirsizlikten kaçınma kişilik boyutlarının etki edeceği tespit edilmiş ve bu kişilik boyutlarının seyahat edecek kişilerin kalacak yer tercihleri üzerine etkisi de incelenmiştir.

Araştırmada çevrimiçi ve çevrimdışı olmak üzere iki ayrı yöntem ile veri toplanmıştır. Çevrimiçi yöntemde mekân paylaşım platformlarına olabildiğince yakın görünümlü bir web sitesi oluşturulmuş ve katılımcılardan veriler bu site aracılığı ile toplanmıştır. Site demografik anket, mekân alternatifleri, profil fotoğrafları değerlendirmesi ve kişilik envanter testi olmak üzere dört bölümden oluşmuştur. Mekân alternatiflerinde her bir katılımcıya 9 ayrı mekân alternatifi gösterilmiş ve her bir mekânda ne derece kalmak istedikleri sorulmuştur. Mekân alternatiflerinin gösterildiği ekranlarda gerçek mekân paylaşım platformlarındakine benzer şekilde profil fotoğrafı, mekân fotoğrafı, mekân açıklaması ve söz konusu mekân sahibinin rating skoru (5’li yıldız sistemine göre) katılımcılara gösterilmiştir. Araştırmada sadece erkek profil fotoğrafları kullanılmıştır. Her bir katılımcı üç pozitif, üç nötr ve üç tane de en-boy oranı arttırılmış profil fotoğrafına sahip mekân alternatifi görmüştür. Profil fotoğrafları değerlendirme anketinde ise, mekân alternatifleri ekranlarında her bir mekân alternatifinde gösterilen profil fotoğrafları, aynı sıra ile her bir katılımcıya tekrar gösterilmiş ve fotoğrafta gördükleri kişiye ne derece güvendikleri ve ne derece Türk’e benzediği soruları sorulmuştur. Çevrimdışı araştırmada ise hemen her detay çevrimiçi araştırma ile aynı olmakla birlikte, çevrimiçi araştırmaya ilave olarak göz takip cihazı ile kullanıcıların yanıt esnasında ekranda baktıkları noktalar kayıt altına alınmıştır. Dolayısı ile çevrimdışı anket için katılımcılar kontrollü bir ortama davet edilmiş ve veri toplama işlemi bu ortamda gerçekleştirilmiştir.

Toplanan verilerin analizleri neticesinde pozitif görünümlü profil fotoğraflarının algılanan güveni arttırdığı ve seyahat eden kişilerin bu profile sahip kişilerin

mekanlarında kalmayı daha çok tercih ettikleri tespit edilmiştir. En-boy oranı arttırılmış profil fotoğraflarındaki kişilerin ise algılanan güvenilirliklerinin düştüğü ve seyahat edenlerin bu mekanlarda kalmayı daha az tercih ettikleri tespit edilmiştir.

Her ne kadar nörotisizm kişilik boyutu baskın olan kişilerin baskın olmayan kişilere nazaran tüm yüzleri güvenilmez algılama eğiliminde oldukları literatürde tespit edilmiş olsa da yapılan analizlerde nötr ve en-boy oranı arttırılmış profil fotoğrafları için bu bulgular doğrulanamamıştır. Buna göre bu iki profil fotoğrafı tipi için, nörotisim kişilik boyutu baskın olan ve olmayan katılımcıların benzer derecede güven duyduğu ve bu profil fotoğraflarının yer aldığı mekanlarda kalmayı benzer derecede istedikleri tespit edilmiştir.

Nötr ve en-boy oranı arttırılmış yüzlerin algılanan güvenilirliklerinde dışa dönük ve içe dönük kişilerin birbirinden ayrıışmadıkları doğrulanmıştır. Bu bulguya paralel olarak ilgili mekanlarda kalma tercihleri de birbirinden ayrıışmamaktadır. Ek bir bulgu olarak dışa dönük kadınların içe dönük kadınlara nazaran pozitif profil fotoğrafına sahip mekân alternatiflerinde kalmayı daha fazla tercih ettikleri tespit edilmiştir.

Belirsizlikten kaçınma kişilik özelliği baskın olan ve baskın olmayan bireylerin pozitif ve en-boy oranı arttırılmış profil fotoğraflarının kullanıldığı mekanlarda kalma tercihlerinin birbirlerinden ayrıışmadığı tespit edilmiştir. Öte yandan bu kişilik boyutu baskın olan erkeklerin en-boy oranı arttırılmış profil fotoğraflarındaki kişilere, baskın olmayanlara nazaran daha fazla güvendikleri tespit edilmiştir. Bu durumun Brownlow'un (1992) yaptığı çalışmada tespit ettiği daha dominant konuşmacılara daha fazla uzman güveni duyulması ile bağlantılı olduğu düşünülmektedir.

Çevrimdışı ankette göz takip cihazı ile yapılan çalışmanın sonuçları katılımcıların ekranda yer alan dört değişken içerisinde en çok profil fotoğrafı ile ilgilendiklerini

göstermektedir. Mekân fotoğrafı ise ikinci derece ilgi çeken değişkendir.

Analizler neticesinde Z kuşağının diğer kuşaklara nazaran ilgili mekân alternatiflerinde kalmaya daha istekli oldukları tespit edilmiştir. Bir anlamda en genç katılımcılar seyahatleri esnasında mekân paylaşım platformlarını kullanmaya daha istekli çıkmıştır.

Elde edilen diğer bir ilginç bulgu ise en-boy oranı manipüle edilmiş (yani bir anlamda negatif) profil fotoğraflarında görülen kişilerin, pozitif profil fotoğraflarındaki kişilere nazaran katılımcılar tarafından Türk'e daha çok benzetilmiş olmasıdır. Yani pozitiften negatife doğru gittikçe fotoğraf aynı kişiye ait olsa bile Türk'e benzetilme oranı artmaktadır.

Son olarak 0-1000TL gelir düzeyine sahip kişilerin mekân paylaşım platformlarını kullanmaya diğer gelir gruplarına göre daha eğilimli oldukları tespit edilmiştir. Bu gelir grubunun ilgili mekanlarda kalma isteği tüm profil fotoğrafı tiplerinde bilhassa 2501-4500 TL gelir düzeyinden anlamlı şekilde ayrılmaktadır.

Anahtar kelimeler: güvenilirlik, karar alma, insan yüzü, kişilik, Paylaşım Ekonomisi

INTRODUCTION

“Sharing” as a way of survival and living has always existed in the history of humankind. On the other hand, the sharing culture did not stay the same and has changed in parallel with economic developments. There are four main stages of economic development in the human history. In the chronological order, these stages are the hunter-gatherer society, the agricultural society, the industrial society, and the information society. The sharing culture was the dominant culture in the hunter-gatherer society but lost its influence at the later stages. It has become effective again in the information society through innovations in communication tools, especially the invention of the internet. Some examples of today's sharing applications are the exchange of products (Ozanne & Ballantine, 2010), re-distribution systems (Albinsson & Perera, 2009), and sharing of place (Lauterbach, Truong, Shah, & Adamic, 2009b).

On the other hand, today's sharing practices process differently from those used in the past. In the past, people who shared were acquainted with each other. But today, sharing takes place among people who do not know each other. While this has an impact in all kinds of sharing applications, it is more important, especially for accommodation and car sharing practices as the owner of the car or the owner of the residence spends time with the visitor in a closed location. Spending time with a stranger increases the risk for users of these practices. It was on news that, in the year 2014 a guest who rented a room from Airbnb, was attacked by his host in Madrid (Lieber, 2015). In another example, a guest damaged the house he rented from Airbnb (A. Smith, 2017).

The possibility of an undesirable event would keep the people distant from these sharing platforms. Therefore, it is necessary to build up trust among users. As a solution to this requirement, platforms' user policies necessitate creating a

personal account to use these systems. Account profiles include information such as owners profile pictures, name, review scores etc. to eliminate anonymity and foster trust among users by increasing the sense of personal contact (Guttentag, 2013).

In this thesis, it is argued that in the formation of trust among users in the accommodation sharing platforms, the profile pictures are more effective than the other information disclosed in personal accounts. Thus, the aim of this thesis is to research “*the impact of host's facial traits and expressions on their perceived trustworthiness and travelers' choices*”. The reasons for this claim are; (i) humans give importance to the visual sense, (ii) one of the most important visual variables for humans is the human face, (iii) human face is an important source of information in the formation of trust among strangers.

The emotional expressions and the facial width-height ratio (fWHR) are the most effective facial variables in the trust formation. A happy facial expression and a low fWHR have positive effects on the formation of trust, while an aggressive facial expression and high fWHR have a negative effect. It is further found that there is a relationship between people's personality traits and the way of interpreting faces. Therefore, in this thesis, effects of neuroticism, extroversion and uncertainty avoidance personality dimensions on the individuals' perceptions and preferences are also studied. Lastly, it is argued and researched that the profile pictures amongst the variables on the place selection screens of the accommodation sharing platforms attract the traveler's attention more than all other variables. In this part of the research, an eye tracking device was used to record the points participants looked on the computer screen during the response.

The thesis introduces by telling the role of trust in the accommodation sharing platforms. Later on, the effect of the profile pictures on trust building on the accommodation sharing platforms is explained. In this section, the variables used by individuals in evaluating other individuals, the human face as the source of

information, effect of the emotional expressions on trustworthiness perception, mental mechanisms which interpret the information and evaluate trustworthiness, and illusions leading to incorrect inferences, are described in detail. In the third section, the facial identity overgeneralization hypothesis, the baby-face overgeneralization hypothesis, the anomalous face overgeneralization hypothesis and the emotion face overgeneralization hypothesis, are explained in detail. In this section, the facial width-height ratio is also explained in addition to the other four perceived person-based illusions. In the fourth section, personality traits and their effects on perception are explained. In the last part of the thesis, the details of online and offline researches and the analysis results of the obtained data are explained in detail. Finally, the results are interpreted in the general discussion section.

ROLE OF TRUST IN THE ACCOMMODATION SHARING

Although the impact of sharing culture on society has been weak since the invention of agriculture, it is a concept that has always existed in the history of humanity. It would not be wrong to define it as the first economic cooperation model of humanity. It was dominated the society much longer than all other models (e.g. market culture). Today, it has revived again. On the other hand, the practice of this culture today is not exactly the same as the past. Because, in the past, people who know each other were sharing, but today people who do not know each other are sharing by the means of the internet. For instance, people who have never met before are sharing the same residence for a limited period of time by the means of accommodation sharing platform. This increases the importance of building pro-trust among people using sharing platforms.

From the 1970s, developments in communication, data storage, and computation technologies have begun to appear. The internet, personal computers, wireless technologies, and cloud data storage are some examples of inventions. Developments in these technologies have accelerated the productivity increase. From the industrialist perspective key factor of the production is labor, and it serves as a mechanism for wealth distribution. However, by technological advancements, in addition to the productivity increase that enables production with fewer workers, automation systems have also started to replace workers. According to International Labor Organizations, 2015 Trends Report (2015), globally 3.250 million people were employed in the world (ILO, 2015). The population of the world in 2014 estimated slightly more than 7.000 million by U.S. Census Bureau. According to those numbers, at least half of the world population was unemployed in the year 2014. In other words, less than half of the world population could provide material and service needs of the entire population.

It is anticipated that these developments might create serious problems for people in the coming years (Price, 2017). Efforts are being made to find a solution to this problem, and suggestions are being developed. For example, universal salary is one of these proposed solutions. The universal salary has begun to be tested in Finland for the first time in the world (Henley, 2017). Another solution that has already been proposed and has begun to be used is the sharing economy. Scholars proposed that economic and societal considerations increase the application of the sharing economy (Botsman & Rogers, 2010). Hence, the sharing economy emerges as an important study subject that will increase its importance more in the future.

Technological developments are not only increasing unemployment but also provide new ways for people to communicate with each other. These new communication methods also gave necessary means to create sharing platforms. Social problems, economic crisis, and austerity led people to use these platforms. Coyne (2005) defined this transition as a return to the tribal age in the digital platform (Coyne, 2005). Several examples of these sharing practices are listed below:

- Exchange of products such as Toy library (Ozanne & Ballantine, 2010)
- Car sharing (Bardhi & Eckhardt, 2012)
- Re-distribution systems such as Freecycle, eBay, and Craigslist (Albinsson & Perera, 2009; Denegri-Knott & Molesworth, 2009)
- Sharing of money such as Crowdfunding (Belleflamme, Lambert, & Schwienbacher, 2014; Cheung & Chan, 2000)
- Sharing of time, skills, expertise such as Zumba and open source programs (Bagozzi & Dholakia, 2006; Postigo, 2003)
- Sharing of information such as Wikipedia (Reagle, 2010; Voss, 2005)
- Digital sharing such as a document, program, p2p file, YouTube, Spotify,

and Netflix (Hennig-Thurau, Henning, & Sattler, 2007; Sinclair & Green, 2015)

- Sharing of accommodation such as Couchsurfing and Airbnb (Lauterbach et al., 2009b; Zervas, Proserpio, & Byers, 2015)

Online peer-to-peer sharing applications have been gaining ground especially in accommodation and travel services (Lauterbach, Truong, Shah, & Adamic, 2009a; Zervas et al., 2015). The sharing actualize through third-party platforms (Botsman & Rogers, 2010). Airbnb and Couchsurfing are the two main platforms that used for the sharing of accommodation. According to Morgan Stanley's November 2015 dated report, Airbnb market penetration was 12%, and it is estimated to reach 16-18% (Nowak et al., 2015). By using Airbnb, 115 million people stayed in 191 countries and 3 million separate locations during the period from its first day to May 2017 (Overfelt, 2017). As can be seen from those data, accommodation sharing has reached a significant market share.

According to the research, conducted with 4116 adults from the USA, England, Germany, and France in November 2015, by Morgan Stanley, Airbnb was used by 12% of the participants who traveled for both business and leisure reasons within last 12 months (Nowak et al., 2015). In this research, it has been found that the two most important reasons for avoiding Airbnb usage are privacy and safety concerns. Web sites such as www.airbnhell.com have been built by people who share these concerns and encountered problems in their previous Airbnb transactions. It has been found that the three most important reasons that led people to use Airbnb are cost, location, and authentic experience. These results are similar to the results of the studies that scholars have already done. Scholars proposed that economic and societal considerations drive the increase in the accommodation sharing market (Botsman & Rogers, 2010) and individuals are looking for low-cost options and direct interactions with the locals (Guttentag, 2013).

As mentioned above, the two most important variables that keep users away from these platforms are privacy and safety concerns. Services like accommodation are characterized by their inseparability, which means that they are produced and consumed simultaneously (Parasuraman, Zeithaml, & Berry, 1985). For this reason, accommodation sharing and car sharing platforms' structures differ from other sharing platforms and systems. Since hosts and guests spend time in the same house, on the accommodation sharing platforms both sides' personalities become a principal element in the formation of the trust. For this reason, it is significant to examine the formation of trust among the peers on the accommodation sharing platforms.

Trust is a belief in the likelihood of exposing to what is expected, and it makes the trusting part vulnerable to the other. Trustworthiness is the desire of person B to meet the demands and expectations that person A conveys explicitly or implicitly in addition to behaving in favor of person A (Ben-Ner & Halldorsson, 2010). Trustworthiness assessment can be done properly by knowing the answers to the two basic questions: Was that person trustworthy in the past? Will he act in the same way in the future? In accommodation and car sharing platforms peers are dealing with each other directly. On the other hand, most of these dealings are taking place among the peers for the first time without any clear idea about the personality of the counterpart. Therefore it is not possible to answer these two questions in this system. These conditions increase concerns of users and importance of trust (L. L. Berry & Parasuraman, 1991).

Functioning of complex social organizations depends on the trust among the members of it. For this reason, the behaviors are monitored by institutions, and some other social regulations, with the aim of establishing trust in a society and the cost of accessing this information is kept low. For example, in Turkey, it is mandatory to bring criminal record by new employees to employers. Gossip performs a similar function in societies. Individuals in the society have knowledge

about the untrustworthy individuals. In all type of relations, it is important to distinguish individuals in a cooperative tendency from others. The cooperation to be established with the individuals who are actually non-collaborators could lead to high costs.

In daily life, the sense of trust about another person is initially created by the appearance, then continuously updated by the experience gained about that person (R. K. Wilson & Eckel, 2006). On the other hand, in the accommodation sharing platforms, most of the transactions are realized among the people who meet each other for the first time, so it is very unlikely to update trust among users by experience. As a trust enhancing practice in the accommodation sharing platforms, it is asked from each user to load a profile picture and fill in the requested personal information. Some of this information can also be seen by other users. In addition to this, these platforms also show the rating scores and comments of the other users in profile pages. The aim is to establish a reputation system through these ratings and comments (Resnick & Zeckhauser, 2002). It is obvious that the reputation system increases the trust but in this study, it is considered that only the written information could not generate enough trust among the users. For example, studies found that, while agreements between companies are made within the legal system, managers still want to meet face-to-face with all their business partners before the deal. It is absolutely necessary for people to see the face of the other person, especially when making strategic decisions (Eckel & Petrie, 2011). For this reason, the accommodation sharing platforms also request profile pictures from the platform users, and they display these pictures to other users (Liu, 2012). For instance, on Couchsurfing, the host's photo is presented next to the picture of the room. Profile pictures are creating the sense of personal contact (Guttentag, 2013). Beyond the sense of personal contact, in this thesis study, it is argued that the profile pictures are more effective than the other information in the formation of the trust among peers in the accommodation sharing platforms.

THE IMPORTANCE OF THE PROFILE PICTURES IN THE FORMATION OF THE TRUST AMONG PEERS ON THE ACCOMMODATION SHARING PLATFORMS

As mentioned, profile pictures on the accommodation sharing platforms are important variables in the formation of trust among users. It is important to examine the information obtained from the human face and its effects on the evaluation of individuals. For this purpose these subjects are explained in this section: (i) the dimensions that individuals use to evaluate each other (ii) the human face as a source of information in evaluation of others, (iii) the mental mechanisms that interpret the information taken from human faces, (iv) emotional expressions and their effect on evaluation of the trustworthiness of others, (v) the conditions under which the information obtained from the human face might be misleading, (vi) the practical implications of information obtained from the human face.

2.1. THE DIMENSIONS USED TO EVALUATE OTHER INDIVIDUALS

Individuals use many different adjectives while evaluating each other in daily life. On the other hand, academic studies that have been conducted since the 1960s showed that individuals actually evaluate others in two basic dimensions. These dimensions are mentioned as the valence and the dominance in this thesis. With the valence dimension, the intention of the other individual is assessed, and with the dominance dimension, the capacity of the individual to apply this intention is evaluated. Details of these dimensions are explained in the following sections.

The trustworthiness evaluation of the others is, in fact, one of the sub-parts of a much broader assessment. One of the first studies in this field has been conducted by Rosenberg et al. (1968). According to this study, while the individuals use many different adjectives for describing the others in daily life, the evaluation is

carried out in three basic dimensions. The adjectives correspond to the various points that are located in this three-dimensional evaluation space. The first dimension has been defined as good-bad, the second dimension as hard-soft, and the third dimension as active-passive (Rosenberg, Nelson, & Vivekananthan, 1968). In the study of Wojciszke et al. (1998), two basic dimensions were identified. In this study, the first dimension has been defined as the morality traits and the second one has been defined as the competence traits (Wojciszke, Bazinska, & Jaworski, 1998). The dimension expressed as good-bad in the first study overlaps with the dimension expressed as morality traits in the second one. However, these two dimensions, as identified by Wojciszke et al. (1998) do not have equal priority in the evaluation of the others. Wojciszke et al. (1998) found that the morality traits are more dominant than the competence traits in the evaluation of the others. This finding then reconfirmed in his other study (Wojciszke, 2005). On the other hand, the competence traits are more important in evaluating ourselves. Additionally, it has been found that positive information is more influential in the competence traits (e.g. the ability to conduct) and negative information (e.g. bad intention) is more influential in the morality traits.

Afterward, Todorov et al. (2008) conducted a study based on the human face and they found that humans evaluate others in terms of two different dimensions. One of these dimensions defined as valence and the other one as dominance. The valence dimension is the dimension which humans evaluate the intention of others. The trustworthiness evaluation of others is one of the sub-dimensions of it (A. Todorov, Said, Engell, & Oosterhof, 2008). The dominance dimension is the dimension which the person's capacity to be able to apply intentions are measured. There is a positive correlation between dominant appearance and perception of the ability to apply intentions. Similar results found in Judd et al.'s (2005) research (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). The similarity between Todorov et al.'s (2008) and Wojciszke et al.'s (1998) findings are remarkable. The first dimension, which defined as the morality traits in the first study, defined as the valence dimension in the second one. The same similarity exists between the

competence traits and the dominance dimension. The valence dimension or with the other words the morality traits were found to be more effective than the dominance dimension in the evaluation of others. With the other words, humans are primarily concerned with the intention of others (Fiske, Cuddy, & Glick, 2007). This finding is also similar to the findings of the Wojciszke et al. (1998). Although the dominance dimension is also important, mainly the valence dimension affects the perceived trustworthiness of the others.

The study of Sutherland et al. (2013) also confirmed the results of previous studies, but they found an additional third dimension into the first two dimensions. The third dimension was defined as youthfulness-attractiveness (Sutherland et al., 2013). Finally, Sutherland et al. (2016) did a second study. In this study, inter-group evaluation dimensions were analyzed instead of inter-individual evaluation dimensions. According to the results obtained from this study, a group of individuals evaluate another group on a two-dimensional space. One of these dimensions was defined as warmth and it is closely related to the trustworthiness evaluation (Sutherland, Oldmeadow, & Young, 2016). As it can be seen, in all these studies examining inter-individual and inter-group evaluations, there is a common intention dimension, but in each study, different names were used to express it. In this thesis study, the valence dimension and the dominance dimension expressions are used to mention those dimensions. The third dimension that was found in some studies is not taken into consideration because it was not validated in all studies.

2.2. THE HUMAN FACE AS A SOURCE OF INFORMATION IN EVALUATION OF OTHERS

Humans cannot evaluate the others in the way described above without the information they get. The five senses provide them the necessary information. On the other hand, humans are not taking all the information from the environment

into account (Zebrowitz-McArthur & Baron, 1983). Only the necessary information is taken into consideration. The necessary information is the information from the person or things, which can affect the individual's attainment of its goals. In accordance to this, it is also important to understand what is happening around within the community because the people who can be effective may exist in the environment. By the information humans get from their environment, they can develop attitudes that will help them to reach their goals.

Visual perception is one of the leading ways of acquiring information from the environment for animals and the human face is one of the main visual environmental sources of information for humans (Leslie A. Zebrowitz, Voinescu, & Collins, 1996). The desire to make inferences from the human face is genetically inherited and instinctual in every human. During the interactions with other people, it is always in sight. It is one of the most stimulating factors for humans in the environment (Mondloch et al., 1999). Sounds and speeches are sources of information about others, but they do not transmit information constantly like the human face (Paul Ekman, Friesen, & Ellsworth, 1973). Lack of information about a person, increases the weight and meaning loaded to the information received from the face (Hassin & Trope, 2000). Seeing the human face has an effect on the decisions humans make about others (Eckel & Petrie, 2011). In the study of Eckel and Petrie (2011), it was found that individuals want to see the face of others when they must make a strategic decision. Even in newborns, there is a tendency to show interest in the human face or images that resemble it (Mondloch et al., 1999).

An important part of the human brain is devoted solely to interpret the human face visually. Studies showed that human memory, which stores human faces, is quite powerful (Bahrick, Bahrick, & Wittlinger, 1975). The resources that are allocated for the interpretation of the human face is an indication of trying to extract as much information as possible from it (Hassin & Trope, 2000). A quick glance at one's face allows humans to make many inferences. For example, identity, gender,

age, physical health (Grammer & Thornhill, 1994), attractiveness (Perrett et al., 1998; Rhodes, 2006), emotions (P Ekman, 1993), personality (J. Willis & Todorov, 2006), suffering and social status. Studies showed that face-to-trait inferences are intuitive and automatic (Engell, Haxby, & Todorov, 2007; A. Todorov, Pakrashi, & Oosterhof, 2009).

Humans tend to see the human faces in almost every object that they perceive. The evolutionary advantage of seeing human faces in everyday objects was found by Windhager et al. (2008). According to the findings obtained, it is important to identify a threatening face, which focuses on you in the wood, as soon as possible. And it is more advantageous to go to the alarm situation in every possibility of danger without assessing the situation in detail, to prevent any vital risk (Landwehr & McGill, 2011; Windhager et al., 2008). In every object that the humans see, the human mind analyzes if there is a real human face. It does this by trying to match everything to the real human face. This leads humans to believe that what they see is a real human face, although it is not. This is actually similar to choosing to make false-negative errors instead of false-positive errors in the statistics. According to the Error Management Theory, when the results of false-positive (type-1 error) error and false-negative (type-2 error) error are asymmetrical, humans are in the tendency to select the least costly option (Haselton & Buss, 2000). This tendency increases the number of errors while minimizing the costs. It is not possible to minimize both types of errors at the same time.

One of the best examples that can be given on this subject is that people liken the front of cars to the human face. People even perceive smile or anger expressions from the front view of the cars. Some cars look happy, and some of them aggressive. This tendency in humans has also effects in marketing applications (especially in product designs). Research in this subject showed that the emotions perceived from the appearance of the products affect the consumers' preferences (Aggarwal & McGill, 2007; Landwehr & McGill, 2011; Windhager et al., 2008).

Corporations, use this tendency in humans to anthropomorphize their products in favor of their brands. (Anthropomorphize is the interpretation of non-human beings and objects in human-specific terms (Guthrie, 1995).) For example, in some studies, it has been found that consumers prefer vehicles with a smiling front look, while in some other studies it has been found that some consumers prefer those with an aggressive look. Finally, in Landwehr & McGill's (2011) study, it was found that vehicles with an aggressive look (the headlight part of the vehicle) but at the same time smiling (the grill part in front of the vehicle) are preferred (Landwehr & McGill, 2011). The perceived level of happiness increases with an aggressive look. Humans cannot usually smile while looking aggressive, but it is possible to achieve this in vehicle designs.

2.3. THE MENTAL MECHANISMS THAT INTERPRET THE INFORMATION TAKEN FROM HUMAN FACES

The origins of mental mechanisms, which interpret the information received from the human face, are from prehistoric times. They are one of the fundamental functions of the human brain which provides a very fast and automatic operation of these mechanisms. For instance, humans can perceive emotions expressed in the human face in less than 100ms (Esteves & Ohman, 1993). These mental structures are transmitted between generations by the genetic code. Especially, interpretation of character traits from the human face is not an ability obtained by experience, it is genetically transmitted. Todorov et al. (2014) have shown that humans can make these inferences from 3 years of age, and from 7 years of age, inferences became in agreement with the inferences of adults (Cogsdill, Todorov, Spelke, & Banaji, 2014). Even the children aged 8 years old be able to assess trustworthiness (Ma, Xu, & Luo, 2016). In a study by Willis & Todorov (2006), it was found that the perception formation from the human face in 100 ms and without time limit significantly correlate with each other. Increasing duration time over 100 ms does not increase the degree of correlation. This also applies to the

perception of the trustworthiness (J. Willis & Todorov, 2006). Survival-related assessments of an object or a person are done much faster. For example, threat evaluation of a person takes place much faster and before assessment of the other traits (Bar, Neta, & Linz, 2006). For this reason, the perception of trustworthiness establishes within a period of 33ms that conscious part of the human mind cannot perceive. Up to 167ms, this perception becomes stronger and beyond this point, no improvement or change occurs (A. Todorov et al., 2009). Marzi et al. (2014) have also confirmed this finding in their work. It has been observed that this inference is realized before the perception of the other details on the face (Marzi, Righi, Ottonello, Cincotta, & Viggiano, 2014). Before the slow functioning logical side of the human mind, the fast and unconscious side completes the evaluation of the perceived trustworthiness of a stranger and begins to guide behaviors (Kahneman, 2011). This makes it as one of the most important mechanisms affecting humans' behavior against others. In parallel to all these findings, it has been found that the trustworthiness perception is universal in humans and similar results were achieved in different cultures (Birkás, Dzhelyova, Lábadi, Bereczkei, & Perrett, 2014). All these findings reveal that interpretation of the human face is universal, instinctive and beyond control. For example, the above mentioned 100ms is 1 / 10th of a second, and the conscious part of the human mind cannot interpret information in such a short time (Kahneman, 2011).

On the other hand, variables, such as hair and/or clothing, weaken and slow down the trustworthiness evaluation (Bonnefon, Hopfensitz, & De Neys, 2013). The interpretation of these variables is not genetically encoded. Because of that reason when these types of variables are included, the thinking part of the human mind is entering to the evaluation process. As Kahneman (2011) noted, the conscious part of the human mind operates slower and has a limited capacity than the other parts of the human mind (Kahneman, 2011). The part of the human mind that evaluates the trustworthiness of the other person is in a separate structure from the part that creates consciousness. For example, Bonnefonne et al. (2013) found that individuals trustworthiness assessment performance is same at both mentally

loaded and unloaded conditions (Bonnefon et al., 2013). In other words, the workload of the part that creates consciousness in the mind does not affect the process of evaluating trustworthiness.

Two distinct systems related to risk management found in the human mind. The first system's focus is on protecting the individual from physical harm, while the latter is focused on avoiding diseases. For physical injury prevention within the community humans basically look at the emotions expressed from the face of the others. They look at the disease-specific signs to be protected from disease (Neuberg, Kenrick, & Schaller, 2011). As it is explained in further sections, the evaluation of the emotions expressed on the face is related with the valence dimension. The desire of humans to be protected from physical harm comes out with a feeling of fear, while the avoidance of the disease occurs with a sense of disgust.

Finally, it has been found that the human face is mono-oriented in the human mind. It can only be interpreted when it is displayed vertically. For example, humans are insufficient at remembering the faces of people shown upside down (Yin, 1969). Even though it holds the same amount of information, it is also difficult to distinguish details of a face when it is viewed with upside down or in the negative film. Therefore, it could be said that the human mind is specialized in recognizing and interpreting the vertical state of the human face (Brennan, 2007). In another experiment, it has been found that the mind evolved to perceive the human face vertically as a whole. In the experiment, the part of the face above the junction of the nose and lip was kept the same, while the part under that point was replaced by the lower faces of the different people. According to the results, if the upper and lower parts are in the same line, individuals perceive the upper parts of the face as different although they are the same. The difference that exists only in the lower part of the face is perceived as if it exists in the whole of the face. But if the alignment is broken or the face is rotated 60 or 90 degrees, humans could realize that the upper halves are actually the same (Rhodes, Calder, Johnson, &

Haxby, 2011).

As evidenced by all these findings, there is a structure in the human mind that has only evolved to interpret the human face. This structure is outside the control of the conscious side of humans. It works very quickly and directs people's behavior. On the other hand, it can only interpret the face of people on certain conditions and is also a fallible structure. As described in more detail in the further sections of this thesis, it may lead people to erroneous decisions and behaviors.

2.4. EMOTIONAL EXPRESSIONS AND THEIR EFFECT ON EVALUATION OF THE TRUSTWORTHINESS OF OTHERS

The human face transmits information in three separate ways and the information transmitted from the human face is based on the three different sources. The information sources were classified as universal (emotional and facial width height ratio), cultural (belonging to a certain social category) and idiosyncratic (similarity to another person) (A. Todorov, Olivola, Dotsch, & Mende-Siedlecki, 2014). Information transmission methods were defined by Ekman & Friesen (2003) based on the speed of change. These are:

- Static: such as face shape
- Slowly changing: such as permanent wrinkles that have formed over the years
- Rapidly changing: such as emotions

Rapidly changing signals also have two subtypes. These are the emotions and the emblem. Emblems are expressions, which are not emotional, that have definite meanings (Paul Ekman & Friesen, 2003). For example, a flirtatious winking is an emblem.

Emotions, which developed in the evolutionary process, are biologically based and genetically coded. Emotions are the mental reactions that occur in accordance with the environmental factors, and at the same time, they regulate individuals' relationship with the environment. Emotions affect both the behavior and the psychology of individuals. They reflect not only the inner state but also intentions (Hess, Blairy, & Kleck, 2000). Other people could establish an attitude to the individual in accordance with the intention conveyed to the environment through emotions. In other words, emotions allow people to coordinate and regulate their behavior (Keltner & Haidt, 1999). For example, an aggressive look, which is a part of the valence dimension, is not perceived trustworthy and people tend to keep away from the aggressive individuals because of the possibility of harmful behaviors (Frijda & Mesquita, 1994).

In the evaluation of the trustworthiness, the other person's feelings are determinant. As mentioned humans evaluate the trustworthiness of the others on the basis of their faces (Klapper, Dotsch, van Rooij, & Wigboldus, 2016; Rezlescu, Duchaine, Olivola, & Chater, 2012). Krumhuber et al. (2007) found that the subtle dynamics reflected in the face of an individual affects the people's sense of trust to that person and their willingness to cooperate (Krumhuber et al., 2007). Even looking at just person's face is enough to create a threat perception (Spezio, Loesch, Gosselin, Mattes, & Alvarez, 2012). For example, threat potential of a male could be understood by his face (Han et al., 2017). Therefore, it is important to figure out the information transmitted from the human face that affects trustworthiness perception. In the study of Porter et al. (2008), it was found that the aggressive appearance or the polite appearance of the person in question affects the trustworthiness assessments. Todorov et al. (2013) have also found that emotions, which are the sub-division of the rapidly changing signals, shape the trustworthiness perception. According to their research results, happy looking faces are perceived as trustworthy, while angry looking faces are perceived as untrustworthy (A. Todorov, Dotsch, Porter, Oosterhof, & Falvello, 2013). According to the study, the intention and its reflections on the face convey the

signal of trustworthiness or untrustworthiness to the others. Therefore, at the polarized ends of the valence dimension, there is a happy face on one end and an angry face on the other.

2.5. THE CONDITIONS UNDER WHICH THE INFORMATION OBTAINED FROM THE HUMAN FACE MIGHT BE MISLEADING

The trustworthiness assessments based on the human face are universal and the similar inferences are made in all cultures. This is also evidenced by the study with Japanese and American participants (Rule et al., 2010). There is a consensus among people and cultures (Rule, Krendl, Ivcevic, & Ambady, 2013). On the other hand, it is not possible to say that this system in mind always gives the right results. Although there is a consensus among different individuals for the trustworthiness assessment on the basis of the human face, it has been found that this is not related to the actual situation (Rule et al., 2013). Some people may be perceived as honest, although they are not honest, and some others may be treated as dishonest, even though they are honest (Zuckerman, DeFrank, Hall, Larrance, & Rosenthal, 1979). For example, in a study conducted by using pictures of Nobel Prize owners and pictures of America's most wanted criminals, it has been found that humans are not able to make a right decision to identify untrustworthy people (Porter, England, Juodis, Ten Brinke, & Wilson, 2008). Efferson and Vogt (2013) have shown that trustworthiness assessment cannot be done correctly on the basis of the human face (Efferson & Vogt, 2013). On the other hand, humans think they make the right decision without assessing the accuracy of their perception. In Porter et al.'s (2008) study, the human faces were shown to some participants for 100 ms and 30 ms for some others, but no significant relationship was found between the increasing duration and the accuracy of the trustworthiness decision. Humans quickly do the evaluation of the trustworthiness, and over time this judgment does not change. There are several reasons for this. These reasons are perceived person-based illusions, perceiving person-based overgeneralizations,

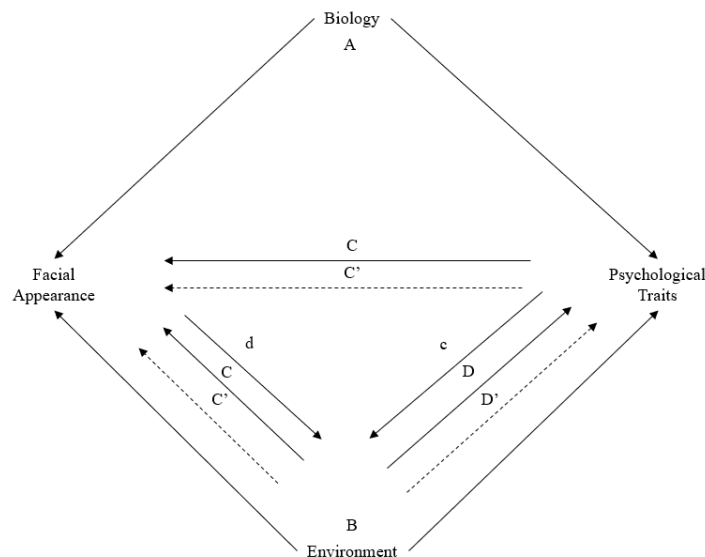
context, age, and gender.

2.5.1. Perceived Person-Based Illusions

Studies showed that different information transmission methods in the face have distinct levels of consistency. Accordingly, static variables (e.g., facial width-height ratio) are more consistent than dynamic ones (e.g., emotions) and show less variance (E. Hehman, Flake, & Freeman, 2015). This is one of the reasons for the difference between the perceived and the real trustworthiness.

In addition to that, humans' environment, biology, psychology, and appearance are all in mutual interaction and can change each other and affect the perception of the other people (Leslie A. Zebrowitz, 1997). It is summarized in the below diagram (Figure 2.1).

Figure 2.1 Causal Roots of Appearance-Trait Relations



Reference: Leslie A. Zebrowitz, 1997

Way A: Humans' biology has effects on both facial appearance and psychological traits. For example, Down syndrome affects both physical appearance and psychological traits.

Way B: Environmental factors could affect both appearance and personality. For example, malnutrition leads to a weak body and change in some personality traits. The similarity of relatives is also linked to being exposed to the same environmental impacts, in addition to the genes.

Way C: Personality could affect facial structure over time (Dorian Gay effect). This happens in two ways. The first way, facial muscles get used to the reflexes which repeated mostly and they tend to give these reflexes in all situations. The second way, permanent deformations on the face occur that is peculiar to the reflexes that mostly repeated. For example, if aggressive reactions expressed in general, the face begin to look aggressive even when the individual is not aggressive.

Way C': People can sometimes develop facial expressions that are unrelated to their personalities (artifice effect). They play roles. The roles played mostly over time can change the shape of their faces into this direction.

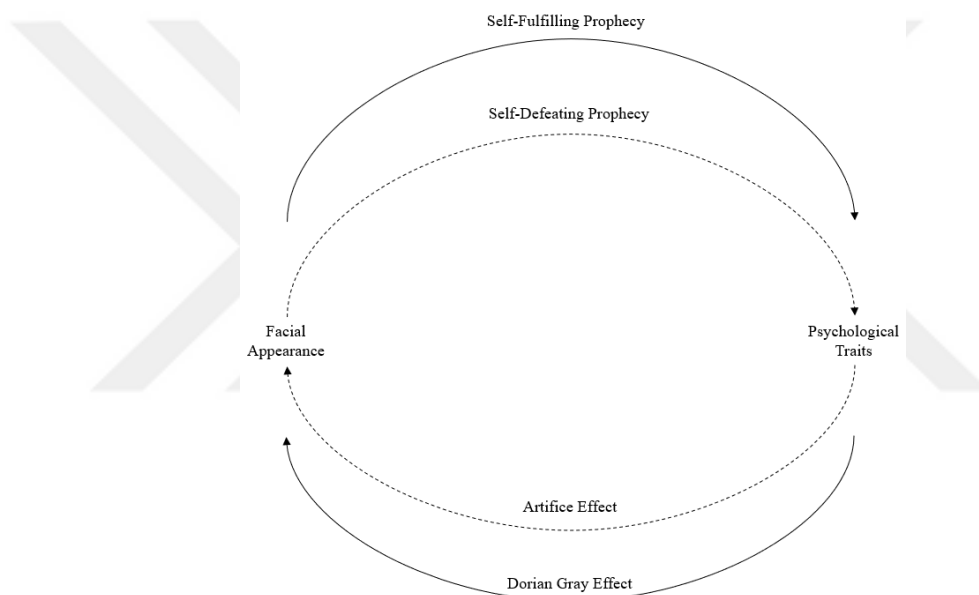
Way c: The personality of a person can influence its environmental preferences and this environment can affect the facial appearance (way C or C' from the environment to the facial appearance).

Way d: The facial appearance of a person can affect the environment it is in and environmental stimuli. And then the environment can affect the psychological traits (way D or D' from the environment to facial appearance). It may produce congruent traits by following way D (self-fulfilling prophecy effect) or it may produce incongruent traits by following way D' (self-defeating prophecy effect). For example, the honest appearance of a person can cause the people around him

to treat him as an honest person. This person can develop an honest personality over time which confirms the expectations of the others.

Since the main theme of this thesis is psychology and appearance, the relation between these two variables in the above graphic is summarized in Figure 2.2 below.

Figure 2.2 Four Possible Developmental Relationships between Facial Appearance and Psychological Traits



Reference: Leslie A. Zebrowitz, 1997

Psychology and facial appearance influence each other mutually. As expressed in the graphic above, they interact with each other in four separate ways.

The stereotypes against a person from others can cause this person to act in accordance with them. So, in fact, stereotypes create their own reality. This situation is mentioned in the above graphic as the self-fulfilling prophecy. For example, people with an attractive look are perceived as more friendly, and they actually behave in that way, because positive prejudices to them affect others' attitudes to them positively and attractive people also begin to give a positive response

(Snyder, Tanke, & Berscheid, 1977). Rosenthal (1994) found that individuals behave in accordance with the expectations of the others. For example, if a teacher expects from a student to be successful, the student become successful. The same thing is valid for also expectations about trustworthiness. An individual will act trustworthy if the others trust him (Rosenthal, 1994). In the self-fulfilling prophecy, individuals who create a honest impression in youth and childhood begin to behave in a way that affirms this perception and with time this behavior will become their personality trait (Leslie A. Zebrowitz et al., 1996). A similar result has found in the study of Slepian and Ames (2016). People behave in parallel to the expectations of others about themselves that is established by their appearance. Thus, the perceived trustworthiness of people confirms itself (Slepian & Ames, 2016).

The self-defeating prophecy is the development of the personality that is in the opposite direction to the perceptions created by the person's facial appearance. In other words, it is the exact opposite of self-fulfilling prophecy. For instance, a person who does not seem trustworthy can develop a trustworthy personality despite all the negative attitudes against him.

Along with the increasing age, people's face deforms and begins to reflect the emotions that they felt most before, even in their neutral look (Leslie A. Zebrowitz, 1997). This effect is defined as The Dorian Gray effect. As explained previously this happens in two ways. The first way, facial muscles get used to the reflexes which repeated mostly and inclined to give these reflexes in every situation over time. The second way, permanent deformations on the face occur that is peculiar to the reflexes that mostly repeated.

The artifice effect is the development of an appearance that conceals the personality traits of the individual. In the process of the human evolution, humans didn't have the ability to manipulate emotions that are expressed in the face until very recently. All the information that was expressed from the human face was correct

but this has changed (Hassin & Trope, 2000). The artifice effect can be achieved by two basic ways: camouflage and imitation. The camouflage is the adaptation to the environment they are in, while the imitation is the mimicking of others (Bond & Robinson, 1988). It has been found that individuals use specific facial movements to camouflage the appearance of a face by modulating the features of phenotypic morphology (Gill, Garrod, Jack, & Schyns, 2014). For example, a sociopath can act like a normal person not to be noticed in society. Someone who is unhappy can smile to look like happy. Without active manipulation, over time, repeating manipulations can begin to affect the direct physical appearance and change the slowly changing signal. It may naturally manipulate the outlook even if the person does not apply active manipulation. Another way of achieving this is a variety of aesthetic interventions, such as surgery or make-up. Deformities that formed over time on the face of the person can be eliminated with these interventions and the desired appearance can be obtained.

2.5.2. Perceiving Person-Based Overgeneralizations

Secord (1958) found that the humans perceive emotions temporarily reflected in the face of an individual, as a permanent personality trait. Secondly, when an individual concludes that a person's face looks similar to one of the existing categories in his mind, he assumes that the person carries all features about that category. Finally, some of the functional attributes of the face influence humans. For example, humans perceive someone wearing glasses as smarter (Secord, 1958). The findings of Secord (1958) then improved by Zebrowitz's (2011) and Zebrowitz & Montepare's (2008) studies (Leslie A. Zebrowitz, 2011; Leslie A. Zebrowitz & Montepare, 2008). Secord's (1958) facial identity overgeneralization hypothesis, confirmed by other studies later (Andersen & Baum, 1994; Andersen & Cole, 1990; S. Chen & Andersen, 1999). In the literature, four different overgeneralization hypotheses explain perceived face structure and their overgeneralization to traits. These are the facial identity overgeneralization

hypothesis, the baby-face overgeneralization hypothesis, the anomalous face overgeneralization hypothesis and the emotion face overgeneralization hypothesis. In addition to these four hypotheses, after 2007, the human facial width-height ratio (fWHR) also began to take place in the literature as another variable affecting perceptions and interpretations. These hypotheses and the misperceptions they lead to are explained in detail in the 3rd section (“Effect of Hosts’ Facial Traits and Facial Expressions on Travelers’ Preferences in Accommodation Sharing Services” titled section).

Although these perceptions are sometimes wrong, they provide a survival advantage. For example, it is safer to assume a healthy person as infected if it has some physical features which look similar to the infected people. Because erroneously approaching an infected individual increase the risk of being infected. From the evolutionary point of view, humans have faced problems throughout the history and neural networks in the mind came up with solutions to overcome these problems. These false perceptions are the by-products of the safest solutions (Leslie A. Zebrowitz & Montepare, 2006).

2.5.3. Context, Age, and Gender

Context is also important in the evaluation of the trustworthiness (Rule et al., 2013). The same individual can create a different perception in their pictures taken in different environments and conditions. For example, while creating an untrustworthy perception in the mug shot taken in the police station, it can create a trustworthy perception in a holiday picture. It has also been shown that an individual could even be perceived as different individuals from the different pictures of them (Burton & Jenkins, 2011; Jenkins, White, Van Montfort, & Mike Burton, 2011). In another example, Jenkins et al. (2011) showed that the variance of attractiveness between different pictures of the same individual is comparable to the variance of attractiveness between the same individual and pictures of the

other individuals (Jenkins et al., 2011). Similar findings were also found in perceived trustworthiness measures (A. T. Todorov & Porter, 2014). Todorov & Porter (2014) showed that the variance of an individual's perceived traits from different pictures can be higher than the variance of the perception created by the pictures of the same individual and the pictures of the others. This finding is valid, especially in the formation of the trustworthiness and the extroversion perceptions. The trustworthiness perception is not stable between the different pictures of the same individual.

The age has implications over perceptions, especially for trustworthiness. It has been found that trustworthiness evaluations changes with increasing age. In the face evaluations performed by the older individuals, it was found that they perceive the threatening faces and friendly faces more close to each other when compared with young respondents (Ruffman, Sullivan, & Edge, 2006). It has been found that faces with trustworthy features are perceived trustworthy equally by both the young and the old but faces with untrustworthy features are perceived more trustworthy and approachable by the older than the younger (Castle et al., 2012). Sutter & Kocher (2007) found that in a trust game involving various age groups, there is a certain sense of trust to others in all age groups. On the other hand, they found that with increasing age, sense of trust increases till the adulthood, but it doesn't increase anymore from that point (Sutter & Kocher, 2007). In the study of Bailey et al. (2015), it was seen that in economic trust games young and old participants preferred to invest in people with trustworthy looking pictures and a good reputation. On the other hand, it has been observed that older participants tend to invest more than the younger ones in people with an untrustworthy reputation (Bailey, Szczap, et al., 2015). Humans' capacity to perceive emotions from the human face is reduced with aging (Ruffman, Henry, Livingstone, & Phillips, 2008). Thus, the capacity to perceive aggressive and happy facial expressions, which form the two ends of the valence dimension, falls with the age. On the other hand, studies showed that it is not the only reason for the interpretation difference between young and old individuals. In fact, there are

some other studies confirming that older people and young people interpret faces in a similar way but allocate their attention to different points (Petrican et al., 2013). Whatever the cause and the source, it has been found in all studies that perception or interpretation changes with the age. The age of an individual also affects the perception of others about it. Both young people and older people perceive older people more trustworthy (Bailey, Slessor, et al., 2015).

There is also a connection between perceived trustworthiness and the gender of the perceiving person. Todorov et al. (2015) have found that when women's and men's perceptions compared, the faces with trustworthy features are perceived more positively by women. But in the perception of neutral and untrustworthy faces, no difference detected (Matarozzi, Todorov, Marzocchi, Vicari, & Russo, 2015).

2.6. THE PRACTICAL IMPLICATIONS OF INFORMATION OBTAINED FROM THE HUMAN FACE

In this thesis, it is proposed that the profile pictures of the hosts in the accommodation sharing platforms affect the perceived trustworthiness of hosts and preferences of the guests. In order to further strengthen this claim, several example studies are given below, which examine the effects of the information obtained from the human face in the daily life.

Lab experiments proved that people are influenced by their counterpart's attractiveness (R. K. Wilson & Eckel, 2006) and facial expressions (Scharlemann, Eckel, Kacelnik, & Wilson, 2001). It was observed that in the trust-based economy games, the information received from faces is valued by players (Ewing, Caulfield, Read, & Rhodes, 2015). In the study of Tingley (2014), it was seen that players entered in more intensive cooperation with the players who choose trustworthy looking avatars. It was also observed that players tend to select

trustworthy looking avatars to represent them. In this game where players did not have direct contact with each other, players tried to read intentions of the other players by avatars of them. In a more detailed analysis, it was found that there is a negative correlation between the perceived trustworthiness of avatar and the avatar's threatening appearance (Tingley, 2014). The motivation behind the trustworthiness evaluation is to protect ourselves. It was observed that, in strategic economic games, individuals are avoiding cooperation with the people that are perceived untrustworthy by their faces. The more trustworthy the face is perceived, the more prone humans to cooperate. In the study of Van't Wout & Sanfey (2008), it was found that the cooperation intensity with the other person changes in accordance with the perceived trustworthiness of his face in the trust game. The more trustworthy the face is perceived, the more prone humans to cooperate (van 't Wout & Sanfey, 2008). It was found in the studies in the field of economics that, the people with trustworthy facial features could find loans at more reasonable interest ratios (Duarte, Siegel, & Young, 2012, 2010). In addition, it appears that those who seem trustworthy have better credit scores in the banking system. In a sense, they behaved in the direction expected from them, and a self-fulfilling prophecy was realized (Duarte et al., 2012). A positive correlation between the hierarchical position of a manager and its perceived trustworthiness from the face was found (Linke, Saribay, & Kleisner, 2016).

The people who have an untrustworthy facial appearance are found guilty much more easily and confidently in court decisions (Porter, ten Brinke, & Gustaw, 2010). In a study based on criminals, when there is no information about the offender, it was found that people tend to decide by only looking at their appearance (Flowe & Humphries, 2011). In courts, the attractiveness and the baby-faces of the plaintiffs and the defendants impact the outcomes of the cases. Being attractive or baby-face increases the likelihood of getting favorable results from cases for both defendants and plaintiffs (Leslie A. Zebrowitz & McDonald, 1991). It was found that Afrocentric facial features affect the severity of court orders (Blair, Judd, & Chapleau, 2004). Beyond all this, a correlation between

perceived trustworthiness from faces, and executions in the Florida State in The United States was found (J. P. Wilson & Rule, 2015).

People are also making inferences about the political tendency of the others based solely on appearance (Olivola & Todorov, 2010b). Voters look at the politicians' appearance and decide accordingly (Olivola & Todorov, 2010a). The perceived competence of politicians from their faces is affecting their electoral success (Ballew & Todorov, 2007; A. Todorov, Mandisodza, Goren, & Hall, 2005). At wartime, voters prefer more dominant leaders, but they prefer leaders that look more feminine and intelligent during times of peace (Rhodes et al., 2011).

Graham et al. (2016), found that faces of CEOs are perceived as more competent. Even among CEOs, the faces of large-scale companies' CEOs were found to be perceived as more competent than small-scale firms' CEOs. On the other hand, a valid relationship could not be found between the perception they created by their faces about their competence, and their actual success (Graham, Harvey, & Puri, 2016). In another study, it has been observed that there is a correlation between the perceived leadership qualities of the CEOs from their faces and the profitability of their firms (Rule & Ambady, 2008). In a study that was based on female CEOs' pictures, it has been found that these pictures reflect the success of the companies they are managing and their personal success. It has been found that the dominance characteristics that was perceived from pictures of CEOs are related to their income (Rule & Ambady, 2009). It also has been found that the perceived trustworthiness of managers from their faces affects the amount of salary received (Fruhen, Watkins, & Jones, 2014).

As can be seen from all these examples, in the evaluation of the other people, their appearance takes the role (Olivola & Todorov, 2010b). In this thesis, it is proposed that the profile pictures on the accommodation sharing platforms have effects beyond proving who the profile owner is. The hosts' pictures in accommodation sharing platforms have effects in similar to the brand name in

B2C markets and can influence the guests' behaviors and decisions (Fitzsimons, Chartrand, & Fitzsimons, 2008). For instance, in the study that was done by Edelman & Luca (2014) in New York City by using Airbnb listings provides supporting evidence that personal pictures might facilitate racial discrimination (Edelman & Luca, 2014).

2.7. SECTION SUMMARY

To summarize, humans use the face of others as a source of information and face-to-trait inferences are intuitive and automatic (Engell et al., 2007; A. Todorov et al., 2009). Two main dimensions identified in the evaluation of the others by using their face as an information source. Todorov et al. (2008) defined these dimensions as valence and dominance. The valence dimension is the dimension which humans evaluate the intention of others. The trustworthiness evaluation of the others is one of the sub-dimensions of it.

The perception of trustworthiness is established within a period of 33ms that conscious part of the human mind cannot perceive (A. Todorov et al., 2009). Therefore, the neural structures that evaluate trustworthiness are not under the control of individuals. Before the slow functioning logical side of the human mind, the fast and unconscious side completes the evaluation of the perceived trustworthiness of a stranger and begins to guide behaviors (Kahneman, 2011).

The human face transmits information in three separate ways and the information transmitted from the human face is based on the three different sources. The information sources classified as: universal (emotional and facial width height ratio), cultural (belonging to a certain social category) and idiosyncratic (similarity to another person) (A. Todorov et al., 2014). Information transmission methods were defined by Ekman & Friesen (2003) based on the speed of change. These are: (i) static, (ii) slowly changing and (iii) rapidly changing.

Todorov et al. (2013) found that emotions, which are the sub-division of the rapidly changing signals, shape the trustworthiness perception. According to their research results, happy looking faces are perceived as trustworthy, while angry looking faces are perceived as untrustworthy (A. Todorov et al., 2013). The intention and its reflections on the face convey the signal of trustworthiness or untrustworthiness to the others. Therefore, at the polarized ends of the valence dimension, there is a happy face on one end and an angry face on the other end.

On the other hand, the information obtained from the human face sometimes can be misleading. There are several reasons for this misleading. These are perceived person-based illusions, perceiving person-based overgeneralizations, context, age, and gender.

Perceived person-based illusions are caused from the appearance of the person being assessed. Humans' environment, biology, psychology, and appearance are all in mutual interaction and can change each other and affect the perception of the other people (Leslie A. Zebrowitz, 1997). These changes can sometimes be misleading. For instance, a trustworthy looking person could actually be untrustworthy (self-defeating prophecy) or an untrustworthy looking person could actually be trustworthy (Dorian grey effect). Therefore, the information obtained from the human face might not give accurate information about the person.

Perceiving person-based overgeneralizations are the facial identity overgeneralization hypothesis, the baby-face overgeneralization hypothesis, the anomalous face overgeneralization hypothesis and the emotion face overgeneralization hypothesis. In addition to these four hypotheses, after 2007, the human facial width-height ratio (fWHR) began to take place in the literature as another variable affecting perceptions and interpretations.

Although the sharing economy is for letting individuals access resources more

easily or freely, it is thought that human perception in the accommodation sharing is creating some obstacles among users. The profile pictures uploaded when using these systems and the personality traits that are perceived from these pictures are one of these obstacles. For example, someone who does not seem honest but who is honest in reality (artifice effect) will not be able to take up as much as he or she desires in this model. In essence, this situation is not different from the situation of the unemployed masses that are excluded from the current economic system. In this thesis, it is tried to clarify this subject. Hence, perceiving person-based overgeneralizations constitutes the main scope of this thesis.



EFFECT OF HOSTS' FACIAL TRAITS AND EXPRESSIONS ON TRAVELERS' PREFERENCES IN ACCOMMODATION SHARING SERVICES

As mentioned, in the literature, four different overgeneralization hypotheses explain the perceiving person based illusions. These are the facial identity overgeneralization hypothesis, the baby-face overgeneralization hypothesis, the anomalous face overgeneralization hypothesis and the emotion face overgeneralization hypothesis. In addition to these four hypotheses, after 2007, the human facial width-height ratio (fWHR) also began to take place in the literature as another variable affecting perceptions and interpretations. Out of these four hypotheses and fWHR, the emotion face overgeneralization hypothesis and fWHR form the basis of this thesis.

3.1. THE BABY-FACE OVERGENERALIZATION HYPOTHESIS

The evolutionary development of responding appropriately to babies created a tendency to approach in the same way to those whose faces merely resemble babies (Leslie A Zebrowitz, 2004). This tendency is explained by the baby-face overgeneralization hypothesis. Baby traits such as physical weakness, obedience and naiveté are mirrored to the baby-faced adults (Leslie a Zebrowitz, Fellous, Mignault, & Andreoletti, 2003). These people are perceived as warmer in social terms than those with more mature facial features (McArthur & Apatow, 1984). It leads to the perception that the baby-faced person is less powerful, less intelligent and more dependent. The baby-faced people are also perceived as less threatening and more loving. Adults possessing these baby features lead to the care of other adults and the suppression of some aggressive reactions. This applies to both women and men.

The common facial features that create the baby-face outlook are large eyes,

rounded facial features, fine eyebrows and a small nose (Leslie A. Zebrowitz & Montepare, 1992). On the other hand, only the eye size and the jaw width could describe 57% of the baby-face perception (Diane S. Berry & McArthur, 1985). The facial traits of a mature face are thin lips, a broad nose, large facial features, and a large bottom face (Mitteroecker, Windhager, Müller, & Schaefer, 2015). The facial features of babies are perceived in women more strongly, while the masculine facial features are perceived more strongly in men (Rhodes et al., 2011).

Extremely obedient faces resemble the face of a baby or a woman. Extremely dominant faces seem masculine and mature (A. Todorov et al., 2008). People who appear masculine are perceived as dominant (Rhodes et al., 2011). As explained previously, facial maturity effects the evaluation of the dominance dimension. A masculine face on one end and a baby-face on the other end form the two poles of the dominance dimension.

It has been found that having a baby-face has a similar effect on both females and males. On the other hand, it increases attractiveness in women, while decreases attractiveness in men (McArthur & Apatow, 1984). The baby-face facial features are independent of the person's age and are effective throughout the life of the person. The baby-face also affects perceived trustworthiness (Diane S. Berry & McArthur, 1985) and there is a positive correlation between the baby-face and the perceived trustworthiness of the individual (Leslie A. Zebrowitz & Montepare, 1992). Todorov and Dotsch (2012) found that trustworthy perceived faces are small, smiling and have open eyes (R. Dotsch & Todorov, 2012). In addition, large eyes affect perceived trustworthiness in a positive way (Leslie A. Zebrowitz et al., 1996). A small face and open/large eyes are all baby-face facial features. It can be interpreted that the effect of the baby-face on perceived trustworthiness is, in fact, originated in the perceived ability to apply the intention. Hence, there is an indirect effect on the perceived trustworthiness. On the other hand, the effect of the baby-face on trustworthiness is excluded from the scope of this thesis.

The baby-face facial features have some effects in daily life. For example; positive discrimination is being made for women due to baby-face facial traits of them (Rhodes et al., 2011). Candidates with baby-face facial features are preferred as a teacher more than others (Leslie A. Zebrowitz, Tenenbaum, & Goldstein, 1991). In a long-run study using pictures of military students, the perceived dominance of the faces was found to influence the promotion of these students towards the end of their career life (20 years of tenure and more) (Mueller & Mazur, 1996). Statements of baby-faced CEOs are perceived more trustworthy (Gorn, Jiang, & Venkataramani Johar, 2008). In the study of the credibility of speakers, it was found that baby-faced speakers are perceived more trustworthy. On the other hand, the masculine ones perceived as more trustworthy as an expert (Brownlow, 1992). In other words, those who have a baby-face are perceived as well-intentioned, but not an expert. It was observed that societies under socially and economically harsh conditions are heading for more masculine leaders, and in comfortable periods they are inclined to vote more to the baby-faced leaders. In general, there is a tendency in all societies to vote for more masculine candidates in the leadership race (Leslie A. Zebrowitz & Montepare, 2005). In the courts, the effect of being baby-faced on the outcome of the cases was also found. The possibility of founding guilty from the negligence cases is high, while in other types of cases, being baby-faced is an advantage (Leslie A. Zebrowitz & McDonald, 1991). Baby-faced people are perceived as less responsible but well-intentioned. Children with adult facial traits are expected to perform beyond their age level (D. S. Berry & McArthur, 1986). In the study with teens it was found that, contrary to the general assumption, baby-faced teenagers had higher academic achievement than their peers with mature facial features (L a Zebrowitz, Andreoletti, Collins, Lee, & Blumenthal, 1998).

It can be said that the perceptions created by being baby-faced have effects in daily life but as mentioned; the effect of baby-face facial traits on perceived trustworthiness is excluded from the scope of this thesis.

3.2. THE FACIAL IDENTITY OVERGENERALIZATION HYPOTHESIS

Humans lived in groups that include no more than 100 members for a long time as hunter-gatherers. For instance, in Marlowe's (2010) ethnographic research about The Hadza people, who live as hunter-gatherer currently, mean group size was found as 30 and median group size was found as 26. By the agricultural age, this began to change. Group member quantities began to reach beyond 150 people. In today's conditions individuals are in communication with far more people than this. On the other hand, neocortex in the human brain, which manages social relations, has limited capacity. Because of that reason humans have maximum meaningful relationship quantity limit (Dunbar, 1992). Dunbar & Hill's (2003) research about social network size in humans revealed that humans could keep meaningful relationships with 153.5 people. Confidence limit was calculated as 100 to 230 people (R. a Hill & Dunbar, 2003). At another research, average meaningful relationship quantity has been calculated as 134 by Killworth et.al. (1984) (Killworth, Bernard, & McCarthy, 1984).

The evolutionary process developed some solutions to overcome the problems that occur due to the limited capacity in human relations. The main problem is the development of an attitude towards the unknown people. The solution that the evolutionary process finds is to take reference from the past. Accordingly, stereotypes that are established in the mind about a face type are reflected in those who have facial features that resemble this face type. The hypothesis about this subject is called The Facial Identity Overgeneralization Hypothesis. For example, in the study of Todorov & Verosky (2010), the face pictures of the people, which were assigned positive, negative and neutral characteristics randomly, were shown to participants and the participants were also informed about the character of each picture. Later, a new group of the face was generated by using original faces as a base and the participants were asked to evaluate these faces. According to the results, the derived faces were perceived as positive, negative, and neutral in parallel with the characteristics of the base faces (S. C. Verosky & Todorov, 2010).

In other words, stereotypes for the base faces affected the way participants perceive derived faces. Additionally, Verosky & Todorov's (2013) study also resulted in similar findings (Sara C. Verosky & Todorov, 2013).

Humans get positive or negative impressions of everyone they know. This causes social categorization in their minds (Andersen & Cole, 1990). About a person just met, due to less information, humans load greater weight and meaning to the information gained from the face of that person (Hassin & Trope, 2000). In the course of assessments of a person just met, if the person's face is similar to the faces belonging to one of the existing social categories in mind, he is treated as if it is the member of that category. The perceptions that are formed by the face of a person increase the confidence of others about their decisions of that person (Hassin & Trope, 2000). Humans are self-confident about the social categorization, and reflection of it to someone that they do not know. If the evaluated person physically resembles a known person or a category that has a favorable impression, this often leads to the false-positive errors. For example, DeBruine (2002) found that people are more likely to trust others who resemble themselves (Lisa M. DeBruine, 2002). Similar results found in the study of Farmer et al. (2014) (Farmer, McKay, & Tsakiris, 2014). Even in political elections, it has been found that humans prefer to vote for candidates that look similar to themselves (Bailenson, Iyengar, Yee, & Collins, 2008). The facial similarity of two individuals increases trust between them but decreases attractiveness (L. M. DeBruine, 2005). In order to prevent the emergence of genetic diseases that have recessive genes, physical similarity reduces the attractiveness. On the other hand, physical similarity increases the trustworthiness because they are perceived to be close acquaintances or relatives.

Even a coincidental situation, can cause a person-to-trait matching in humans. Once it emerges, even though there is no supporting evidence, the link in mind becomes stronger over time (T. Hill, Lewicki, Czyzewska, & Schuller, 1990). Humans are more open to the information that supports prejudices formed in their

mind and hardly notice the information that is against it (Snyder et al., 1977). That is, a prejudice nourishes itself after it is formed. Negative information causes more inferences than positive ones. This is interpreted as a result of the fact that, the cost of missing detection of a negative situation is higher than that of a positive situation (Falvello, Vinson, Ferrari, & Todorov, 2015). For example, it has been found that people remember the faces of men who betray them better than the others (Oda, 1997). As another example, it has been found that the humans can memorize the angry faces better than the other faces (Rhodes et al., 2011).

There is also a correlation between personality and facial appearance. Humans tend to perceive faces of two people as similar when they have similar personality traits (Hassin & Trope, 2000). Similarly, if their faces are similar their personalities also begin to be perceived as similar.

Despite the meaningful relationship quantity limit, studies showed that humans' memory, which keeps the human faces, is quite powerful (Bahrick et al., 1975). Even after 15 years from graduation, the members of classrooms with many students can match their classmates' names and pictures with 90% accuracy. The working method of the memory that keeps human faces resembles the backup logic of computers. Accordingly, there is one norm face for each category. In the memorizing process, only the deviations from these norm faces are recorded for each face (Rhodes et al., 2011). This practical solution found in the evolutionary process reduces need for the mental capacity.

On the other hand, humans are poor at distinguishing the faces of the people they do not know. It is a challenging task to match two different pictures of the same person if they do not know the person. Even with the pictures that are taken on perfect conditions, in picture matching task they make mistakes approximately 25% of the pairings. However, humans feel confident in recognizing the faces. Because humans are really successful at distinguishing the faces of people they already know, and they believe that their performance is the same for the people

they do not know (Burton & Jenkins, 2011).

There are also differences in facial structures between races. People can easily determine whether an individual is of their own race or not (Rhodes et al., 2011). Even if they do not know that an individual is of their own race, the face still looks familiar to them (Leslie A Zebrowitz, Bronstad, & Lee, 2007). People perceive the faces of the members of their own race more holistic and remember better. Faces of the in-group members elicit favorable impressions (Ratner, Dotsch, Wigboldus, van Knippenberg, & Amodio, 2014). On the other hand, humans, tend to approach negatively to the foreign races. Seeing the faces of people from a different race, and acquiring familiarity cause a positive approach to the race (Leslie A. Zebrowitz, White, & Wieneke, 2008; Leslie A Zebrowitz et al., 2007). Gaining familiarity is to learn faces in a sense. Variation locations and their deviations on faces differ for each race. For example, for some races variability of jaws could be high while for others eye circumference variation could be high. Therefore, members of different races concentrate more intensely at distinct parts on the face of the others in accordance with the variable parts of their own race. For example, Africans and Caucasians, use different facial features when describing faces of their own race (Rhodes et al., 2011). So, in these two societies, the diagnostic variables of the face differ. This is also the reason for perceiving the faces of foreign race members similar. People tend to look at the most variant parts in faces of others, and these parts are determined by reference to their own race. People also concentrate the same variable parts when looking at the faces of people from foreign races. Since these parts show less variance in the other race, members of the other race are perceived similar.

The interest and the occupation of the person also influence the holistic perception capacity. For example, it has been found that teachers perceive the faces of children more holistically (Rhodes et al., 2011). On the other hand, it was observed that the teachers have lower holistic perception capacities for adult faces. Humans have a limited capacity for holistic perception. When this limited

capacity is directed to a category, capacity in other categories is lowered.

Humans, tend not to pay attention to the faces of the people they find unrelated to themselves (Rhodes et al., 2011). For example, people tend not to process the face of a cashier in a shop, but even if they see the face of the new dean once, they do not forget. People tend to process the faces of the powerful people more carefully. The same distinction is also valid among socioeconomic status classes. People from a high socioeconomic status do not process stimuli from lower-level social class, but they process data which comes from their own social class members.

It is obvious that the facial identity has effects on perceived trustworthiness of others in a certain condition. This condition is the similarity of an individual to a category or another individual. As explained, in the course of assessments of a person just met, if the person's face is similar to the faces belonging to one of the existing social categories in mind, he is treated as if it is the member of that category. For instance, if he / she look like a member of a trustworthy perceived category, he / she will be perceived as trustworthy too. On the other hand, the effect of facial identity overgeneralization hypothesis on perceived trustworthiness is excluded from the scope of this thesis.

3.3. THE ANOMALOUS FACE OVERGENERALIZATION HYPOTHESIS

Disease-avoidance is one of the basic protection mechanisms of the humans. Many diseases and dysfunctions cause some physical defects on the people with it. Humans are trying to identify these individuals from the appearance and stay away from them to protect themselves from diseases (Kurzban & Leary, 2001). It shows itself as a feeling of disgust (Neuberg et al., 2011). On the other hand, the disease prevention mechanism is over-inclusive. Humans tend to perceive a person as sick by taking the slightest clues as serious (Park, Faulkner, & Schaller, 2003). It sometimes erroneously causes to define some healthy people as diseased. This is even seen against those that are amputated due to the non-disease causes.

The human face is used as one of the most important medium for disease and genetic quality detection for humans. Genetic and environmental stress creates deviations in face and body and these two indicators are seen as a sign of normal development (R Thornhill & Møller, 1997). Every person is exposed to various stress factors. These stress factors influence the protein synthesis in the body. This causes some changes in the human face such as deviations from the community average, asymmetries, or sometimes deformations. These deviations and anomalies are more common in individuals who have nonresistant genes. People who have an anomaly or asymmetry in their face, and/or who have a physical appearance that resemble the people with a certain disease, perceived as if they have the disease (Leslie & Zebrowitz et al., 2003).

The desire to be protected from the disease also affects partner choices and attractiveness perceptions. Individuals prefer to be with those, who have resistant genes because genes of the partner pass to the child and affect the health of it. The aim here is to have offspring with strong and resistant genes against stress factors such as disease, parasites, genetic origin, and exterior origin (e.g. difficult climate conditions). The human mind does not actually measure attractiveness, it tries to detect anomalies (Leslie & Zebrowitz et al., 2003). The main purpose is not to find

the most attractive individual but to avoid individuals with the nonresistant genes. For example, Gangestad & Buss (1993) examined 29 different cultures and found that individuals who live in geographical areas where pathogens are more prevalent are attributed more importance to the attractiveness of partners than other areas (Gangestad & Buss, 1993). Instead of taking the risk of accepting someone who has nonresistant genes as a partner, humans tend to reject everyone else whose genes actually resistant but their face looks mildly anomalous. This tendency is expressed as the anomalous face overgeneralization hypothesis. Humans, tend to reject unattractive people without really questioning their genetic quality. The hypothesis forms by the combination of the bad genes hypothesis, and the good genes hypothesis. According to the bad genes hypothesis, unattractive faces signals low-fitness and low mate quality (L. A. Zebrowitz, Hall, Murphy, & Rhodes, 2002). The good genes hypothesis reaches the same point in a different way and proposes that an attractive face signals high mate quality (Grammer & Thornhill, 1994). Attractiveness explains genetic quality significantly mainly from intelligence and health aspects between unattractive individuals and those in the middle level. On the other hand, it cannot explain any genetic quality difference between the individuals with an average attractiveness value and individuals with a high attractiveness value, because no genetic quality difference could be detected between these two groups (Leslie A. Zebrowitz & Rhodes, 2004).

The attractiveness perception is universal; it is similar in almost every society. An individual who is perceived as attractive by a society is perceived as attractive by the others too (Randy Thornhill & Gangestad, 1999). There is a general similarity and cross-cultural agreement among different cultures about the attractiveness perception (Coetzee, Greeff, Stephen, & Perrett, 2014; J H Langlois et al., 2000). But it is not exactly same, just like the accents of a language between individuals and societies in different geographic areas, there are slight differences.

Thornhill & Gangestad (1999a) summarized three major factors that determine attractiveness perception from the human face in their study. These are (1) facial

symmetry, (2) proximity to the average of society, and (3) secondary gender characteristics (Randy Thornhill & Gangestad, 1999). Symmetrical, close to the average, and secondary sex characteristics dominant faces are perceived as more attractive.

In Marlowe's (2010) study that was done with Hadza people, it has been identified that the faces closest to the society's average were perceived more attractive and were preferred more. Marlowe created two different types of faces for each gender. The first group of faces has been created by merging five different males' faces and five different females' faces for each gender. The second group of faces was the composite of twenty faces. The composites of 20 faces were more close to the average of Hadza society than the composites of 5 faces. The composites of 20 and the composites of 5 faces were shown to respondents from the opposite gender and were asked to choose one of them. Respondents from both genders significantly preferred the composites of 20 faces. In other words, individuals tend to choose faces which are closer to the average. The interest of people to the faces closest to the society's average has been named as "Koinophilia" (koinos: ordinary, philos: love of) by Johan Koeslag and Peter Koeslag (1994) (Koeslag & Koeslag, 1994). They explained this tendency as avoidance of the mutations. Most of the mutations are useless or in the worst scenario are harmful. Therefore, avoiding mutations is beneficial. At this point, the human face functions as a measure of the proximity of the genes of the person to the community average. An atypical face indicates that the genes deviate from the average. For this reason, the person with an atypical face is perceived as unattractive. On the other hand, Rhodes et al. (2003) showed in their study that humans' perception of attractiveness can be manipulated. Exposure to an atypical face, even for a short period of time, changes features of the norm face in the mind to the atypical facial features direction, and the individual begins to perceive the faces that look similar to the atypical face as more attractive (Rhodes, Jeffery, Watson, Clifford, & Nakayama, 2003). The norm face in the human mind forms by combining all the faces seen. Perceived attractiveness of an individual depends on his face's

closeness to the norm face in the mind of the perceiving person. Looking at a new face provides a new input, and the norm face in the mind reconstitutes in accordance with it. For this reason, people begin to find a person more attractive, when they are exposed to his face more. This also explains the positive approach to the individuals in the same community (Leslie A. Zebrowitz et al., 2008; Leslie A Zebrowitz et al., 2007). Since the faces of the individuals in the same society form the norm faces in minds, members of a community seem more attractive than the members of another community to the community members.

Important facial variables in the secondary sex characteristics are the size of the jaw for men, and salient cheekbones, small jaw, small nose and plump lips for women (Rhodes et al., 2011). Skin color is also a secondary sex characteristic. It has been found that there is a positive correlation between the darkness of the skin color and attractiveness of men (Carrito et al., 2016). This finding has also been confirmed in other studies (Fink, Grammer, & Thornhill, 2001). A similar relationship has been found between female attractiveness and redness of the face. As the face of women becomes reddish, it starts to be perceived more attractive (Pazda, Thorstenson, Elliot, & Perrett, 2016). The red face is perceived as a proof of being healthy in women and is perceived more attractive. It is also the reason why women use red lipstick and blush when they do makeup. Skin smoothness increases perceived attractiveness both in women and men (Tsankova & Kappas, 2015). For women, having a feminine face always increases attractiveness. For men, having a masculine face always increases attractiveness, but sometimes having a feminine face can also increase attractiveness. The reason is that the masculine look mostly perceived as cold and untrustworthy. On the other hand, feminine faces are mostly perceived as trustworthy. Thus, it becomes more attractive with increased trustworthiness.

An attractive person's attractiveness further increases with smile and eye contact. The reason is the wish of interest from attractive people (Rhodes et al., 2011). Even if people do not consciously think so, smile and eye contact are perceived as

an interest, by the mind.

Humans evaluate the attractiveness very quickly and instinctively without using the conscious side of their mind (Olson & Marshuetz, 2005). Humans can evaluate the attractiveness even when the face of the other person is masked or seen fairly briefly. Even when the subjects said that they could not see the faces, the attractiveness score they gave to the faces were parallel to the attractiveness scores that were previously given without the time limit applied. Even though the conscious part of the mind cannot see faces, the attractiveness evaluation can be done correctly by the subconscious part (Olson & Marshuetz, 2005).

People perceive attractive individuals positively. This is defined as attractiveness halo effect (Rhodes et al., 2011). For example, attractive people are perceived as smart (L. A. Zebrowitz et al., 2002), healthy (L. A. Zebrowitz et al., 2002), social, mentally healthy (Feingold, 1992), warm, courteous, responsible (Diane S. Berry & McArthur, 1985) and honest (Leslie A. Zebrowitz et al., 1996). The perceived personality of an individual affects the perceived attractiveness of it too. A person with a good personality can be perceived as attractive because of it (Rhodes et al., 2011). On the other hand, the effect of attractiveness on the perceived personality overcomes the effect of the perceived personality on the perceived attractiveness, of the person. Even if the other person is already known, its attractiveness still continues to influence (J H Langlois et al., 2000).

Attractive people are treated positively by the others. Even parents tend to be more interested in the most attractive child among others. For instance; it was observed that attractive children receive more support from their instructors and they keep going their education into the much more advanced stages than the others (Judge, Hurst, & Simon, 2009). By this expectation and support, attractive people develop a personality into the direction of meeting the expectations (J H Langlois et al., 2000). With the other words, a self-fulfilling prophecy occurs.

According to Dion et al.'s (1972) study, attractive individuals are more desirable in society, considered to have better jobs, more likely to be married, perceived as more adequate for marriage, and thought that they are happy. However, they are thought to be inadequate as a parent. Accordingly, attractive individuals are perceived as more competent and advantageous in every sense except being parents (Dion, Berscheid, & Walster, 1972). Humans tend to approach attractive people, while tend to avoid from unattractive ones. Depending on the attractiveness, humans have these approach or avoidance tendency even against babies (Rhodes et al., 2011). Children tend to play with attractive people (Rhodes et al., 2011). Additionally, it has been found that babies prefer attractive faced adults (Judith H. Langlois, Ritter, Roggman, & Vaughn, 1991; Judith H. Langlois, Roggman, Casey, Ritter, & Rieser-Danner, 1987). This tendency is also observed between the babies (Van Duuren, Kendell-Scott, & Stark, 2003). Therefore, attractiveness evaluation ability is transmitted genetically, not culturally learned.

Attractiveness has effects in business life, in the world of academia, and even on court decisions. In a longitudinal study, it has been observed that physical attractiveness, intelligence level, and personality affects income level and the possibility of financial difficulties (Judge et al., 2009). A positive correlation found between attractiveness and income in business life. Additionally, it has been found that the income gap between the unattractive and the average-looking individuals is greater than the income gap between the average-looking and attractive people (Hamermesh & Biddle, 1994). Attractive people are more likely to get positive results from the court decisions (Leslie A. Zebrowitz & McDonald, 1991). Experiments showed that attractive people are more self-confident, they are perceived more competently by the employers in the experimental setting, and that their speaking skills are also good, and that they are able to get higher wages for all these reasons (Mobius & Rosenblat, 2006). Attractive people are perceived as contributing more than the others in the organizations despite the equal level of contribution (Andreoni & Petrie, 2008). In the ultimatum game experiment that was conducted by Solnick & Schweitzer (1999), it has been observed that higher

amounts of bids were offered to the attractive people. In other words, there is a beauty premium (Solnick & Schweitzer, 1999). Today, scholars are seen more in public disclosures. Social media, the development of the Internet, TED talks, etc. are also factors that increase this situation. It has been found that attractive scholars are grabbing the attention of the public more (Gheorghiu, Callan, & Skylark, 2017).

There is also a positive priming effect of attractive faces (Olson & Marshuetz, 2005). A positive mood emerges in those who saw an attractive face. This effect is not seen in the pictures of unattractive faces, attractive-looking objects (e.g. home and cars) and also in the upside-down pictures of attractive faces. A priming effect occurs only in attractive faces that are seen in the vertical form. As mentioned earlier, the human mind cannot interpret the faces that are upside-down. The reward center in the brain becomes active when an attractive person is seen. On the other hand, the face of unattractive people activates the center of pain in the brain (Rhodes et al., 2011).

One of the factors affecting perceived trustworthiness is attractiveness (Diane S. Berry & McArthur, 1985). It has been observed that people trusted the attractive people more (R. K. Wilson & Eckel, 2006). In the study with Caucasian and Chinese participants, it has been found that the face variables used in assessing the trustworthiness of the others are similar to the face variables used in assessing attractiveness (Xu et al., 2012). It would not be wrong to say that one of the sources of positive correlation between attractiveness and trustworthiness is the use of similar variables from the human face in the evaluation of both. Todorov et al. (2015) have explored this halo effect in depth. They used the female faces and reached similar but somewhat different results. It has been found that the sense of trust and attractiveness increases from the unattractive to the average looking face. At the average looking face, the sense of trust reaches the peak, while the attractiveness continues to increase after that point. Trustworthiness falls from the average looking face to the attractive face. The closeness of the face to the

community average increases the perceived trustworthiness to the peak point, while it can only increase attractiveness in a certain amount (Sofer, Dotsch, Wigboldus, & Todorov, 2015). In a cross-cultural study, it has been found that average faces are generally perceived as trustworthy. On the other hand, the variables that define averageness of a face might differ between cultures (Sofer et al., 2017). On the other hand, attractiveness becomes effective along with the averageness, when individuals evaluate the trustworthiness of a person from a different culture. In the study of Todorov et al. (2017), it has been found that any face can be placed at a suitable point in a statistical distribution of the faces acquired from the environment. The faces which deviated more in this distribution are perceived as negative. A face is evaluated more positively when its position in the distribution is close to the central tendency (Ron Dotsch, Hassin, & Todorov, 2017).

The attractiveness variability between different pictures of the same individual can be greater than the attractiveness variability of the pictures of different individuals. In addition to that, the same individual can be perceived as a different person in different pictures (Jenkins et al., 2011). This creates the possibility of, the same individual can be perceived as trustworthy at different levels from different pictures. Therefore, perceived trustworthiness of a person from the pictures is in fact inconsistent.

As explained, attractiveness has effects on perceived trustworthiness. Attractive individuals are perceived as more trustworthy. On the other hand the effect of attractiveness on perceived trustworthiness is excluded from the scope of this thesis.

3.4. THE EMOTION FACE OVERGENERALIZATION HYPOTHESIS

Studies about monkeys showed that facial muscles are more developed in species that use intense social coordination (Andrew, 1965). From the evolutionary point of view, facial emotional expressions are beneficial to the community. Even five-month-old infants were found to respond to emotions that were expressed in the faces of people they did not know (Balaban, 1995). It is an effective means of communication for organizing social relations. For this reason, emotional expressions of a person have an impact on the others. They convey the intents along with the feelings. Humans perceive the temporarily expressed emotions as the general personality. This tendency was defined as the emotion face overgeneralization hypothesis (A. Todorov, 2008).

It has been found that humans express six basic emotions through their face. These emotions are; sadness, anger, surprise, happiness, disgust, and fear (Paul Ekman & Friesen, 2003; Paul Ekman & Oster, 1979). On the other hand, only four fundamental emotional expressions were found to be expressed on the human face. The expressions of the two pairs of emotions are deriving from the same expression. These expression pairs are disgust-anger and fear-surprise. More specifically, disgust and anger are the derivatives of the same expression. The same thing is valid for the fear and the surprise expressions. Expression of emotions from the human face is a dynamic process, and at the beginning of the process these two emotion groups start with the same expression and separate from each other later (Jack, Garrod, & Schyns, 2014). On the other hand, this does not apply to happiness and sadness expressions. These two emotions' expressions absolutely differ from others. The human mind created filter mechanisms during the evolutionary process to separate expressions of and also decoding of these emotions from each other. This neural mechanism increases accuracy and quality of the signal received from faces of the others (M. L. Smith, Cottrell, Gosselin, & Schyns, 2005).

The emotions are expressed via corresponding shape changes in the face that are created by the movement of the facial muscles. It has been found that angular and diagonal geometric shapes create negative emotions and more oval soft curvilinear shapes create more positive emotions (Aronoff, Barclay, & Stevenson, 1988). Bassili (1979) found that pushing the forehead downward and pressurizing the mouth into itself creates the expression of anger. The happiness is expressed by lifting the two sides of mouth up to the cheeks (Bassili, 1979). Marsh et al. (2005) found that the fear expression is originated from baby-face, and the anger expression is originated from the adult face (Marsh, Adams, & Kleck, 2005). In other words, the fear expression makes the face look more like a baby, while the expression of anger makes it look more like an adult. Later in the study that was done by Sacco & Hugenberg (2009), Marsh et al.'s (2005) results were re-confirmed by adding various additional facial features affecting perception (Sacco & Hugenberg, 2009). Accordingly, having large eyes strengthens the perception of the fear expression, and having small eyes strengthens the perception of the anger expression. The most detailed study on this subject was carried out by Ekman & Friesen (1977) to determine which facial muscles and their movements create the emotional expressions. Facial muscles and movements were coded in this study and they gave Facial Action Coding System (FACS) name to this coding (Paul Ekman & Friesen, 1977). In FACS, for each facial emotional expression, the muscles and their movements have been identified in detail. Many studies about the emotional expressions were based on FACS.

The emotional expressions were divided into three subtypes. These are: spontaneous, simulated and gestural (P Ekman, Hager, & Friesen, 1981). Naturally occurring and expressed emotions are called spontaneous. The emotional expressions imitated without a real feeling are called simulated. For example, someone's courtesy smile is a kind of simulated emotion. The emotional expressions imitated without trying to convince the other person is called gestural. Spontaneously expressed emotions are more symmetrically expressed than the simulated and gestural ones. Asymmetry is especially seen in the smile. It is more

apparent on the left side of the face. The smile looks more symmetrical when it is spontaneous.

The emotional expressions are universal (Paul Ekman & Friesen, 1971). They are expressed in almost all societies in a similar way. Even among people who speak different languages and come from distinct cultures, emotional expressions are a means of communication. Only in some societies, cultural interventions affected expressions. Just as it is in the spoken languages, the emotional expressions also have some accents (Rhodes et al., 2011). On the other hand, in some studies, it has been found that emotional expressions are not universal (Crivelli, Jarillo, Russell, & Fernández-Dols, 2016; Gendron, Roberson, van der Vyver, & Barrett, 2014; Jack, Garrod, Yu, Caldara, & Schyns, 2012). Against these findings in another study conducted by Ekman (2016), it has been found that there was a consensus of 88% among the scholars, who have studied the human face, about the universality of the emotional expressions (Paul Ekman, 2016). Ershadi et al.'s (2017) study that conducted with participants from different cultures supported the findings of Ekman (2016) about the universality of the emotional expressions (Ershadi, Goldstein, Pochedly, & Russell, 2017). Consequently, the emotions are expressed and interpreted similarly by people from different cultural backgrounds.

Humans do not pay the same level of attention to every emotional expression, and are more sensitive to negative information (Fazio, 2001). For example; sad or angry faces grab attention more than happy faces. Humans detect aggressive looking faces more quickly due to the "threat superiority effect" (Rhodes et al., 2011). It has been found that humans could memorize angry looking faces of other people better than the faces with other emotional expressions (Rhodes et al., 2011). In nature, sometimes the cost of being unable to detect anger of a physically strong person would be greater than the cost of taking an unnecessary action due to the mistakenly perceived as angry. Prior to physical aggression, an anger expression would be seen on the person. Hence, people with an angry appearance attract humans' attention more quickly because there is always the

possibility of creating a life-threatening danger of physical violence. Since males are more inclined to violence, people are more sensitive to the expression of anger on the male face than the female face (Neuberg et al., 2011). The human brain has evolved to detect the anger that is expressed in the faces of the people near, especially in the faces of those who are physically strong. Humans examine the faces of the strong people more carefully than the weak ones (Rhodes et al., 2011). This is another reason the anger in the male faces attracts more attention than the female faces. Williams & Mattingley (2006) found that males detect angry looking male faces significantly more quickly than females (Williams & Mattingley, 2006). By this result, it could be said that the interpretation of the emotional expression and the gender of the person are not independent of each other.

Becker et al. (2007) reached the findings listed below in their study (Becker, Kenrick, Neuberg, Blackwell, & Smith, 2007).

- In the study which participants spontaneously created angry and happy looking mental images that, angry faces were mostly imagined as male faces, while happy faces were mostly imagined as female faces.
- In the quick pairing study, participants tended to match the "angry" adjective with the male faces. On the other hand "happy" adjective was matched mostly with the female faces.
- The angry male faces and the happy female faces detected much faster and precisely by participants.
- Neutral looking male faces were defined as angry more often than neutral looking female faces.
- Neutral looking male faces were defined as happy less often than neutral looking female faces.
- It has been found that, when a face manipulated to make its outlook more masculine, it also starts to look angrier. A similar relationship also exists between femininity and the happy look. When a face manipulated to make its outlook more feminine, it starts to look happier at the same time.

Neutral looking women faces are more likely to be perceived as surprised by people (Leslie a Zebrowitz, Kikuchi, & Fellous, 2010). In fact, the mental mechanisms that perceive gender and the emotional expressions are independent of each other (Le Gal & Bruce, 2002). Emotional expression and gender-based perception differences stem from stereotypes. Because of these findings, for this thesis, it was decided to use only male faces in the research.

The perceived intensity of the emotional expressions changes according to the attributes of the person who expresses it. Especially the gender and the ethnic identity are effective (Hess et al., 2000). For example, if the facial expression of the person overlaps with the stereotypes about that person's race, the facial expression is perceived more strongly by the others (Rhodes et al., 2011). For instance, Bijlstra et al. (2014) found that the anger expressions are perceived more quickly from the face of Moroccan while the sadness expressions are perceived more quickly from the face of Dutch. On the other hand, the emotions which were not matched with any of the races have been perceived more slowly than others (Bijlstra, Holland, Dotsch, Hugenberg, & Wigboldus, 2014). In another study, the neutral looking faces of white men were perceived to be more similar to the anger expression when compared with black and Korean men (Leslie a Zebrowitz et al., 2010). Additionally, the neutral looking faces of black males are more frequently perceived as happy and surprised than white and Korean males.

There is also a correlation between the personality traits and the emotional expressions. Correct encodings of reflected emotions are also connected to the personality traits of the individual (C. Malatesta, Fiore, & Messina, 1987). It has been found that every individual cannot reflect every emotion at the same intensity. Also, the speed at which individuals figure out the emotional expressions varies according to personality traits. Extrovert and social people detect happy faces more quickly, while those with neuroticism detect angry faces more quickly (Rhodes et al., 2011). Personality traits and face perception are

discussed more detail in the following sections.

Perception of the emotional expressions is not independent of context (Aviezer et al., 2008). Similar facial expressions can have different meanings in different contexts. For example, smile increases the trust among individuals, on the other hand in card games such as poker, the smile of an opponent have a different meaning and creates the perception that the hand ranking of the opponent is higher (Schlicht et al., 2010).

The emotions are divided into two groups as the approach based and the avoidance based. For example, anger is an approach-based emotion and disgust is an avoidance-based emotion. While approach-based emotions are communicated by direct eye contact, avoidance-based emotions are communicated without direct gaze. In primates, direct gaze conveys dominance and aggressiveness, while avoiding from direct look conveys obedience and fear. Even two-day-old babies can distinguish direct gaze. This shows that gaze direction identification is instinctive. A direct look at a person conveys two messages to the person being looked at. The attention is on him, and the gazing person's feelings and/or goals will be reflected to him (R. B. . J. Adams & Kleck, 2005). With a happy face, a direct gaze increases perceived trustworthiness more than looking in a different direction. If the same thing is done with an angry expression that it reduces perceived trustworthiness more (Sutherland, Young, & Rhodes, 2016). Additionally, humans can detect the approach of someone with an angry expression more quickly (R. B. Adams, Ambady, Macrae, & Kleck, 2006). An approaching angry person might physically harm and rapid detection of this person is helpful in terms of protection and survival.

The emotional expressions have effects on the perception of the others such as the trustworthiness, dominance and even the attractiveness (Sutherland, Young, et al., 2016). As already mentioned, the emotions of the person in question mainly influence the evaluation of him or her from the valence dimension by the others. This

is one of the main reasons why emotions influence the perception of others. Robinson et al. (2014) found that the face regions affecting the perception of the trust are the eyes and mouth (Robinson, Blais, Duncan, Forget, & Fiset, 2014). For instance, a smile, which is expressed by the movements of eye and mouth regions on the face, creates a sense of trust among people who do not know each other (Scharlemann et al., 2001).

As mentioned, happy and angry facial expressions are the two polarized ends of the valence dimension. Trustworthiness evaluation of others from the emotional expressions is detected even in children aged 5 years old (Caulfield, Ewing, Bank, & Rhodes, 2016). The effects of these two emotional expressions have been found by various studies. It has been proven that there is a negative correlation between aggressive appearance and trustworthiness (Carré, McCormick, & Mondloch, 2009). Anger expression triggers avoidance-related behaviors (Hess et al., 2000; Marsh, Ambady, & Kleck, 2005). People with angry facial expression are perceived as non-collaborative (Hess et al., 2000). Knutson (1996) found that the people with happy facial expressions are perceived as cooperative, on the other hand in the case of angry facial expressions the exact opposite are perceived (Knutson, 1996). Similar results found in the study of Montepare & Dobish (2003) (Montepare & Dobish, 2003).

Sometimes humans perceive the emotions that appear to be expressed in a person's face as his general personality, even though the person does not express an emotion. For example, if a neutral looking face creates a happy impression, it is perceived as positive. If it creates an angry impression, it is perceived as a threat (Said, Sebe, & Todorov, 2009). As explained before, there are two explanations for the impression that neutral looking faces express an emotion. Malatesta et al. (1984) proposed that the emotional expressions act as an exercise for facial muscles. By aging, face muscles develop a tendency to move in the same way that repeated most often before (C. Z. Malatesta & Izard, 1984). In addition to this, deformations occur on the human face with aging. Without any

emotional expression, the face starts to look as if having an emotional expression. For this reason, neutral looking faces of some individuals create emotional impressions. This, in turn, leads to personality inferences. Especially with the aging, this effect increases because of the number of deformation increases. In fact, these deformations in the face and the impressions it creates, even in neutral looking, reflect the personality in a sense. In the study of Berry (1990) using male and female faces, it has been found that the personality traits perceived from the pictures overlap with the real personality traits (Diane S. Berry, 1990). On the other hand, the effect of the expressed emotions on the perception of trustworthiness is much stronger than that of the static facial features (Sutherland, Young, et al., 2016). In other words, the emotional expressions have a stronger influence than the emotions perceived through the neutral looking face of the person in question.

Prosopagnosia is the face blindness. The people having this problem cannot distinguish the individuals by their faces. In a study conducted with a prosopagnosic patient, it has been found that although the patient did not recognize the faces, he could still distinguish the emotional expressions (Duchaine, Parker, & Nakayama, 2003). A further study by Todorov and Duchaine (2008) conducted with the thought that an experimental study with people having this disorder would give more reliable clues as to whether the region that perceives trustworthiness in the brain is related to the region that provides face recognition. This study, conducted with prosopagnosia patients, showed that patients were able to establish the trustworthiness perception. The conclusion is that the perceived trustworthiness and facial recognition mechanisms are independent of each other (A. Todorov & Duchaine, 2008). The perceived personality from the expressed emotions does not affect from being acquainted with the person. For example, mild emotional expressions influence perception even among spouses living together for many years. People with a trustworthy face are perceived trustworthy not only by strangers but also by their spouses (Petrican, Todorov, & Grady, 2014). So, the emotion face overgeneralization has

an effect not only those who see the other person for the first time but those who know each other for a long time. The reason is the mechanism that distinguishes the faces and the mechanism that perceives the emotional expressions are independent of each other.

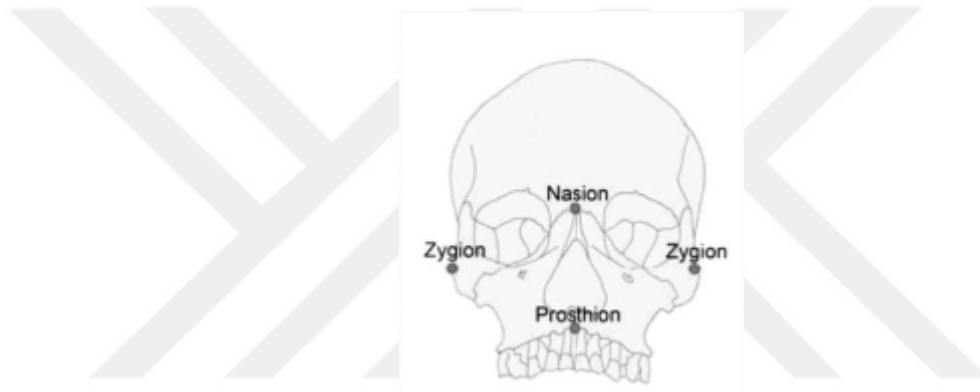
Basing all these findings about the emotion face over generalization hypothesis, the first hypothesis analyzed in this thesis is:

H1: The respondents prefer the hosts with happy looking profile pictures more than the hosts with neutral looking profile pictures, because of the higher level of perceived trustworthiness.

3.5. THE FACIAL WIDTH-HEIGHT RATIO

In the last decade, the facial width-height ratio (fWHR) of the humans also began to take place in the literature as another variable affecting the perception of humans and attracts the attention of scholars (Weston, Friday, & Liò, 2007). fWHR is calculated by the division of the distance between the two Zygion points to the distance between the Nasion-Prosthion points (see Figure 3.1).

Figure 3.1 Reference Points Used in fWHR Calculation on Human Skull



Reference: Özener, 2012

As mentioned earlier, in evaluations of others, individuals are trying to figure out the intent of the others, and they are assessing the trustworthiness of others by the perceived intent. Just like the emotions, the fWHR can also make individuals look aggressive. This affects the perceived intent and therefore trustworthiness.

While the preliminary studies conducted in this area showed that fWHR is dimorphic and it is generally higher in males (Weston et al., 2007), it could not be confirmed in repeated studies (Kramer, Jones, & Ward, 2012; Carmen E. Lefevre et al., 2012). It has been found that male athletes have higher fWHRs than women. Studies that have been conducted with only among male athletes, it was found that athletes in branches with more physical contact have higher fWHR. However, it has been interpreted that the cause of the fWHR difference is actually the physical size difference (Kramer, 2015). In the study that was conducted by

Özener (2012) in Turkey, it has been found that fWHR is not dimorphic between the genders for the Turkish population (Özener, 2012).

fWHR is associated with the level of testosterone during the adolescence period (Carmen E Lefevre, Lewis, Perrett, & Penke, 2013). Men with high testosterone levels during adolescence have wider and shorter faces, which mean higher fWHR. It has also been interpreted that, it might have various effects on the behaviors of the people due to its relationship with testosterone. In the initial studies, a linear relationship between reactive aggressiveness and fWHR was found especially in males (Carré & McCormick, 2008). It has been shown that the tendency of aggression of men can be directly measured by using fWHR (Carré et al., 2009). It has been found that the fWHR rate is associated with self-reported aggression for both males and females (Carré & McCormick, 2008). In males, in addition to aggressiveness, a relationship with dominance was also found (Carmen Emilia Lefevre, Etchells, Howell, Clark, & Penton-Voak, 2014). On the other hand, the correlation of fWHR with the real aggression of individuals could not be proven later in repeated studies (Deaner, Goetz, Shattuck, & Schnotala, 2012; Gomez-Valdes et al., 2013; Kosinski, 2017). Özener (2012) found that there is no linear relationship between fWHR and self-reported aggressiveness in the study conducted in Turkey (Özener, 2012). Deaner et al. (2012) found that there is no significant relationship between fWHR and aggressive behavior among hockey players (Deaner et al., 2012). In the study of Gomez-Valdez et al (2013), it was found that fWHR is a poor predictor of the aggressive behavior (Gomez-Valdes et al., 2013). Only in the study of Goetz et al. (2013), a linear relationship between fWHR and aggression was found for only the men from the lower-social status, but could not be confirmed for the men from the high social status (Goetz et al., 2013). Finally, in the study of Kramer (2015) that was based on athletes, a correlation could not found between aggressiveness and fWHR (Kramer, 2015).

Although the correlation between the actual aggressiveness and the fWHR is controversial there is a proven correlation between the fWHR and the perceived

aggressiveness. A person looks more aggressive when the distance between the eyes and the mouth is narrowed by manipulating the picture (Neth & Martinez, 2009). In other words, when fWHR increases a person looks more aggressive. People tend to increase their fWHR by tilting the head downwards to gain a more intimidating outlook in a threat situation (Eric Hehman, Leitner, & Gaertner, 2013). People manipulate fWHR unconsciously by this way. As a form of protection, people intimidate potential threats by trying to look more dangerous (see Figure 3.2). This phenomenon is called as Batesian mimicry (Bates, 1862). fWHR named as the most important static variable in perceived aggressiveness (Carré, Morrissey, Mondloch, & McCormick, 2010). Even though several different static variables seem to influence the aggressive look, they achieve it by affecting the fWHR indirectly. Other facial variables (e.g. hair and jaw), do not affect the perceived aggressiveness. For both males and females, a positive correlation between fWHR and perceived aggressiveness found in the study of Lefever & Levis (2014). Even a 25% change in fWHR significantly affects the perceived aggressiveness (Carmen E. Lefevre & Lewis, 2014). In general, scholars have found a significant correlation between fWHR and the perceived aggressiveness (Haselhuhn, Ormiston, & Wong, 2015).

Figure 3.2 Normal and Manipulated fWHR



The fWHR affects the perception especially among young people, and that effect falls with the aging. Additionally, it has been observed that the fWHR ratio decreases physically with increasing age. The fWHR of a person differs in youth and in adulthood (Eric Hehman, Leitner, & Freeman, 2014).

Several other effects of fWHR over the perception have also been identified. People with high fWHR are perceived as more prejudiced and even more racist (Eric Hehman, Leitner, Deegan, & Gaertner, 2013). It has been found that in parallel to the fWHR increase, the self-confidence of the individual increases (Haselhuhn & Wong, 2012). In a study using female subjects, it has been found that there is a positive correlation between fWHR and interpersonal space preferences (Lieberz et al., 2017).

Since there is a negative correlation between the aggressive look and the perceived trustworthiness, there is a negative correlation between the fWHR and the perceived trustworthiness also. When the fWHR is manipulated in the picture of an individual, the perceived trustworthiness from the picture also changes in accordance with it (Stirrat & Perrett, 2010). It has been found that individuals with low fWHR perceived to possess a greater integrity than the individuals with high fWHR (Ormiston, Wong, & Haselhuhn, 2017). Geniole et al. (2014) analyzed the relationship between the aggressive appearance and the trustworthiness in detail. It has been found that individuals firstly analyze aggressiveness level of the others from their faces, then they assess trustworthiness in accordance with it. This result has been achieved by calculating the response speed of participants for both aggressiveness and trustworthiness assessments. Accordingly, participants responded significantly more quickly to the aggressiveness assessments than the trustworthiness assessments. This leads to the conclusion that, in the human mind, aggressiveness is analyzed firstly. Additionally, correlations between aggressiveness-trustworthiness, fWHR-trustworthiness, and fWHR-aggressiveness were also calculated. Correlations between fWHR-aggressiveness and aggressiveness-trustworthiness are stronger

than the correlation between fWHR-trustworthiness. Therefore, aggressiveness actually acts as a mediator variable between fWHR and trustworthiness perception (Geniole, Molnar, Carré, & McCormick, 2014).

In addition to the other variables, by these findings, fWHR is thought to be effective on the perceived trustworthiness from the profile pictures on the accommodation sharing platforms. For this reason, the following two hypotheses are proposed:

H2: The respondents prefer the hosts with happy looking profile pictures more than the hosts with fWHR manipulated profile pictures, because of the higher level of perceived trustworthiness.

H3: The respondents prefer the hosts with low fWHR more than the hosts with high fWHR, because of the higher level of perceived trustworthiness.

PERSONALITY

It is inevitable to eliminate the effect of the personality traits of the respondents on the results. For this reason, the effect of the personality traits of the participants on their preferences is also included in the scope of this thesis.

Many personality inventory tests have been developed by scholars to determine the personality traits of individuals. There are two main purposes of personality inventory tests. The first one is to define relatively stable general personality traits of the humans. The second one is to identify the sources and dimensions of differences between individuals. Five basic personality dimensions have been identified in the studies conducted for these purposes. These personality dimensions are extroversion, agreeableness, conscientiousness, neuroticism, and culture (Norman, 1963). These dimensions are named as the big five in the literature. The big five model has been developed in two different ways. The first way is the lexical hypothesis. According to the lexical hypothesis, the adjectives used to describe a person in spoken languages have been self-emerged, in accordance with the personality categories and the basic personality dimensions can be deciphered by using these adjectives. The second one is the questionnaire tradition. In this method, the big five model has been reached by the questionnaires developed over time (Robert R McCrae & John, 1992).

One of the most intensive studies on the development of personality inventory that is based on the big five model was conducted by McCrae & Costa. In their study, McCrae & Costa (1985) evaluated the connection between the Norman's (1963) study and the NEO model that they were developed earlier. As a result of this study, they identified neuroticism, extroversion, openness to experience, agreeableness-antagonism, and conscientiousness-undirectedness personality dimensions (Robert R. McCrae & Costa, 1985). The culture factor that is defined by Norman (1963), replaced by the openness to experience. Later, McCrae & Costa (1987)

validated the big five model personality inventory based on the 1985 dated study (R R McCrae & Costa, 1987). All these studies were based on the adjectives that define individuals in English, for this reason, there was an uncertainty whether it would be valid when applied to the Turkish speaking people. Gülgöz (2002) translated the big five personality inventory into Turkish and validated for the Turkish speaking people (Gülgöz, 2002). Additionally, Bacanlı et al. (2009), developed another validated scale by using bipolar adjectives in Turkish (Bacanlı, İlhan, & Aslan, 2009).

There are two basic protection systems in the human mind. The first system has been defined as the behavioral activation system (BAS). The BAS is more sensitive in terms of approaching reward or getting rid of a troubled situation. On the other hand, the second system which defined as the behavioral inhibition system (BIS), is sensitive to penalization (R J Larsen & Ketelaar, 1991; Randy J. Larsen & Ketelaar, 1989). Studies of the Larsen & Ketelaar (1989, 1991) showed that the extroverts respond more to positive stimuli, and the neurotics respond more to negative stimuli. In the big five model scale, it is thought that the BAS creates the extroversion dimension and the BIS create the neuroticism dimension.

Positive or negative stimuli can affect the attitudes of people to events, things or other people. It even affects people's physical movements. The reaction speeds of muscles change in accordance with the approach or avoidance status. In the case of approach behavior, pulling action is faster, while in the case of avoidance behavior pushing action is faster (M. Chen & Bargh, 1999). However, the effect of positive and negative stimuli varies according to the personality traits of the exposed person. Rusting et al. (1998), found that positive stimuli affect the performance of extrovert individuals more than negative stimuli (Rusting & Larsen, 1998). For the people with neuroticism dominant personality traits, quite the opposite is valid. For example, extroverts quickly detect happy faces, while those with anxiety detect angry faces more quickly (Rhodes et al., 2011).

Individuals do not have equal performance in analyzing the other people (Ambady, Hallahan, & Rosenthal, 1995). In the study that was done by Knyazev et al. (2008), negative, positive and neutral looking human faces were shown to the participants, and they were asked to evaluate these faces as friendly or hostile. According to the results of the study, people with neurotic personality traits tend to perceive all faces as hostile, while people with agreeableness and conscientiousness personality traits tend to perceive all faces as friendly. It was observed that the extroverts tended to perceive only the positive faces as friendly (Knyazev, Bocharov, Slobodskaya, & Ryabichenko, 2008). In another study that was done by Willis et al. (2013), only the neutral looking faces were used, and it has been found that people with neurotic personality traits tend to find all faces as untrustworthy (M. L. Willis, Dodd, & Palermo, 2013). In the study that was done by Todorov et al. (2015), it was found that disagreeable and aggressive individuals tend to perceive the others as untrustworthy when evaluating them based on their faces.

From all these studies it could be said that the personality traits of the individuals affect the face perception and the way of perceiving the personality of others that based on their faces. In accordance with all these findings, the following hypotheses were proposed in this thesis.

H41: For neuroticism-dominant individuals, the average of preferring profiles with neutral looking faces is lower than the non-dominant individuals.

H42: For neuroticism-dominant individuals, the average of preferring profiles with high fWHR faces is lower than the non-dominant individuals.

H51: There is no significant relationship between extroversion personality trait and users' preferences for neutral looking and fWHR manipulated profiles.

H52: There is no significant relationship between extroversion personality trait and users' trustworthiness perception for neutral looking and fWHR manipulated profiles.

Personality traits are not limited to the big five in this thesis study. The uncertainty avoidance traits of the individuals are also thought to be influential. Quintal et al. (2009) conducted a study and developed a scale to measure the personality traits of the individuals on the basis of the uncertainty avoidance personality dimension (Quintal, Lee, & Soutar, 2010). In the same study, it was also found that individuals with high uncertainty avoidance traits were more sensitive in their research on touristic trips.

Based on these findings, the following two hypotheses about the uncertainty avoidance dimension are proposed in this thesis.

H61: For the individuals with high uncertainty avoidance traits, the average of preferring profiles with happy looking faces is higher than the individuals with low uncertainty avoidance traits.

H62: For the individuals with high uncertainty avoidance traits, the average of preferring profiles with high fWHR faces is lower than the individuals with low uncertainty avoidance traits.

THE MOST IMPORTANT SOURCE OF INFORMATION ON PLACE PREFERENCE SCREENS: THE HUMAN FACE

As explained in detail visual perception is one of the leading ways of acquiring information from the environment for animals and the human face is one of the main visual environmental sources of information for humans (Leslie A. Zebrowitz et al., 1996). The desire to make inferences from the human face is genetically inherited and instinctual in every human. Eckel and Petrie (2011) found that individuals want to see the face of others when they have to make a strategic decision. Even in newborns, there is a tendency to show interest in the human face or images that resemble it (Mondloch et al., 1999).

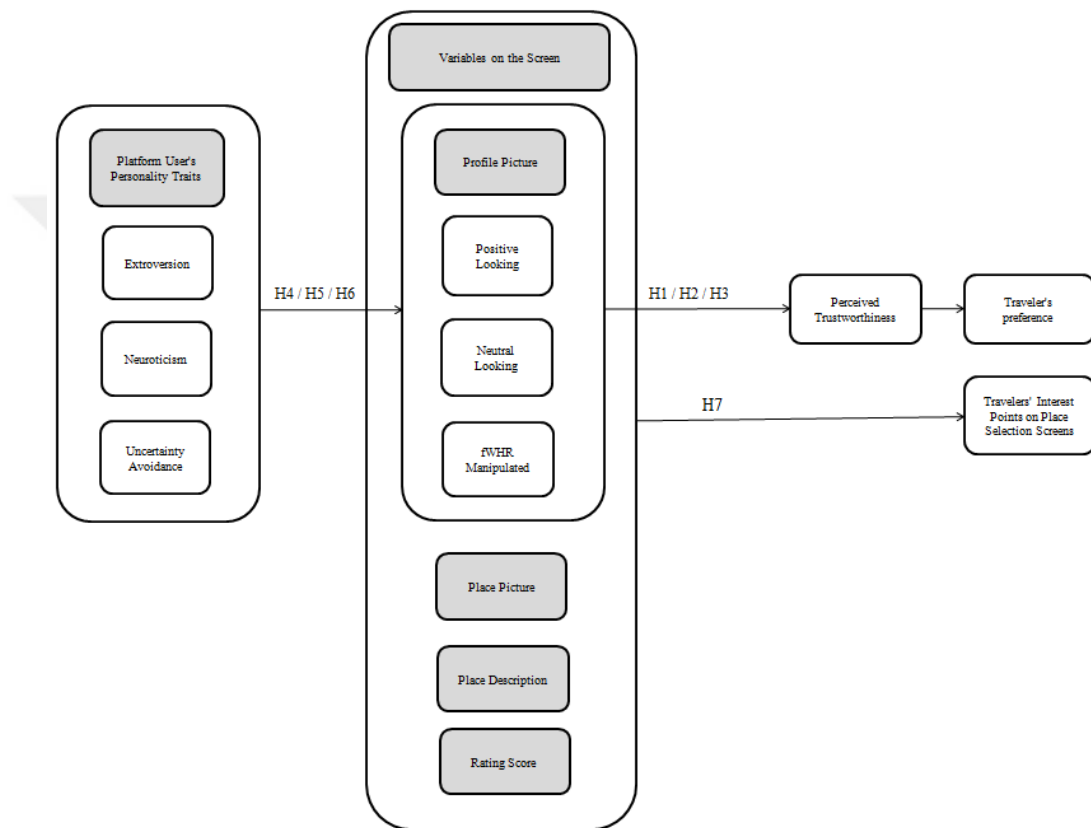
Based on these findings, the following hypothesis about the importance of the human face as a stimulus is proposed in this thesis.

H7: The profile pictures attract the attention of platform users more than any other variables on the computer screen.

RESEARCH MODEL AND HYPOTHESES

The hypotheses are mentioned in the relevant sections above. For the research model, see Figure 6.1 below.

Figure 6.1 Research Model



All hypotheses are re-presented below.

H1: The respondents prefer the hosts with happy looking profile pictures more than the hosts with neutral looking profile pictures, because of the higher level of perceived trustworthiness.

H2: The respondents prefer the hosts with happy looking profile pictures more than the hosts with fWHR manipulated profile pictures, because of the higher level of perceived trustworthiness.

H3: The respondents prefer the hosts with low fWHR more than the hosts with high fWHR, because of the higher level of perceived trustworthiness.

H41: For neuroticism-dominant individuals, the average of preferring profiles with neutral looking faces is lower than the non-dominant individuals.

H42: For neuroticism-dominant individuals, the average of preferring profiles with high fWHR faces is lower than the non-dominant individuals.

H51: There is no significant relationship between extroversion personality trait and users' preferences for neutral looking and fWHR manipulated profiles.

H52: There is no significant relationship between extroversion personality trait and users' trustworthiness perception for neutral looking and fWHR manipulated profiles.

H61: For the individuals with high uncertainty avoidance traits, the average of preferring profiles with happy looking faces is higher than the individuals with low uncertainty avoidance traits.

H62: For the individuals with high uncertainty avoidance traits, the average of preferring profiles with high fWHR faces is lower than the individuals with low uncertainty avoidance traits.

H7: The profile pictures attract the attention of platform users more than any other variables on the computer screen.

RESEARCH DESIGN

In order to test the hypotheses, two different types of research have been done, online and offline.

7.1. ONLINE RESEARCH

In order to test the hypotheses from 1 to 6, an online survey was conducted. For this purpose, a website that named www.gezgineyuva.com was built. Participants responded online via this website.

7.1.1. Participants

The sample accessed through convenience, participated in the research voluntarily.

7.1.2. Surveys

Online survey consisted of four main sections that listed below respectively.

- Demographic survey
- Place evaluation survey
- Profile picture evaluation survey
- Personality inventory test

7.1.2.1. Demographic Survey

Following questions were asked of each participant.

- Gender

- Marital status
- Age
- Education level
- Monthly income level (0 – 1000TL // 1001 TL – 2500 TL // 2501 TL – 4500 TL // 4501 TL – 7000TL // 7001 TL and above)
- Have you ever used Airbnb and/or Couchsurfing websites before?
- Have you ever been abroad before?
- Have you ever shopped online before?

For a proper research, participants must be familiar with the accommodation sharing platforms. It was thought that those who have used these platforms before, or at least have been abroad, would be familiar with the accommodation sharing platforms. Thus, questions about having previously been abroad and using an accommodation sharing platform before were used as filter questions. Those who did not answer yes to at least one of the two questions were excluded from the analysis.

7.1.2.2. Place Evaluation Survey

It was aimed that the data collection phase of this research be as close as possible to the actual accommodation sharing platforms. For this reason, real accommodation sharing platforms were tried to be imitated with every detail. On these platforms profile pictures, place pictures, rating score of the owner and written information about the place are shown to guests for each place alternative. In this survey, Couchsurfing and Airbnb-style accommodation alternatives were shown to the participants, and they were asked to what extent they wanted to stay in each alternative in 10-point Likert scale (see Figure 7.1).

Figure 7.1 A Sample Place Evaluation Screen

Mekan Sahibi

Mekan Sahibinin Diğer Kullanıcılardan Aldığı Puan
(1 yıldız çok kötü - 5 yıldız çok iyi)

Çamaşır makinesi, kurutma makinesi, ütü masası ve ütü mevcuttur. Misafirler mutfakta da istedikleri gibi kullanabilirler. Merkezi ısıtma ve klima mevcuttur. Wi-Fi internet erişimi mevcuttur. Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. Özel banyo ve saç kurutma makinesi mevcuttur. Uydu kanallı HD LCD TV ve müzik sistemi mevcuttur. Ev merkezi bir konumdadır.

Mekan sahibinin de kalmakta olduğu bu mekanda bir gece konaklamak ister miydiniz?

1 - Kesinlikle İstemezdim ↔ 10 - Kesinlikle İstardım

1 2 3 4 5 6 7 8 9 10

Devam →

Therefore, it was important to determine the following variables to be included in the selection screens.

- Scenario text
- Profile pictures
- Pictures of the places
- Star ratings of hosts from previous transactions
- Place description texts

7.1.2.2.1. Scenario Text

Scenario text was the part that tells the imaginary travel plan to the participants before answering the survey. Each participant was asked to read this text before responding the survey. The related text is written below.

“Today, in the tourism / accommodation industry, as a new trend, individuals can share a room of their home free of charge for accommodation to people from another country. The guests can spend time with the hosts, and can also use the other parts of the home such as kitchen, bathroom and lounge of the resident.

In accordance with this information we ask you to think that you are planning to travel to a different country by yourself or with your friend or your partner. You are thinking about to stay in a room of someone's home you do not know before on this trip. If you have a child, we want you to assume that your child will not take part in this trip.”

See Appendix E for original scenario text in Turkish.

7.1.2.2.2. Profile Pictures

The main variable used in the research was the profile pictures; the positive and neutral looking male pictures from the Radboud Faces Database (Langner et al., 2010). In this database, the people photographed has been trained according to Facial Action Coding System (FACS) (Paul Ekman & Friesen, 1977) and gave form to their faces according to this system to reflect seven different emotions during the photo shooting (happiness, surprise, anger, fear, disgust, sadness, and contempt). In addition, FACS specialists made necessary corrections during the process. A group of participants rated the pictures in accordance with the corresponding emotions. As a result of the statistical analysis of the data obtained from these ratings the pictures have been validated, and it has been proven that the emotions were reflected correctly.

In the Radboud Faces database each scene has been photographed from five different angles, and also each scene has been repeated three times and direction of gaze has been changed (left, right and direct) in each repeat. In this thesis study

pictures that taken from the front and directly looking was used.

If there is no time limit, males' faces are perceived in the same way (including trustworthiness) from the front, from the 45-degree angle and from the profile (Rule, Ambady, & Adams, 2009). In this study, no time limit was applied to the participants during the response. Therefore, it was considered that equivalent results would be obtained in the case of using pictures taken from other angles instead of the front.

The tilt of the head also influences the perception. For example, when the head is upright, the person is perceived as more dominant (Mignault & Chaudhuri, 2003). In the Radboud Faces Database, heads are upright in all pictures. For this reason, the effect of the upright head was the same in all pictures.

Nine male profiles were selected from the database to use. Happy and neutral looking pictures of each male profile were used. In addition to these two types of pictures, an additional third type was created by the manipulation of fWHR of the neutral looking pictures. The reasons for choosing neutral images for manipulation were neutralizing the effect of emotions on respondents choices and the ability of the emotional facial expressions to change the fWHR (Kramer, 2016). fWHR of each profile was increased. A sample male profile is shown in Figure 7.2 below.

Figure 7.2 A Sample Male Profile Showing All Three Picture Types. Happy, Neutral and fWHR Manipulated Types Respectively



Original and manipulation data of fWHRs are available in the following in Table 7.1 below (see Appendix A for profile pictures).

Table 7.1 Original and Manipulation Data of fWHRs (Widths and Heights are in Pixels)

Profile	The Radboud Face Database Profile Code	Original			Manipulated			
		Width	Height	fWHR	Width	Height	fWHR	fWHR Increase Ratio
1	7	305	157	1,94	342	157	2,18	12%
2	10	303	163	1,86	342	163	2,10	13%
3	15	299	154	1,94	339	154	2,20	13%
4	20	308	163	1,89	349	163	2,14	13%
5	30	307	163	1,88	348	163	2,13	13%
6	48	292	146	2,00	331	146	2,27	13%
7	50	284	140	2,03	318	140	2,27	12%
8	53	297	162	1,83	337	162	2,08	13%
9	54	294	161	1,83	333	161	2,07	13%

Each participant saw, three positive, three negative, and three fWHR manipulated pictures of different profiles which were randomly selected from these 9 profiles on place selection screens. Thus, each participant saw nine separate place alternatives and scored how much they wanted to stay in the respective alternative

in 10-point Likert scale. In addition, these three positive, three neutral, and three fWHR manipulated image sequences were randomly changed in each participant. All these information were recorded for the analysis. By these randomizations, the effect of the image order and the deviations that can arise from using the same profiles in the same image type were neutralized.

7.1.2.2.3. Pictures of the Places

The selection of the pictures of the places to be used in the scope of this thesis study was one of the most critical processes. It was difficult to neutralize the effect of it on participant preferences. Using a single standard picture in all alternatives for the place would neutralize the effect of the place picture, but it would be unnatural for the participants to see the same place picture in all alternatives. Therefore, it was necessary to provide different place pictures at a similar level of appeal for the research.

For this purpose, 25 separate room pictures were selected and original pictures bought from the www.shutterstock.com. Then the pictures were presented with an online survey application on Google Forms and participants were asked to indicate how much they liked each picture according to the 10-point Likert scale. Gender, age, marital status, education level and income level data were also collected from each participant.

A total of 227 individuals participated in this study with a mean age of 39.6 years (SD 10.56). 148 participants were female (65%) and 79 were male (35%).

For the detection of images with the same level of appeal, the data received for each image was subjected to paired samples t-test with all other images. As a result of this analysis, six room pictures at the similar appeal level were identified. Analysis results are shown in Table 7.2 below (see Appendix B for place pictures that used in the research).

Table 7.2 Place Pictures Paired Samples T-test Results

Pair	Picture 1			Picture 2			Conditions
	Code	Mean	SD	Code	Mean	SD	
1	20	4.30	1.501	21	4.22	1.667	t(227)=0.739, p=0.461
2	20	4.30	1.501	23	4.24	1.474	t(227)=0.619, p=0.536
3	20	4.30	1.501	27	4.21	1.652	t(227)=0.885, p=0.377
4	20	4.30	1.501	28	4.25	1.517	t(227)=0.535, p=0.593
5	20	4.30	1.501	29	4.28	1.673	t(227)=0.189, p=0.850
6	21	4.22	1.667	23	4.24	1.474	t(227)=-0.152, p=0.879
7	21	4.22	1.667	27	4.21	1.652	t(227)=0.114, p=0.909
8	21	4.22	1.667	28	4.25	1.517	t(227)=-0.240, p=0.810
9	21	4.22	1.667	29	4.28	1.673	t(227)=-0.586, p=0.559
10	23	4.24	1.474	27	4.21	1.652	t(227)=0.301, p=0.763
11	23	4.24	1.474	28	4.25	1.517	t(227)=-0.085, p=0.932
12	23	4.24	1.474	29	4.28	1.673	t(227)=-0.352, p=0.726
13	27	4.21	1.652	28	4.25	1.517	t(227)=-0.396, p=0.693
14	27	4.21	1.652	29	4.28	1.673	t(227)=-0.595, p=0.553
15	28	4.25	1.517	29	4.28	1.673	t(227)=-0.305, p=0.761

These six place pictures were shown in a random order to each participant on place selection screens. These data were also recorded for the analysis. Since the place pictures were randomly selected for each place alternative like the profile pictures, the same place pictures and the same profile picture matching that may occur were eliminated. In other words, a complete randomness was achieved.

7.1.2.2.4. Star ratings of hosts from previous transactions & Place description texts

In all alternatives star ratings of hosts from previous transactions were fixed at 5 stars. Thus, the effect of star rating was ensured to be the same in all alternatives.

Place description texts were the same in all alternatives, but the order of the sentences in paragraphs was changed randomly in each place alternative. Thus, it was aimed to ensure that participants did not realize that they read the same paragraph in different alternatives (see Appendix C for place description texts).

7.1.2.3. The Profile Picture Evaluation Survey

At this stage of the survey, profile pictures that were shown to the participants in the place evaluation survey were displayed again in the same order to each participant. Then respondents were asked to answer the questions of how trustworthy the people in the profile pictures are and how much they look like a Turk. The responses of both questions were collected on the 10-point Likert scale. A sample survey screen is shown in Figure 7.3 below.

Figure 7.3 A Sample Profile Picture Evaluation Survey Screen

7.1.2.4. Personality Inventory

In this part of the research, questions of the big five personality inventory that measures the dimensions of extroversion and neuroticism and the questions of uncertainty avoidance inventory were asked in a random order and answers collected on the 5-point Likert scale (see Appendix D).

7.1.3. Results

Although 265 respondents answered the survey, only the answers of people who have been abroad previously and/or who used online accommodation sharing platforms were included in the analysis. For this reason, 39 participants' responses were excluded from the analysis. In the test of the hypotheses, only the remaining 226 participants' responses were used.

7.1.3.1. Demographic Variables

Frequency distribution presents the basic characteristics of the respondents. 38.9% (88) of the respondents were male and 61.0% (138) of the respondents were female. Age distributions of the respondents are shown in Table 7.3 below. 79.2% of the respondents were young adults and middle-aged individuals.

Table 7.3 Frequency Distribution of the Respondents with Respect to Their Age Group and Generation

Age Group	Generation	Number	Percentage
19-22	Z generation	70	31%
23-41	Y generation	109	48%
42-53	X generation	41	18%
54-66	Baby boomers	6	3%

Majority of the respondents (93.8%) are well-educated, have at least a bachelor's degree (see Table 7.4). Respondents' monthly income distribution is shown in Table 7.5 below.

Table 7.4 Frequency Distribution of the Respondents with Respect to Their Education Levels

Education Level	Number	Percentage
High School	6	3%
Associate Degree	8	4%
Bachelor's Degree	122	54%
Master's Degree	63	28%
Doctorate	27	12%

Table 7.5 Frequency Distribution of the Respondents with Respect to Their Monthly Income

Monthly Income	Number	Percentage
0 TL - 1000 TL	40	18%
1001 TL - 2500 TL	38	17%
2501 TL - 4500 TL	50	22%
4501 TL - 7000 TL	35	15%
7001 TL and above	63	28%

7.1.3.2. Paired Samples t-test and Regression Analysis of Place Preference and Perceived Trustworthiness Data

As explained previously three different types of profile pictures were used in the survey. These picture types were positive looking, neutral looking, and fWHR manipulated (in other words negative looking). Paired samples t-test was used to determine whether there were any significant user preference differences between profile picture types.

There was a significant difference in the average preference scores for positive looking ($M=6.3$, $SD=2.6$) and neutral looking ($M=5.9$, $SD=2.7$) profile pictures; $t(225)=5.29$, $p = 0.000$. Similar differences were also found between average preference scores of positive looking-fWHR manipulated and neutral looking-fWHR manipulated profile pictures. Results are summarized in Table 7.6 below.

Table 7.6 Paired Samples T-Test Results of Average User Preferences for Each Type of Profile Pictures

Pair	Profile Picture	Mean	SD	Profile Picture	Mean	SD	Conditions
1	Positive Looking	6.3	2.6	Neutral Looking	5.9	2.7	t(225)=5.29, p=0.000
2	Positive Looking	6.3	2.6	fWHR manipulated	5.7	2.7	t(225)=6.88, p=0.000
3	Neutral Looking	5.9	2.7	fWHR manipulated	5.7	2.7	t(225)=2.53, p=0.012

These results suggest that profile pictures affect the user preferences significantly. While the place alternatives with positive profile pictures had the highest score in the average, the place alternatives with the fWHR manipulated profile pictures had the lowest average score. Places with neutral looking profile pictures had an average value between these two.

Paired samples t-test was also used to determine whether there were any significant perceived trustworthiness differences according to profile picture types. Results are summarized in Table 7.7 below.

Table 7.7 Paired Samples T-Test Results of Average Trustworthiness Points for Each Type of Profile Pictures

Pair	Profile Picture	Mean	SD	Profile Picture	Mean	SD	Conditions
1	Positive Looking	6.2	2.0	Neutral Looking	5.2	1.8	t(225)=10.862, p=0.000
2	Positive Looking	6.2	2.0	fWHR manipulated	4.8	1.8	t(225)=13.029, p=0.000
3	Neutral Looking	5.2	1.8	fWHR manipulated	4.8	1.8	t(225)=4.392, p=0.000

Similar to the users' place preference points, these results suggest that profile pictures affect the perceived trustworthiness of the profile owners significantly. While the positive looking profile pictures were perceived as the most trustworthy, the fWHR manipulated profile pictures (in other words negative) were perceived as the least trustworthy. The neutral looking profile pictures had an average value between these two.

For the analysis of the relationship between perceived trustworthiness and user preferences, simple linear regression analyses were done to predict preference for

the place based on perceived trustworthiness for each profile picture type. For positive looking profile pictures a significant regression equation was found ($F(1,224)=99.325, p<0.000$), with an R^2 of 0.307. Preference for the place increased 0.554 for each point of perceived trustworthiness. Similar results were also found for neutral looking ($F(1,224)=105.635, p<0.000$), with an R^2 of 0.320 and fWHR manipulated pictures ($F(1,224)=90.393, p<0.000$), with an R^2 of 0.288. For neutral looking profile pictures preference for the place increased 0.566 for each point of perceived trustworthiness. For fWHR manipulated (in other words negative looking) profile pictures, preference for the place increased 0.536 for each point of perceived trustworthiness.

In accordance with these results, there is a significant relationship between perceived trustworthiness and preference for the place. These results are supported the hypotheses H1, H2, and H3.

7.1.3.3. Factor Analysis and Independent Sample t-test Analysis of Personality Inventory and Place Preference Data

Factor analysis was performed in order determine unreliable items within personality inventory test and omit them from further analysis. In total, factor analyses were performed for three personality dimensions. These personality dimensions were neuroticism, extroversion, and risk avoidance. Factor analyses for these three personality dimensions are presented respectively in Table 7.8, Table 7.9 and Table 7.10 below.

Table 7.8 Neuroticism Personality Inventory Factor Analysis

Con-struct	Factor Items	Factor Loading	Variance %	Cronbach's alpha
Neuroticism	Sometimes terrible thoughts come into my mind.	0,712	38,071	0,724
	Even the little troubles are annoying for me.	0,672		
	Sometimes I become unable to do any job when I am under a lot of stress.	0,664		
	Sometimes I feel so embarrassed that even I want the ground swallow me up.	0,617		
	I often worry about the possibility of things will go wrong.	0,563		
	I'm afraid of saying something wrong while talking to people.	0,533		
	If one of my friends do or say something stupid in the community, I feel shame for him/her.	0,531		
KMO: 0.787 Bartlett Significance: 0.000				
N2, N7, N8, N11 and N12 were deleted.				

Table 7.9 Extroversion Personality Inventory Factor Analysis

Con-struct	Factor Items	Factor Loading	Variance %	Cronbach's alpha
Extroversion	I am a cheerful and lively person.	0,769	47,704	0,705
	I am a very active person.	0,739		
	Sometimes, I brim over with happiness.	0,676		
	A lot of people think I'm cold and distant. (R)	0,639		
	I like having fun with a crowded group of friends.	0,618		
KMO: 0.778 Bartlett Significance: 0.000				
E4, E6, E7, E8, E10, E11, and E12 were deleted.				

Table 7.10 Uncertainty Avoidance Personality Inventory Factor Analysis

Construct	Factor Items	Factor Loading	Variance %	Cronbach's alpha
Uncertainty Avoidance	It is important to closely follow instructions and procedures.	0,824	56,694	0,742
	Rules and regulations are important because they tell me what is expected of me.	0,791		
	Standardized work procedures are helpful.	0,756		
	It is important to have instructions spelled out in detail so I always know what I am expected to do	0,626		
KMO: 0.738 Bartlett Significance: 0.000				

Participants were grouped according to their average of the scores that were given to the questions that listed in the factor analysis reports above. As mentioned earlier, personality inventory test responses were collected on a 5-point Likert scale. Based on this information, the participants which had an average value below 3 were labeled as non-dominant for the relevant personality dimension. In parallel with this, participants which had an average value above 3 were labeled as dominant. Participants were separated as dominant and non-dominant groups for each of the three dimensions, and data were made ready for analysis of the corresponding personality dimensions.

For neuroticism personality dimension, 129 participants (57.1%) were identified as non-dominant and 97 participants (42.9%) were identified as dominant. An independent-samples t-test was conducted to compare neuroticism dominant and neuroticism non-dominant participants in terms of the means of place preferences points of neutral looking profile pictures. Analysis results indicated that average of place preference points for neutral looking profile pictures were significantly similar for both non-dominant ($M = 5.88$, $SD = 2.64$) and dominant ($M = 5.99$, $SD = 2.77$) participants; $t(224) = -0.323$, $p = 0.747$. Similar to the neutral looking profile pictures, no significant mean difference found for fWHR manipulated profile pictures between non-dominant ($M = 5.76$, $SD = 2.61$) and dominant

($M=5.67$, $SD=2.84$) participants; $t(224)=0.253$, $p=0.800$. Hence, H41 and H42 are rejected.

Both of these hypotheses were based on the findings of Kynyazev et al. (2008) and Willis et al. (2013). Both studies found that individuals with neurotic personality are less likely to trust other people. For this reason, perceived trustworthiness of neutral looking and fWHR manipulated profile pictures was also analyzed for this personality dimension. Analysis results indicated that average of perceived trustworthiness for neutral looking profile pictures were significantly similar for both non-dominant ($M=5.17$, $SD=1.72$) and dominant ($M=5.16$, $SD=1.91$) participants; $t(224) = 0.051$, $p = 0.959$. Similar to the neutral looking profile pictures, no significant mean difference found for fWHR manipulated profile pictures between non-dominant ($M=4.85$, $SD=1.75$) and dominant ($M=4.70$, $SD=1.90$) participants; $t(224)=0.618$, $p=0.537$. Although there was a slight difference for fWHR manipulated profile pictures it's not significant. Thus, it could be said that there is no significant difference in the perception of others trustworthiness from their faces between neuroticism dominant and non-dominant individuals for Turkish population. For this reason, no difference was also found between their place preference choices.

For extroversion personality dimension, 51 participants (22.6%) were identified as an introvert and 175 participants (77.4%) were identified as an extrovert. Independent-samples t-tests were conducted to compare means of place preferences for neutral looking and fWHR manipulated profile pictures for extrovert and introvert participants. Analysis results indicated that average of place preference points for neutral looking profile pictures was significantly similar for both introverts ($M=5.45$, $SD=2.72$) and extroverts ($M=6.06$, $SD=2.67$), conditions; $t(224)=-1.437$, $p=0.152$. Similar to the neutral looking profile pictures, no significant mean difference found for fWHR manipulated profile pictures between introverts ($M=5.39$, $SD=2.62$) and extroverts ($M=5.82$, $SD=2.73$), conditions; $t(224)=-0.992$, $p=0.322$. According to the analysis results, H51 is

supported.

Although no hypothesis was proposed, place preferences for positive looking profile pictures were also analyzed. It was found that average of place preference points for positive looking profile pictures was significantly different between introverted females ($M=5.01$, $SD=2.76$) and extroverted females ($M=6.45$, $SD=2.62$), conditions; $t(136)=-2.458$, $p=0.015$. Extroverted females are significantly more inclined to choose places with positive looking profile pictures than introverted ones.

Perceived trustworthiness of neutral looking and fWHR manipulated profile pictures was also analyzed for extroversion personality dimension. Analysis results indicated that average of perceived trustworthiness for neutral looking profile pictures was significantly similar for both introverts ($M=4.99$, $SD=2.04$) and extroverts ($M=5.22$, $SD=1.73$), conditions; $t(224)=-0.774$, $p=0.439$. Similar to the neutral looking profile pictures, no significant mean difference was found for fWHR manipulated profile pictures between introverts ($M=4.71$, $SD=2.03$) and extroverts ($M=4.82$, $SD=1.75$), conditions; $t(224)=-0.378$, $p=0.706$. According to the analysis results, H52 is also supported.

For uncertainty avoidance dimension 55 participants (24.3%) were identified as non-dominant and 171 participants (75.7%) were identified as dominant. An independent-samples t-test was conducted to compare uncertainty avoidance dominant and non-dominant participants in terms of the means of place preference points of positive looking profile pictures. Analysis results indicated that average of place preference points for positive looking profile pictures was significantly similar for both non-dominant ($M=5.96$, $SD=2.74$) and dominant ($M=6.43$, $SD=2.61$) participants, conditions; $t(224)=-1.150$, $p=0.251$. Similar to the positive looking profile pictures, no significant mean difference found for fWHR manipulated profile pictures between non-dominant ($M=5.33$, $SD=2.73$) and dominant ($M=5.85$, $SD=2.69$) participants, conditions; $t(224)=-1.248$, $p=0.213$.

On the basis of the analysis results, H61 and H62 are rejected.

Although the hypotheses cannot be supported, two interesting points were identified. Firstly, uncertainty avoidance personality dominant females tend to perceive positive looking profile pictures as Turkish more than less dominant females. There was a significant difference in the average similarity to Turkish points between uncertainty avoidance non-dominant females ($M=3.67$, $SD=1.79$) and uncertainty avoidance dominant females ($M=4.55$, $SD=2.02$); $t(138)=-2.22$, $p=0.028$. Secondly, uncertainty avoidance personality dominant males tend to trust fWHR manipulated profiles more than less dominant males. There was a significant difference in the average trustworthiness points between uncertainty avoidance non-dominant males ($M=4.15$, $SD=1.81$) and uncertainty avoidance dominant males ($M=5.37$, $SD=1.60$); $t(86)=-3.05$, $p=0.03$. This finding can be explained by the fact that the more masculine faces seem to give more expert trust. In the study of Brownlow, 1992, it has been found that people trusted more to the masculine-faced speakers as an expert. And the relationship between the fWHR and dominance perception has been already proven (Carmen Emilia Lefevre et al., 2014). Higher fWHR makes the face look more dominant than the lower fWHR. Hence, high fWHR may make the face look more trustworthy as an expert. Those with a predominance of this personality trait might be more trusting in profiles with fWHR manipulated (increased) faces.

Independent of the hypotheses, a number of exploratory analyses were also performed. One of the most interesting findings was fWHR manipulated (negative) faces perceived more similar to Turkish people when compared with positive looking faces. In other words, the more negative it is, the more it is perceived as Turkish. There was a significant difference in the average similarity to Turkish points between positive looking profile pictures ($M=4.37$, $SD=1.97$) and fWHR manipulated profile pictures ($M=4.67$, $SD=1.82$); $t(224)=-2.047$, $p=0.042$. It is obvious that additional study is needed to explain the cause of this finding.

The generation-based analysis was shown that younger generations are more willing to stay in the relevant places for all three types of profile pictures than previous generations. It should be noted that baby boomer generation was excluded from the analysis because only 6 participants from this generation answered the questionnaire (for demographic variables based on generations see Table 7.3). Three different one-way ANOVA analyses between subjects were conducted to compare the effect of age on place preferences for all three types of profile pictures. For positive looking profile pictures, there was a significant effect of age on preferences at the $p < .05$ level for the three generations [$F(2, 217) = 6.359, p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the X generation ($M = 5.13$) was significantly different than the both Y ($M = 6.48$), condition $p = 0.019$, and Z generation ($M = 6.91$), condition $p = 0.003$. However, the Y ($M = 6.48$) and the Z generation ($M = 6.91$) did not significantly differ from the each other, condition $p = 0.550$. Similar results were also found for neutral looking and fWHR manipulated profile pictures. For neutral looking profile pictures, there was a significant effect of age on preferences at the $p < .05$ level for the three generations [$F(2, 217) = 8.992, p = 0.000$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the X generation ($M = 4.54$) was significantly different than the both Y ($M = 6.10$), $p = 0.005$, and Z generation ($M = 6.66$), condition $p = 0.000$. However, the Y ($M = 6.10$) and the Z generation ($M = 6.66$) did not significantly differ from the each other, $p = 0.375$. For fWHR manipulated profile pictures, there was a significant effect of age on preferences at the $p < .05$ level for the three generations [$F(2, 217) = 7.830, p = 0.001$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the X generation ($M = 4.38$) was significantly different than the both Y ($M = 5.87$), $p = 0.009$, and Z generation ($M = 6.39$), $p = 0.001$. However, the Y ($M = 5.87$) and the Z generation ($M = 6.39$) did not significantly differ from the each other, $p = 0.438$. These results indicate that tendency to use accommodation sharing platforms decreases with age. Although there was a difference in mean values between them, no significant difference between Z and Y generations was

detected. On the other hand, the differences between X generation and other generations were significant.

In addition, the place preference points and trustworthiness points for positive looking and fWHR manipulated pictures were analyzed for each generation (except baby boomers) with paired samples t-test. Accordingly, in all three generations, it was more preferred to stay in locations that have positive looking profile pictures, and they were perceived the positive looking profile pictures more trustworthy than the fWHR manipulated. The analysis results are summarized in Table 7.11 and Table 7.12 below.

Table 7.11 Generation Based Analysis of Place Preference Points

Generation	Profile Picture Type	Mean	SD	Profile Picture Type	Mean	SD	Conditions
X	Positive Looking	5.13	2.60	fWHR Manipulated	4.38	2.71	$t(40)=3.681, p=0.001$
Y	Positive Looking	6.47	2.66	fWHR Manipulated	5.87	2.66	$t(108)=4.039, p=0.000$
Z	Positive Looking	6.91	2.43	fWHR Manipulated	6.39	2.49	$t(69)= 3.170, p=0.002$

Table 7.12 Generation Based Analysis of Trustworthiness Points

Generation	Profile Picture Type	Mean	SD	Profile Picture Type	Mean	SD	Conditions
X	Positive Looking	5.54	2.02	fWHR Manipulated	4.33	1.78	$t(40)=4.688, p=0.000$
Y	Positive Looking	6.23	1.98	fWHR Manipulated	5.00	1.88	$t(108)=8.392, p=0.000$
Z	Positive Looking	6.49	1.79	fWHR Manipulated	4.67	1.70	$t(69)=8.763, p=0.000$

Finally, participants' preferences were analyzed according to income levels. One-way ANOVA analysis between income levels was conducted to compare the effect of income level on place preferences for all three types of profile pictures. For positive looking profile pictures, there was a significant effect of income on preferences at the $p<.05$ level for all income levels [$F(4, 221) = 3.247, p = 0.013$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the 0-1000TL income level ($M=7.46$) was significantly different than the 2501-4500TL income level ($M=5.48$), $p= 0.013$. However, other income levels did not significantly differ from the each other. Similar results were also found for neutral looking and fWHR manipulated profile pictures. For neutral looking profile

pictures, there was a significant effect of income level on preferences at the $p < .05$ level for all income levels [$F(4, 221) = 3.380, p = 0.010$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the 0-1000TL income level ($M = 7.16$) was significantly different than the 2501-4500TL income level ($M = 5.19$), $p = 0.017$. For fWHR manipulated profile pictures, there was a significant effect of income level on preferences at the $p < .05$ level for all income levels [$F(4, 221) = 2.938, p = 0.021$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the 0-1000TL income level ($M = 6.93$) was significantly different than the 2501-4500TL income level ($M = 5.13$), $p = 0.039$. However, other income levels did not significantly differ from each other for all three profile picture types. These results indicate that there is a meaningful difference between the average of the place preference points between the 0-1000 TL and 2501-4500 TL income levels. 0-1000TL income level participants prefer to stay in the places more than the 2501-4500TL income level significantly.

7.2. OFFLINE RESEARCH

In order to test the Hypothesis 7, an offline survey was conducted by iMotions software and EyeTribe branded eye-tracking device (iMotions, 2017). Thus, the participant's fixation points and durations on the computer screen were recorded during the surveys.

7.2.1. Participants

The sample accessed through convenience, participated in the research voluntarily.

7.2.2. Surveys

All survey details were the same as the online survey.

7.2.3. Results

A total of 39 participants responded the offline survey in a controlled environment. The participants' eye gazing and fixation points on the computer screen and their durations were recorded during the response.

7.2.3.1. Demographic Variables

Frequency distribution presents the basic characteristics of the respondents. 69.2% (27) of the respondents were male and 30.8% (12) of the respondents were female. 90% (35) of the respondents were between the ages of 23-41 and only 10% (4) were between the ages of 42-53. Majority of the respondents (97.4%) are well-educated, have at least a bachelor's degree. Only one respondent's education level was Associate Degree. Frequency distribution of the respondents with respect to their monthly income is shown in Table 7.13 below.

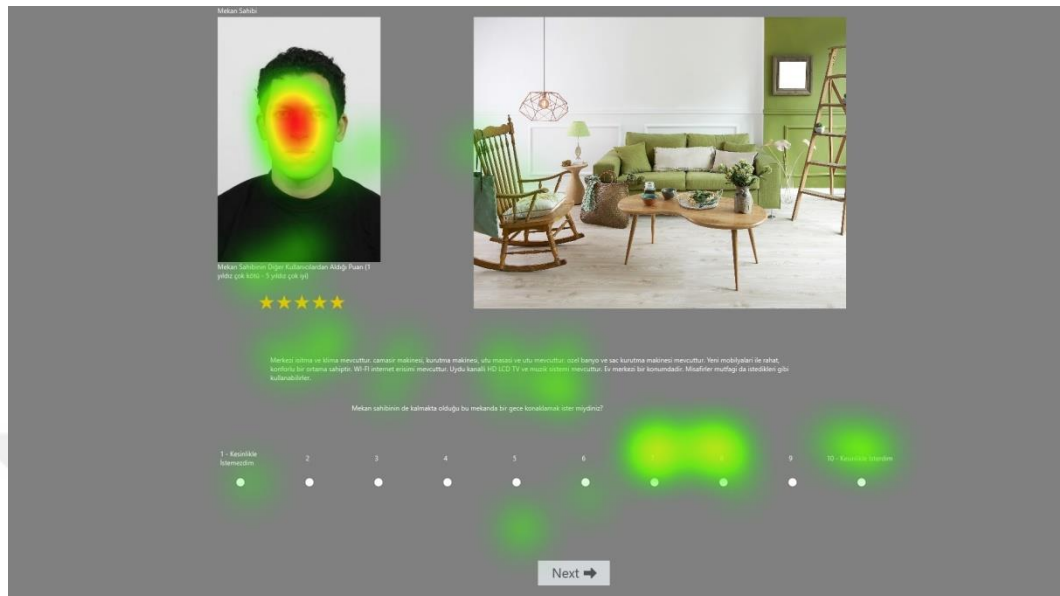
Table 7.13 Frequency Distribution of the Respondents with Respect to Their Monthly Income

Monthly Income	Number	Percentage
0 TL - 1000 TL	1	3%
1001 TL - 2500 TL	7	18%
2501 TL - 4500 TL	13	33%
4501 TL - 7000 TL	10	26%
7001 TL and above	8	21%

7.2.3.2. Eye-tracking Data Extraction and Statistical Analysis

iMotions records all eye tracking data in raw during the response to the questionnaire. The heat map of a raw eye-tracking data for a single screen is shown as an example in Figure 7.4 below.

Figure 7.4 The Heat Map of the Raw Eye-Tracking Data for a Single Screen



All raw data that saved for this screen was used to form this heat map. However, it is not possible to use these raw data for an analysis. For data analysis, the raw data needs to be decomposed according to the areas of interest (AOI) on the screen. The iMotions software allows certain areas on the screen to be marked as AOIs and only to extract data relevant these fields. The sample AOI marking screen is shown in Figure 7.5 below.

Figure 7.5 A Sample AOI Marking Screen



This marking was done for all answer screens. The 4 main areas on the screen were marked as AOI. These areas were: profile picture, place picture, place description and rating scores. Later, the data that belongs to these marked areas were extracted. Data were separated for each marked area. Two types of data were taken for each marked area. These were gaze and fixation duration of each respondent for each screen. The duration of the gaze includes all the time spent by the user looking at a certain AOI, on the other hand, the duration of the fixation gives only the time that participants were really concentrated. For example, the duration of the gaze includes the time that the user passes over the relevant area while actually moving the eye to a point on the side. Typically, the fixation duration is between 100 - 300 milliseconds, on the other hand, gaze duration, is around 16.67 milliseconds (iMotions, 2017). For the analysis, only the fixation durations were used and the gaze durations were not considered. It would be more accurate to take into account the durations in which the user is actually concentrated in an AOI.

As mentioned earlier, the data collection screens of the offline questionnaire were exactly the same as the online questionnaire. Therefore, each participant saw the

nine different place alternatives that included three positive looking, three neutral looking, and three fWHR manipulated profile pictures. For the analysis, the average of the fixation durations for each AOI was taken separately for each profile picture type. Thus, average durations for AOIs (profile pictures, place pictures, place explanations and rating scores) obtained for each profile picture type separately. Durations were all in milliseconds. It was decided to use Friedman Test to compare median values of each AOI for each profile picture type separately.

According to the test results there was a statistically significant difference in fixation average durations between AOIs for the place preference screens that show positive looking ($\chi^2(3) = 26.226, p = 0.000$), neutral looking ($\chi^2(3) = 43.690, p = 0.000$) and fWHR manipulated ($\chi^2(3) = 37.246, p = 0.000$) profile pictures. Percentiles for all three types of profile pictures are summarized in Table 7.12 below.

Table 7.14 Summary of Percentiles for All Three Types of Profile Pictures (Values are in Milliseconds)

Positive Looking Profiles		Percentiles		
AOI Name	N	25th	50th (Median)	75th
Profile Picture	39	545	1066	1499
Place Picture	39	555	910	1434
Place Description	39	0	178	1168
Rating Score	39	0	233	878

Neutral Looking Profiles		Percentiles		
AOI Name	N	25th	50th (Median)	75th
Profile Picture	39	600	1010	1933
Place Picture	39	245	756	1534
Place Description	39	0	56	733
Rating Score	39	0	200	601

fWHR Manipulated Profiles		Percentiles		
AOI Name	N	25th	50th (Median)	75th
Profile Picture	39	723	1087	1556
Place Picture	39	322	666	1942
Place Description	39	0	111	866
Rating Score	39	0	144	511

As it could be seen in the above table, profile pictures got the highest fixation time than the other to AOIs on the screen for all three types of profile pictures. And the Friedman test confirms that for each of the three profile picture types, the average fixation times of the AOIs on the screen were significantly different from each other. In other words, profile pictures grab travelers' attention more than the other variables on the screen. This finding proves that the human face is the most important source of information for travelers on the accommodation sharing platforms. As mentioned earlier, the human face is one of the main visual environmental sources of information for humans (Leslie A. Zebrowitz et al., 1996). In addition to that, lack of information about a person, increases the weight and meaning loaded to the information received from the face (Hassin & Trope, 2000). Therefore the result obtained from this analysis is parallel to the findings in the literature. In accordance with these results, H7 is supported.

GENERAL DISCUSSION

Sharing, as well as possession, and ownership concepts have been all learned culturally (Belk, 2007). These concepts have developed and changed in parallel with the economic evolution of the humankind which has passed four different main stages:

- The Hunter-gatherer society
- The Agricultural society
- The Industrial society
- The Information Society

Each society emerged by the evolution of the former one via new discoveries and inventions. Therefore, prior periods should be examined to understand and analyze the present production, ownership, sharing and consumption conditions properly.

The Hunter Gatherer society constitutes approximately 90% of the human history. Before the invention of the agriculture, all humans were hunter-gatherers (R. B. Lee & Daly, 1999). The sharing was a general practice of them (R. Lee, 1990; Marlowe, 2010). In these societies, individuals had only a few personal possessions such as arrows, bows, and clothes. All the other things were communally owned (e.g. water sources, foods, and lands) and nobody had the right to prevent any others from access to them. Individuals had right to leave their camp to join another one or establish their own camp. They shared the meat of hunted animals, collected fruits, arrows, bows, and clothes. They did not develop an adherence to stuff and weapons. They did not accumulate them (Marlowe, 2010). But with the transition to the agricultural society, the sharing culture began to disappear.

First agricultural societies began to emerge at the end of the last glacial period approximately 12.000 years ago (Barker, 2006). The main factors of a simple agricultural system are land, labor, and food surplus. With the development of agriculture, previously shared land and food surplus were turned into commodities possessed by private owners (Demsetz, 1967). Lands were separated and protected from others. Food surplus was not shared. Instead, it was used as a means of manipulation of others to support and reproduce social roles and to foster social institutions (Gamble, 1986). Some new roles in societies began to appear by the means of food surplus. Such as artisans, who make products, and exchanges the ownership of them for food or some other things that produced by other artisans. In other words, trade began. Marketplace, exchange culture, and private ownership swept the sharing culture and became a norm in societies. Another effect of the transition to agricultural society was population growth. In the farming system, a limited unit of land can support more people than the hunting-gathering system (Bocquet-Appel, 2011). For this reason, the population has begun to increase.

These transformations led to inequalities between individuals (Diamond, 1997). Social and economic discrimination between individuals has increased by the rise in production scale and complexity of society because of the systems of wealth distribution that based on work and/or kinship. On the other hand, the economic development of humanity would not be limited to this point and would evolve to a different dimension in the next stage.

Population growth continued during the agricultural society period. Parallel to this, artisanship developed to meet the material needs of the society. Artisanship began to change into workshops that can be counted on as the first factories. This process continued in this way until the 18th century. The Industrial Revolution began in the 18th century in England with the technological developments in the textile and the iron industries as well as the invention of the rotational steam engine (Hobsbawm, 1996). Similar to agrarian societies, industrial societies also

led to food and material surpluses which resulted in more complex social hierarchies and division of labor.

Artisans began to disappear, and factories took the role. Productivity in the factories began to increase by further technological developments. With increased productivity, factories began to need fewer workers for the same or even higher amount of output in course of time. By time fewer people got a chance to reach a share of wealth. Meanwhile, accumulation of the wealth accelerated, and combined with heritage causing unbalanced wealth accumulation in society (Piketty, 2014). The sharing economy emerged as a way to a more fair and sustainable way of allocating resources. Sharing among peers takes place by communication over digital platforms. Hence, the findings of this thesis are important for the development of the sharing economy.

The results obtained in this study show that travelers decide on the basis of perceived trustworthiness of the counter side from their profile pictures on the accommodation sharing platforms. These findings are consistent with the study of Todorov et al. (2008). Accordingly, in the evaluation of the others, the perceived trustworthiness of them is of great importance and the human face functions as a source of information in the formation of the trust. The positive expressions on the human face have a positive effect on the formation of trust, while the faces with the higher fWHR have a negative effect. The perceived trustworthiness that is created under the influence of all these variables also influences the travelers' preferences in the accommodation sharing platforms. Travelers are more inclined to prefer places with positive looking hosts than hosts with relatively high fWHR. In other words, the human face roles like a brand. It is possible to change the perception of a brand by changing almost every detail belonging to it, but the perception obtained from the human face can only be changed up to a point. This is an obstacle to the full equality of users in the accommodation sharing platforms. As explained previously, the faces of some individuals can be misleading. For instance, it can be perceived as expressing an emotion even if they do not because

of the Dorian grey effect (see pp. 20-24) or artifice effect (see pp. 20-24). For this reason, some people may become less preferred in the system, meaning they can be excluded in a sense.

Travelers' preferences were also examined according to the personality traits of them. Based on the literature, three personality traits, which have potential to influence the trust of travelers' to the hosts (and also influence their preferences), were identified and examined. These personality traits are neuroticism, extroversion, and uncertainty aversion. No significant difference was found between neuroticism dominant and non-dominant individuals for both place preferences and perceived trustworthiness over both neutral looking and fWHR manipulated faces. Although in the literature both Kynyazev et al. (2008) and Willis et al. (2013) found that individuals with neurotic personality are less likely to trust other people. It could not be proved in this study for Turkish people. It is possible that cultural factors may have influence. Further studies are needed to clarify this finding.

For the extroversion dimension, it was found that there was no significant difference between the introverts and extroverts, for the trustworthiness perception of the neutral looking and fWHR manipulated faces and the preference scores of the places with these profiles. It was also found that extrovert women prefer places with positive profile pictures more than introverted women. While the extroversion personality trait does not have an effect on the perception of neutral looking and fWHR manipulated profile pictures and traveler preferences, positive profile pictures only affect women.

For uncertainty avoidance dimension, no significant difference was found between uncertainty avoidance dominant and non-dominant individuals for place preferences for both positive looking and fWHR manipulated faces. The uncertainty avoidance personality trait does not have an effect on traveler preferences for positive looking and fWHR manipulated profile pictures.

Although the hypotheses were rejected, an interesting finding was identified. Uncertainty avoidance personality dominant males tend to trust fWHR manipulated profiles more than less dominant males. This finding can be explained by the fact that the more masculine faces seem to give more expert trust. In the study of Brownlow, 1992, it was found that people trusted more to the masculine-faced speakers as an expert. The relationship between the fWHR and dominance perception is already proven (Carmen Emilia Lefevre et al., 2014). Higher fWHR makes the face look more dominant than the lower fWHR. Hence, high fWHR may make the face look more trustworthy as an expert. Those with a predominance of this personality trait might, therefore, be more trusting in profiles with fWHR manipulated (increased) faces.

It was found that the profile pictures are the most important source of information for travelers on the accommodation sharing platforms. The analysis of the data, collected via eye tracking device in the offline survey, showed that the profile pictures grabbed travelers' attention more than the other variables on the screen.

Beyond the hypotheses, a general explorative study was also carried out. The generation-based analysis showed that younger generations are more willing to stay in the relevant places for all three types of profile pictures than previous generations (it should be noted that baby boomer generation was excluded from generation based analyses). Younger generations were found to be more open to the use of accommodation sharing platforms. It could be interpreted as a positive indication that these platforms will become more popular in the future. It should also be taken into consideration that when each generation was evaluated within itself, positive looking profiles were preferred more than fWHR manipulated ones. They perceived the positive looking profile pictures more trustworthy than the fWHR manipulated ones. Therefore, the positive approach of the younger generation to the use of the accommodation sharing system does not lead to the complete elimination of the obstacles in the way the system can be used by all individuals on equal terms.

One of the most interesting findings was fWHR manipulated (negative) faces perceived more similar to Turkish people when compared with positive looking faces. A more detailed study in this subject will be beneficial to understand the male face perception of the Turkish society.

Finally, participants' preferences were analyzed according to income levels. For all three types of profile pictures, 0-1000TL income level participants preferred to stay in the places significantly more than the participants in the 2501-4500TL income level. Those with an income range of 2501-4000TL had lower average preference scores than all other income groups (although not significant) for all three types of profile pictures. However, other income levels did not significantly differ from the each other. It can be interpreted that people with income levels of 0-1000 TL are predominantly younger generation and/or students and that they are more positively approaching the system. It was already found that the younger generation approaches the system more positively than the other generations. It can be said that the income range of 2501-4000 TL in today's conditions is the salary scale of the beginning and the middle management period of the university graduates. In a sense, these people can be called people who are in the period of social class change. In the transition period, the values of the new class have not yet settled in their minds, and this might be the reason for their negative approach to the accommodation sharing platforms. It is thought that it will be meaningful to study this finding more deeply in the future.

In the further decades, it is foreseen that the unemployment problem that already exists is likely to increase. For this reason, alternative solutions are being sought for the existing job-based wealth distribution system. The two prominent alternatives proposed as a solution are the sharing economy and the universal salary. It is thought that this thesis study sheds light on obstacles caused by human perception in the accommodation sharing platforms which is a branch of the sharing economy. Additionally, the findings of this study will contribute to all

industries where the human face is on the frontline.



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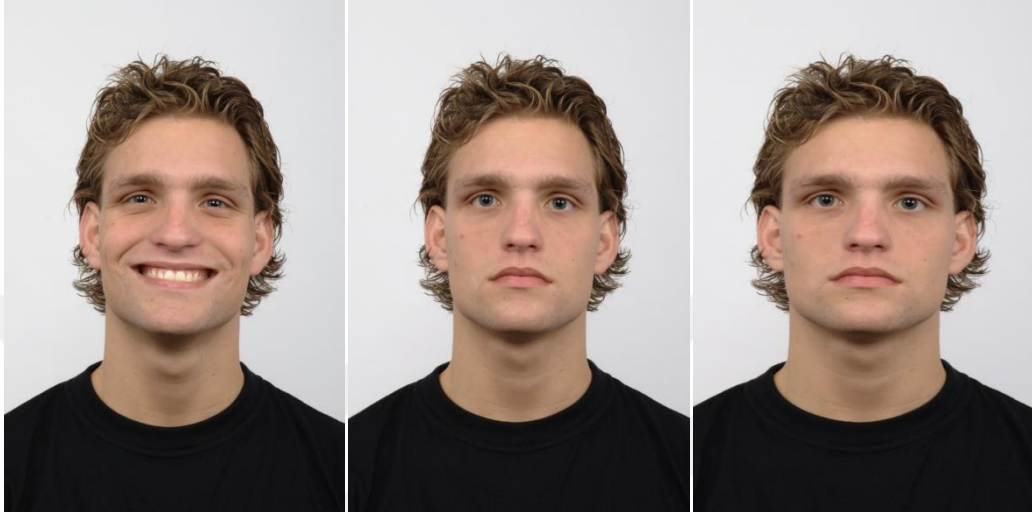
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[http://doi.org/10.1016/0022-1031\(79\)90045-3](http://doi.org/10.1016/0022-1031(79)90045-3)

APPENDIX A PROFILE PICTURES USED IN THE RESEARCH

Positive – Neutral – fWHR Manipulated

The Radboud Faces Database Profile Code: 7



The Radboud Faces Database Profile Code: 10



The Radboud Faces Database Profile Code: 15



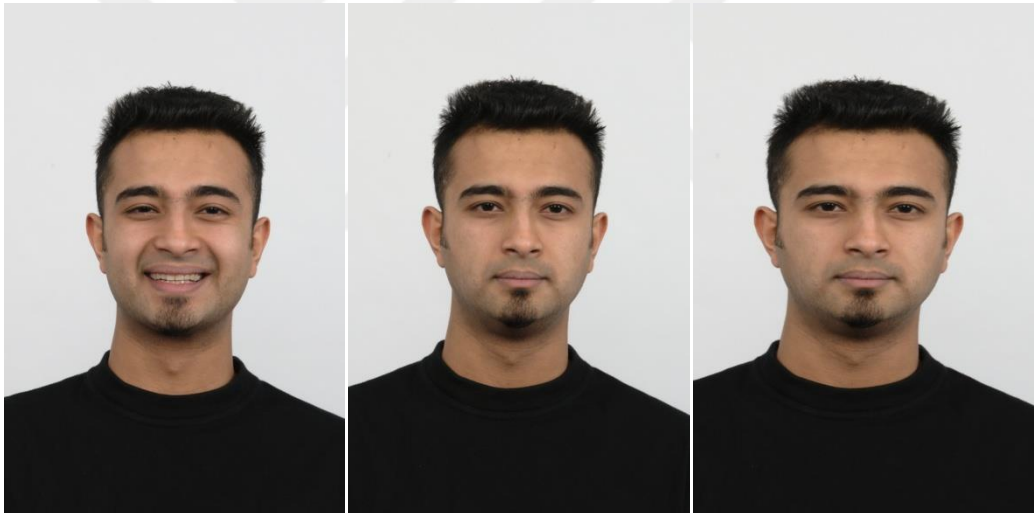
The Radboud Faces Database Profile Code: 20



The Radboud Faces Database Profile Code: 30



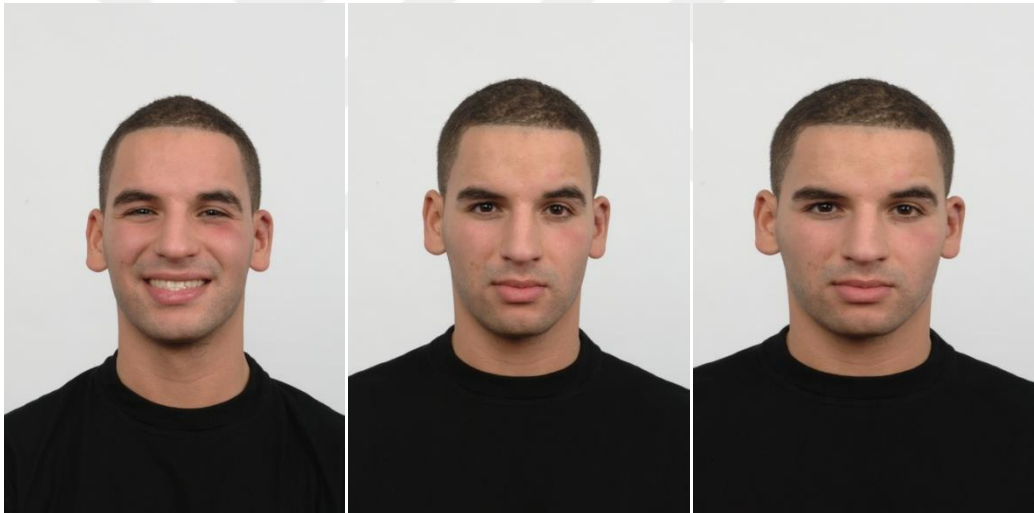
The Radboud Faces Database Profile Code: 48



The Radboud Faces Database Profile Code: 50



The Radboud Faces Database Profile Code: 53



The Radboud Faces Database Profile Code: 54



APPENDIX B ROOM PICTURES USED IN THE RESEARCH

Picture Code: 20



Picture Code: 21



Picture Code: 23



Picture Code: 27



Picture Code: 28



Picture Code: 29



APPENDIX C PLACE EXPLANATIONS USED IN THE RESEARCH

Çamaşır makinesi, kurutma makinesi, ütü masası ve ütü mevcuttur. Misafirler mutfağı da istedikleri gibi kullanabilirler. Merkezi ısıtma ve klima mevcuttur. WI-FI internet erişimi mevcuttur. Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. Özel banyo ve saç kurutma makinesi mevcuttur. Uydu kanallı HD LCD TV ve müzik sistemi mevcuttur. Ev merkezi bir konumdadır.

-

Uydu kanallı HD LCD TV ve müzik sistemi mevcuttur. WI-FI internet erişimi mevcuttur. Merkezi ısıtma ve klima mevcuttur. Misafirler mutfağı da istedikleri gibi kullanabilirler. Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. Ev merkezi bir konumdadır. Özel banyo ve saç kurutma makinesi mevcuttur. Çamaşır makinesi, kurutma makinesi, ütü masası ve ütü mevcuttur.

-

Merkezi ısıtma ve klima mevcuttur. Çamaşır makinesi, kurutma makinesi, ütü masası ve ütü mevcuttur. Özel banyo ve saç kurutma makinesi mevcuttur. Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. WI-FI internet erişimi mevcuttur. Uydu kanallı HD LCD TV ve müzik sistemi mevcuttur. Ev merkezi bir konumdadır. Misafirler mutfağı da istedikleri gibi kullanabilirler.

-

Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. WI-FI internet erişimi mevcuttur. Merkezi ısıtma ve klima mevcuttur. Misafirler mutfağı da istedikleri gibi kullanabilirler. Çamaşır makinesi, kurutma makinesi, ütü masası ve ütü mevcuttur. Ev merkezi bir konumdadır. Özel banyo ve saç kurutma makinesi mevcuttur. Uydu kanallı HD LCD TV ve müzik sistemi mevcuttur.

-

Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. Misafirler mutfağı da

istedikleri gibi kullanabilirler. amařır makinesi, kurutma makinesi, t masası ve t mevcuttur. zel banyo ve sa kurutma makinesi mevcuttur. WI-FI internet eriřimi mevcuttur. Uydu kanallı HD LCD TV ve mzik sistemi mevcuttur. Ev merkezi bir konumdadır. Merkezi ısıtma ve klima mevcuttur.

-

WI-FI internet eriřimi mevcuttur. Merkezi ısıtma ve klima mevcuttur. Misafirler mutfağı da istedikleri gibi kullanabilirler. amařır makinesi, kurutma makinesi, t masası ve t mevcuttur. Ev merkezi bir konumdadır. Yeni mobilyaları ile rahat, konforlu bir ortama sahiptir. zel banyo ve sa kurutma makinesi mevcuttur. Uydu kanallı HD LCD TV ve mzik sistemi mevcuttur.

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APPENDIX D PERSONALITY INVENTORY

		Tamamen Yanlıř	Yanlıř	Ne dođru Ne Yanlıř	Dođru	Tamamen Dođru
Neuroticizm	Sık sık bir řeylerin ters girmesinden kaygılanırım.					
	Beni kızdırmak zordur.					
	İnsanlarla konuşurken pot kırmaktan, yanıř bir řey söylemekten korkarım.					
	Bir tanıdığım topluluk içinde aptalka bir řey söyler veya yaparsa onun için utanç duyarım.					
	Bazen aklıma korkunç düşünceler gelir.					
	Çok fazla stres altında olduğunda bazen hiçbir iş yapamaz olurum.					
	Gelecek hakkında ender olarak endişe duyarım.					
	İnsanların benimle dalga geçmelerine pek bozulmam.					
	Kimi zamanlar öylesine utandığım olmuřtur ki yer yanlıřa da içine girsem demiřindir.					
	Küçük sıkıntılar bile benim için asap bozucudur.					
	İnsanlarla birlikteyken kendi davranışlarımı pek incelemem.					
	Nadiren korku ve kaygı hissedirim.					
Extroversion	Neşeli ve canlı bir insanım.					
	Kalabalık arkadaş gruplarıyla eğlenmekten hoşlanırım.					
	Bazen mutluluktan yerimde duramam.					
	İnsanlarla çene çalmaktan pek fazla zevk almam.					
	Çok aktif bir insanım.					
	Bana heyecan veren řeyleri sık sık yapmak isterim.					
	Kısa süreli yalnızlıklardan sonra bile etrafında birçok insanın bulunacağı yerlere gitmek isterim.					
	Arkadařlarıma karşı güçlü duygusal bađlılıđım vardır.					
	Birçok insan benim sođuk ve mesafeli olduğumu düşünür.					
	Heyecan verici eğlencelerle dolu olan kalabalık bir yerde tatil yapmak hoşuma gitmez.					
	Başka insanlarla uğrařmadan tek başıma çalışmama izin veren işleri tercih ederim.					
	Yaşadıklarımı ifade etmek için "Muhteřem!" veya "Olađanıřtıl!" gibi sözcükleri nadiren kullanırım.					
Uncertainty Avoidance	Talimatların ayrıntılı bir řekilde açıklanması önemlidir, böylece ne yapmam gerektiđini her zaman bilirim					
	Talimat ve prosedürleri sıkı bir řekilde takip etmek önemlidir					
	Standardize edilmiř çalışma prosedürleri faydalıdır					
	Kurallar ve yönetmelikler önemlidir çünkü benden neler beklendiđini açıklarlar					

APPENDIX E SCENARIO TEXT IN TURKISH

“Günümüzde, turizm/konaklama endüstrisinde, yeni bir akım olarak şahıslar evlerinin bir odasını başka bir ülkeden gelecek kişilere konaklamaları için ücretsiz olarak açabilmektedirler. Konaklayacak olan kişiler ev sahibi ile birlikte de zaman geçirebilmekte ve evin mutfak, banyo ve salon gibi diğer alanlarını da kullanabilmektedir.

Bu bilgi ışığında sizden farklı bir ülkeye tek başınıza, arkadaşınız ile veya eşiniz ile seyahat planladığınızı ve bu seyahatte tanımadığınız birisinin evinin bir odasında kalmayı değerlendirdiğinizi düşünmenizi istiyoruz. Eğer var ise çocuğunuzun bu seyahatte yer almayacağını varsaymanızı istiyoruz.”

ETİK KURUL ONAYI

Etik Kurulu Onayı, bu tezin basılı halinde mevcuttur.

