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GRADUATE SCHOOL**

**MASTER THESIS**

**THE EFFECT OF GENDER ROLES ON GENDER  
IDENTITY, SEXUAL ORIENTATION AND  
SUBJECTIVE PERCEPTION OF  
ATTRACTIVENESS**

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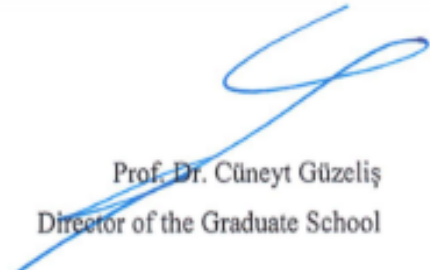
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## ABSTRACT

# THE EFFECT OF GENDER ROLES ON GENDER IDENTITY, SEXUAL ORIENTATION AND SUBJECTIVE PERCEPTION OF ATTRACTIVENESS

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The aim of this study is to experimentally test the effect of gender roles on gender identities, sexual orientation and sexual desires of individuals. For this purpose, two separate experimental studies are designed. In Study-1, 30 gender-neutral face photographs were shown to the participants. Some of the participants were informed that the photos are belong to "men" and some of them are belong to "women". Participants were asked to answer the following three questions, "Would you like to date the person you saw in the photo?", "Would you kiss the person you saw in the photo?" and "Is the person you saw in the photo sexy for you?". A total of 407 participants, 278 women and 129 men, participated in the first study. The participants were made up of people who stated that they are heterosexual. In Study-2, 75% masculine face photos were shown to male participants and 75% feminine face photos were shown to female participants. The number of photos shown to each participant was 30. Again, some of the participants were informed that the photos are belong to "men" and some of them are belong to "women" and the questions in the first study were repeated exactly. A total of 282 participants, 151 women and 131 men participated in the second study. All of the participants were again made up of heterosexuals. It was tested whether the responses of the participants to the questions changed according to the gender tag of the photos. The results are discussed around the concept of gender fluidity.

**Keywords:** Gender, Sexual Fluidity, Gender Identity, Sexual Orientation

## ÖZ

# TOPLUMSAL CİNSİYET ROLLERİNİN CİNSİYET KİMLİĞİ, CİNSEL YÖNELİM VE ÖZNEL ÇEKİCİLİK ALGISI ÜZERİNDEKİ ETKİSİ

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2020

Bu çalışmanın amacı toplumsal cinsiyetin rollerinin cinsiyet kimlikleri, cinsel yönelim ve bireylerin seksüel arzuları üzerindeki etkisini deneysel olarak test etmektir. Bu amaç doğrultusunda iki ayrı deneysel çalışma tasarlanmıştır. Çalışma-1’de katılımcılara 30 adet cinsiyeti belirsiz yüz fotoğrafları gösterilmiştir. Katılımcıların bir kısmına fotoğrafların “erkekler” ait olduğu bir kısmına ise “kadınlara” ait olduğu bilgisi verilmiştir. Katılımcılardan her bir fotoğraf ile ilgili “fotoğrafta görmüş olduğunuz kişiyle randevuya (date’e) çıkar mısınız?”, “fotoğrafta görmüş olduğunuz kişiyle öpüşür müsünüz?” ve “fotoğrafta görmüş olduğunuz kişi sizin için seksi mi?” sorularına cevap vermeleri istenmiştir. İlk çalışmaya 278’i kadın, 129’u erkek olmak üzere toplam 407 kişi katılmıştır. Katılımcılar heteroseksüel olduğunu ifade eden kişilerden oluşturulmuştur. Çalışma-2’de ise erkek katılımcılara 30 adet %75 oranında maskülen hale getirilmiş yüz fotoğrafları gösterilirken, kadın katılımcılara ise %75 oranında feminen hale getirilmiş yüz fotoğrafları gösterilmiştir. Yine, Katılımcıların bir kısmına fotoğrafların “erkekler” ait olduğu bir kısmına ise “kadınlara” ait olduğu bilgisi verilmiştir ve fotoğraflar ile ilgili ilk çalışmadaki soruların aynısı yöneltilmiştir. İkinci çalışmaya 151 kadın ve 131 erkek katılmıştır. Katılımcıların tamamı yine heteroseksüellerden oluşturulmuştur. Katılımcıların görmüş oldukları fotoğrafın cinsiyet etiketine göre sorulara verdikleri cevapların farklılaşıp farklılaşmadığı analiz edilmiştir. Sonuçlar cinsiyet akışkanlığı kavramı etrafında tartışılmıştır.

**Anahtar Kelimeler:** Toplumsal Cinsiyet, Cinsiyet Akışkanlığı, Cinsiyet Kimliği, Cinsel Yönelim

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**TEXT OF OATH**

I declare and honestly confirmed that my study, titled “The Effect of Gender Roles on Gender Identity, Sexual Orientation and Subjective Perception of Attractiveness” and presented as a Master’s Thesis, has been written without applying to any assistance inconsistent with scientific ethics and traditions. I declare, to the best of my knowledge and belief, that all content and ideas drawn directly or indirectly from external sources are indicated in the text and listed in the references.

ERDAL KOZAN

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2020



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## INTRODUCTION

Freud (1937), based on his clinical observations, claimed that all humans are innately bisexual, but over time, especially with the influence of repression processes, they become forced to choose one sexual orientation and many of them choose a heterosexual one. The handling of gender identities in this way was important because it diverged from approaches that considered non-heterosexual gender identities as pathological. Since the emergence of this idea based on Freud's intuition, the boundaries and fluidity of gender identities have been discussed widely.

Sex is one of the most important parts of human identity and therefore the aim of psychologists is to understand the nature of sex and its effects on behaviour is quite logical. Studies conducted for this purpose have addressed sex with a categorical, essentialist and heteronormative approach for a long time (Rudman & Glick, 2012). In the last few decades, especially with the progress of neuroimaging techniques, "neurosexist" approaches have become stronger and presented gender differences as absolute and inevitable facts (Fine, 2010). In contrast, some adopted different approaches and opposed the handling of sex in this way and they accused this way of being reductive and nurturing gender discrimination (Rudman & Glick, 2012; Fine, 2010). These approaches emphasized the historical, social, cultural and political nature of sex and gender. The sex and gender research literature, which lies between these two approaches, hosts the most lively and heated discussions of recent years.

The present study consists of two separate experiments and aims to contribute with experimental way to these discussions. Both studies tested whether gender labels affect individuals' sexual desire expressions. In the first study, gender-neutral stimuli were used and some of the participants were informed that the stimuli is belong to "women" and the other participants were informed that the stimuli is belong to "men". In the second study, male participants saw feminine stimuli and female participants saw masculine stimuli. participants were manipulated regarding the sex of the stimuli as in the first study. When participants express their sexual desires, will they based on the gender label of the stimuli or will they pay attention to other characteristics of the stimuli? The answer to this question can give clues about the boundaries (*Will the participants comply with the boundaries of their sexual identity?*), development (*Are sexual identities invariable features or phenomena learned and built?*) and fluency (*Do sexual identities vary with time and situation?*) of gender identities.

## CHAPTER I

### 1. BASIC CONCEPTS AND THEORIES

In this chapter, firstly, the concepts of sex, gender, sexual orientation and gender identity are defined. Then, basic theories of gender studies are examined under three main topics; biological models, gender as a result of raising, gender as a social construct. Then, sexual fluidity, a relatively new concept, is summarized. Finally, the purpose and hypotheses of the present study are explained.

#### 1.1. Basic Concepts: Sex, Gender, Sexual Orientation and Gender Identity

In the literature, the subject is generally discussed around two different concepts: Sex and gender. Although there are discussions about the boundaries and scopes of these concepts, sex refers to two categories, male and female, determined by the reproductive organs and gender refers to social and cultural meanings, roles and expectations related to being male and female (Davis & Palladino, 1995). This means that sex emphasizes that biological facts such as genes, chromosomes, and hormones, and it is not affected by culture and it cannot be easily changed. In contrast, gender emphasizes interactions between people, and it is influenced by society and culture and it is easy to change.

Gender is relatively a new concept. The fact that all the differences between men and women cannot be explained by sex has created a need for a new concept. Thus, the concept of “gender role” was first used by sexologist John Money in 1955 (as cited in Haig, 2004).

Apart from the genotype or phenotype, the psychological perception of the individual about herself/himself is also important. We are now familiar with people who are biologically female but feel themselves as a male or who are biologically male but who feel themselves as a woman. Of course, there are cases that biological gender and psychological perception are compatible with each other. This psychological perception of the individual is defined as gender identity (Helgeson, 2012).

Sexual orientation, on the other hand, refers to who one finds attractive and wants to have a sexual and/or romantic relationship. In this regard, three different possibilities are usually mentioned: First, heterosexual, as a term, corresponds to people who prefer other-sex partners; second, homosexual people prefer same-sex

partners, and third, bisexual people are attracted to both females and males (Helgeson, 2012).

## **1.2. Basic Theories of Gender Studies**

How does being a female or male affect an individual's behaviour, attitudes, abilities or cognitive processes? What is the magnitude of this effect? What is the meaning of the differences between female and male? Throughout the history of psychology, many different answers of these questions have emerged. Clarke and Braun (2012) classified the approaches that tried to answer these questions under three categories: Biological models, gender as a result of raising, and gender as a social construct. Since Clarke and Braun's (2012) classification is functional, it will be used in the current study. However, Clarke and Braun (2012) did not provide the names of the theories under these three groups. Because of this, in the current study, the theories under these groups have been placed by the researcher of the current study.

Summarizing all gender theories is not one of the aims of the study. However, general outlines of the theories will be mentioned in order to show how gender is handled affects the interpretation of gender differences.

## **1.3. Biological Models**

Empirical and theoretical studies that try to find the origins of gender or/and sex differences are usually shaped around the nature-nurture dichotomy. Biological approaches are closer to the nature pole of dichotomy and the concept of gender (social) is determined by the concept of sex (biological) (Clarke & Braun, 2012). Therefore, it is not important to distinguish between gender and sex. According to biological approaches, gender differences originate from genes, hormones and the structure and function of brain. Also, Theories such as sexual selection, which suggest that gender differences have an evolutionary origin, can be found under this heading.

### **1.3.1. Gene, Hormone and Brain Studies**

Researchers have tried to detect genes, hormones, or brain structures that have led to gender differences for years. For this purpose, twin studies are frequently used to determine the effect of genetic factors on gender differences. For example, in a study conducted by Iervolino, Hines, Golombok, Rust and Plomin (2005), the sex-typed behaviours of monozygotic twins, dizygotic twins and non-twins sibling pair compared. The researchers found that the sex-typed behaviour similarity between

monozygotic twins was higher than dizygotic twins and sex-typed behaviour similarity between dizygotic twins higher than the non-twins sibling pair. The results showed that as the genetic similarity increased between the siblings, correspondence between the siblings increased. However, as mentioned by researchers of the study, twin studies could not pinpoint the precise essence of the environmental and genetic factors that contribute to sex-typed behaviour.

Twin studies are also conducted to understand the genetic and environmental factors that contribute to homosexuality. For instance, in their study with the large Austrian twin sample, Bailey, Dunne and Martin (2000) showed that familial factors were effective on homosexuality. However, again, they failed to successfully distinguish between the effects of genetic and environmental factors.

In addition, although some researchers claim that homosexuality is affected by a specific gene on the X chromosome (Hamer, Hu, Magnuson, Hu & Pattatucci, 1993), this could not be proven precisely and the presence of opposite findings could not be eliminated (Bailey et al, 1999).

The number of studies conducted to show that estrogens and androgens are caused by gender differences is also quite a lot. Estrogen and androgen are sex-related hormones and their amount is different in women and men. It is not possible to conduct experimental studies by manipulating hormone levels in humans. For this reason, studies investigating the effects of sex-related hormones frequently use animals for experiment. One of the best-known examples on the subject is the work carried out by Gurney and Konishi (1980). In this study, researchers used zebra finches. The most basic sex-typed behaviour of this bird species is that males sing but females not. Researchers exposed female zebra finch chicks to androgens and showed that female zebra finch chicks began singing. In another animal study, researcher showed that morphological and behavioural masculinity can occur in mice exposed to androgen in the prenatal and neonatal period (vom Saal, 1979). Findings from animal studies were frequently criticized. One of these criticisms, these studies oversimplify the relationship between hormone, brain, and behaviour (Breedlove, Cooke & Jordon, 1999). Another criticism is that findings from animals cannot help understand what is happening in humans (Wallen, 2005).

A genetic abnormality known as congenital adrenal hyperplasia (CAH) provides a convenient opportunity to investigate the effect of prenatal exposure to high

degree androgens. A study conducted by Puts, McDaniel, Jordan and Breedlove (2008) compared the spatial skills of people with CAH and people without CAH. There is extensive literature on spatial skills, and most studies show that men have higher spatial skills than women (Maccoby and Jacklin 1974, Lawton, 1994). Puts et al. (2008) found that spatial skills of girls with CAH were higher than girls without CAH but spatial skills of boys with CAH were lower than boys without CAH. According to the researchers, these findings showed that there was no simple relationship between androgens and spatial skills and the source of difference between girls with CAH and girls without CAH is not clear. This difference may have caused girls with CAH to play more masculine games. Another study showed that girls with CAH play masculine games more than girls without CAH but the play behaviour of boys was not affected by CAH (Hines, Brook & Conway, 2004). Why do girls with CAH spend more time with masculine toys? Is it because of a certain quality of the toy or because they are identified with boys (Fine, 2010)?

The claim that differences in the structure and functioning of the brain are a possible explanation for gender differences has been investigated for many years. Researchers have long suggested that the male brain is more lateral than the female brain (Bakan & Putnam, 1974; McGlone, 1976; O'Boyle & Hellige, 1989). Accordingly, women's right and left brains were more in communication with each other. However, the connection between the brain lobes of men was weaker. Researchers who supported the theory thought that this was due to a difference between the male and female brains; shape and size of corpus callosum (DeLacoste-Utamsing and Holloway, 1982). However, according to the results of the meta-analysis by Bishop and Wahlsten (1997), there was no gender difference in the shape or size of the corpus callosum.

There is a large literature linking the structure and function of the brain with gender differences. However, biological explanations of gender differences always included contradictory findings and encountered strong opposing arguments. For example, it has been stated that a discovered difference between the male and female brains does not always lead to behavioural changes (de Vries & Sodersten, 2009) and some differences in the brain and nervous system observed between men and women are not important because these differences can produce the same results in alternative ways (Michel & Moore, 1995). Despite these objections, excessive interpretation of

weak findings and their presentation in popular media continues to be a problem. For example, in 2005, the president of Harvard University, Lawrence Summers said that women were innately less talented in science than men, and this statement has been widely covered in the media (Goldenberg, 2005). Such expressions affect gender differences negatively. For example, Dar-Nimrod and Heine (2006) conducted an experiment and some of their participants have read an article claiming that gender differences in math skills are genetic. Other participants have read an article claiming that their ability to math can be improved and related to learning processes. The performance of women who learned that their mathematics ability was genetic was worse than women in the other group. In another study conducted by Good, Aronson, and Inzlicht (2003), participants were told that intelligence was formable and not stable feature, this has increased women's mathematical ability, thereby reduced gender gap in this area.

### **1.3.2. Evolutionary Approaches**

Darwin (1859) provided a comprehensive explanation of how the biological features of organisms are transferred inherently by the evolutionary theory. Following Darwin, the diameter of evolutionary explanations was expanded and theory was used in many different fields. One of these fields is gender differences. Evolutionary theorists used two basic concepts to explain gender differences; sexual selection and parental investment.

Sexual selection refers to matching strategies. In humans, men compete among themselves to attract women's attention and match them while women have to decide which man to choose as their preferred partner (Buss, 2009). The second concept, parental investment, means that investments in offspring are different for men and women because the male produces a large number of sperm and is not responsible for pregnancy, but the women produce much less ova and invest in the offspring during pregnancy (Robert, 1972). Evolutionary theorists claim that these differences have an impact on behaviours. For example, according to evolution theorists, long-term and short-term relationship preferences of men and women are different. Because of women produce few ova and invest a lot in their offspring, they are more careful in choosing a mate. Therefore, they prefer long-term relationships more than men. In contrast, men produce a large number of sperm and they need to invest less in their children. Therefore, they prefer short-term relationships more than women (Buss and



Schmitt, 1993). However, these findings conflict with another study. Pedersen, Miller, Putcha-Bhagavatula and Yang (2002) found that the difference between the number of sex partners of women and men is small and both women and men prefer long-term relationships more than short-term relationships.

In addition, women carry their child in their bellies and are sure that the child belongs to them, but men are not. Evolution psychologists mention that this uncertainty experienced by men has some consequences. Males wanted to have control over their partner's sexuality to make sure that the child was theirs (Daly, Wilson & Weghorst, 1982). This need for control of men forced them to protect their spouses from other men and become more aggressive (Buss, 2006).

Evolutionary explanations of gender differences have been criticized for ignoring the effects of culture and some researchers have claimed that, under the influence of culture, evolutionary behaviour patterns can be replaced by other behaviour patterns (Rudman & Glick 2012). For example, cooperative behaviours can be substituted for aggressive behaviours in order to increase the functionality and continuity of the community. Today, the gap between the amount of investment made by women and men in their children is closing. It is also claimed that social and cultural variables have an effect on behaviours such as mate selection. Nonetheless, evolutionists suggest that sexual strategies and preferences evolved over thousands of years. Because of this, it is not possible to change them in the short term (Petersen & Hyde, 2011).

Biological approaches criticized to explain gender differences in an essentialist way. The fact that gender differences are attributed to biological structures such as genes, hormones and brain or/and uncontrolled processes such as evolution implies that these differences are natural. These interpretations of gender differences have been criticized for ignoring the impact of cultural and social factors and undermines people's belief in social change (Fine, 2010; Rudman & Glick 2012).

#### **1.4. Gender as a Result of Raising**

Some of the theories that try to explain gender differences emphasize the importance of human development process. It can be said that the explanations under this title are closer to the nurture pole of the nature-nurture dichotomy. These explanations do not ignore the biological basis of gender differences, but claim that

biological structures are shaped by the influence of culture and learning processes (Clarke & Braun, 2012). That is, people realize their sex at an early age and they learn and internalize gender behaviours compatible with their sex. Thus, they acquire a gender identity agreeable for their sex. Psychoanalytic Theory, Social Learning Theory, Cognitive Developmental Theory and Gender-Schema Theory can be included under this title.

#### **1.4.1. Psychoanalytic Theory**

In the late 19th century, Sigmund Freud proposed a comprehensive theory explaining the differences in the development of male and female personality (as cited in Geçtan, 2006). This theory, called psychoanalysis, emphasized the importance of unconscious processes. According to this, at the early age, a great part of our personality was completing its development with the effect of processes that we are not aware of. On this basis, Freud described step by step the five different psychosexual development stages.

As reported by Freud and summarized by Stevenson (1996), first step of the psychosexual development begins with birth and it lasts for the first 1-2 years of life. The infant has sexual energy (libido) and the place where this energy focuses on the body is important for psychosexual development. In the first period, the infant begins to establish a relationship with the world using his/her mouth. In this process, libido is focused on the mouth region and therefore this period is called "oral stage". With the development of the anus muscles, the child gains control over the retention or expulsion of the stool. During this stage, libidinal energy is in the anus region. This period, which lasts until the end of 3 years, is called "anal stage". In the phallic stage, between the ages of 3 and 6, the location of libidinal energy is in the genital region. This period is characterized by sexual conflicts and learning of gender roles. The most striking discovery for girls and boys in the phallic period is the penis, and only boys can have it. With the discovery of this deficiency, both boys and girls begin to think that girls are inferior. According to Freud, penis envy of girls occurs in this period. Another important feature of this period is that girls and boys feel sexual attraction for the first time. Boys are sexually attracted to their mothers and are jealous of their fathers while the girls are sexually attracted to their father and jealous of their mother. This condition is called Oedipus complex for boys and Electra complex for girls. Both conflicts are resolved by identifying children with the same-sex parent. With

identification, children learn gender roles suitable for their sex. The next stage begins with the resolution of the Oedipus complex for boys and the Electra complex for girls. It is called latency stage and all sexual impulses are repressed during this period. Children make same-sex friendships and this period continues until the beginning of adolescence. The power of sexual impulses of the child, which reaches physiological maturity with adolescence, increases. Other-sex friendships start again, this time accompanied by sexual and emotional attraction. Conflicts in the previous steps are revived, but now an adult identity is built by seeking new solutions to these conflicts.

For more than a century, Freud's theories have been frequently discussed and criticized in the field of science, art and literature. One of the most important of these criticisms was directed by feminist psychoanalyst Karen Horney. According to Horney, girls' penis envy did not mean literally having a penis. She interpreted penis envy as a desire to reach the social power and status of men. In addition, it was not just girls who were envious. Men also felt envy towards women's breasts and child-bearing abilities (Geçtan, 2006). A broader critique of psychoanalytic theory involves that it cannot be tested by scientific method (Helgeson, 2012).

Erik Erikson mentions that researchers working on human sexuality before Freud had a defective approach (as cited in Simon & Gagnon, 1998). They thought that people did not have a sexual capacity until adolescence. The source of human sexual capacity was hormonal and biological changes occurring in adolescence. One of Freud's greatest contributions to sexuality research was that he destroyed this understanding and he pioneered the idea that human has innate sexual capacity.

#### **1.4.2. Social Learning Theory**

How do the socialization processes of children affect their behaviour in general and gender differences in particular? Social learning theory tries to answer this question and describes the effect of social factors on the individual in two basic ways; modelling and reward/punishment (Bandura & Walters, 1963).

According to social learning theory, initially, the child can mimic the behaviour of any person. The child is willing to model almost every person she/he sees on television or in real life. The modelled behaviour is repeated if rewarded, and given up if punished. Therefore, modelling and reward / punishment system work together.

Children do not always imitate same-sex models (Maccoby & Jacklin, 1974). However, same-sex models are more likely to mimic than other-sex models Perry &

Bussey, 1979). This is quite logical when the reward/punishment system is considered. The child imitates everyone, but their sex-appropriate behaviours are rewarded, and their sex-inappropriate behaviours are punished. Thus, over time, the child's tendency to mimic same-sex models and sex-appropriate behaviours increases.

As can be seen, in social learning theory, there is no difference between learning any behaviour and learning gender related behaviour. The same psychological mechanisms apply to all behaviours. This means that gender differences are not inevitable. If society rewards different behaviours and punishes different behaviours, children's behaviours can develop differently (Bem, 1983).

In the literature, there are empirical findings supporting the social learning theory. For example, Spelke (2005) shown that the predisposition of different genders to mathematics and science varies according to culture and the gender gap in mathematics tends to decrease over time. According to these findings, the way cultures handle gender differences has an impact on the magnitude of the differences.

Criticisms of social learning theory are related to the construction of children as passive receptors. However, children are considered to be active participants in the socialization process (Bem, 1983).

### **1.4.3. Social Role Theory**

Social role theory is another theory that emphasizes the effect of socialization processes in explaining gender differences. While other theories emphasize individual-environment interaction, social role theory emphasizes society and how social roles shape the groups (Helgeson, 2012). In this theory, women and men are affected by socialization processes in groups.

According to the theory, the expectations and structural features of the society shape the gender differences (Wood, Christensen, Hebl, & Rothgerber 1997). Society expects and promotes men to be controlling, dominant and independent characteristics. The woman preferred by the society as sensitive, nurturing and interested. This situation is reflected to the children and children develop appropriate behaviours. These are examples of the contribution of social expectations to gender differences. There are also examples of social structure. For example, the social division of labour is the main cause of many differences between men and women. As part of the division of labour, men are responsible for non-home affairs, while women are responsible for domestic affairs such as childcare. This situation causes men to develop more agentic

and women to develop more communal tendencies. Women are more open to social impact and more compatible than men. Because communal tendencies motivate them to maintain group cohesion. Also, the communication skills of women who are exposed to non-verbal behaviour during child care develop more than men (Eagly, 1987).

Social role theory points out that gender differences are minimal in cultures where gender role expectations are more equal (Helgeson, 2012). Also, it accepts the effect of biology on roles (Wood and Eagly, 2002).

Social role theory has been criticized for focusing too much on social processes and ignoring cognitive processes (Plotnik, trans. 2009).

#### **1.4.4. Cognitive Developmental Theory**

While social learning theory and social role theory claim that the child has a passive nature shaped by external factors, cognitive developmental theory accepts the child as the most important agent of her/his gender-role socialization (Bem, 1983). How can the child contribute to her/his gender-role socialization?

According to the cognitive development theory, the reasons for gender differences can be explained around two basic concepts. One of them is gender identity and the other is gender constancy. While children are actively trying to understand their world, they become aware of their gender identity. This awareness develops around the age of 2-3. Initially, gender is not a stable identity for the child. At this age, the child can easily believe that a man who grows his hair can be a girl. However, around the age of 5, the child understands that the gender identity is not variable, and this is called gender constancy (Martin, Ruble and Szkrybalo, 2002). When the child becomes aware of his/her sexual identity, she/he has an intrinsic motivation to learn the behaviours that appropriate his/her identity.

One criticism of theory is about when children started to show sex- appropriate behaviour. According to Kohlberg (1966), in order for the child to choose sex-appropriate behaviours, the perception of gender constancy must have emerged (as cite in Bussey and Bandura, 1992). However, Bussey and Bandura (1992) conducted an experiment and suggested that children already show sex-appropriate behaviour before the gender constancy phase. Based on these findings, the researchers claimed that

cognitive development alone could not explain the gender-role acquisition and the external effects of social factors should be taken into consideration.

Bem (1983) directed another criticism of the theory. Accordingly, the theory does not explain the reasons for the effect of gender category on children. Why do not other categories such as race or religion have the same effect? Bem tried to answer this question in her own theory.

#### **1.4.5. Gender-Schema Theory**

Gender-schema theory was first introduced by Bem, in 1981, to explain how people are sexed in society and how sex-typed behaviour is transmitted between people. The theory emphasizes the effect of cognitive structures called schema in learning sex-typed behaviours. According to Bem (1981), “a schema is a cognitive structure, a network of associations that organizes and guides an individual's perception.” (p. 355). Our mind has schemas for almost every situation and phenomenon. Each person creates many cognitive schemas related to people, objects and places throughout his/her development (Helgeson, 2012). Schemas are efficient structures because they alleviate the cognitive load, but they may cause problems from time to time. For example, knowing that a newly encountered plant is fruit gives us many tips. This new plant can be eaten, its taste is probably sweet and nutritious. What provides this information about the new plant is the pre-existing fruit scheme in our minds. Thanks to the schemes, we do not have to explore every new phenomenon from scratch. However, schemes can sometimes lead to biased attitudes. For example, our schemes for a race can cause all members of that race to be tagged.

Gender schemes are no different from other schemes. A gender scheme contains all of our information about being a man and a woman and can include behaviours, cognitions, and emotions. What does a woman wear? How does a man cry? What are the roles of men and women in relationships? A gender scheme can answer all these questions. According to Bem (1983), the content of the gender scheme is determined by the practices of society based on gender-difference. However, schemas are not the same and constant structures for everyone. Children are active participants of this scheme acquisition process. Also, the upbringing can change the effect of these schemes on the child. Therefore, a person can be gender-schematic or gender-aschematic. Person who are gender-schematic develop schemes that are compatible with gender schemes in society but person who are gender-aschematic use

different categories instead of the gender category to define the world (Helgeson, 2012). Bem (1981) used the concept of androgyny to describe the people who are gender-aschematic. Accordingly, the people who are gender-aschematic could show feminine and masculine features at the same time because they could think independent of the gender scheme. Criticism of the theory targeted the concept of androgyny (Helgeson, 2012). Bem suggested that the people who are gender-aschematic interpret the world without the need for gender schemes but the concept of androgyny still contained gender features (as cited in Helgeson, 2012). Upon this, Bem (1983) accepted these criticisms and advocated gender-aschematicity instead of androgyny for a gender egalitarian society.

Bem (1983), for a while, encouraged the society to raise gender-aschematic children. However, according to Helgeson (2012), she gave up because this idea was unattainable. Instead, she proposed another method to minimize gender differences. Accordingly, we should have increased the number of sex categories as much as possible. In this way, the boundaries between the categories could be obscured and the distinction between categories could lose its importance.

## **1.5. Gender as a Social Construct**

According to Clarke and Braun (2012), the most assertive theories of the concept of gender or/and sex are located under this title. These theories include criticism of the theories formed around the nature-nurture debate and question the assumptions of essentialist theories. Social structuralist theories, which reject the claims that gender is a natural phenomenon, treat gender as a product of society. Therefore, gender is an unnatural form of classification. Dichotomic perception of gender is not a simple reflection of reality, but an ideological argument that shapes reality. The theories to be included under this title are as follows; social constructionism, sexual scripts theory, and queer theory.

### **1.5.1. Social Constructionism**

Social constructivism differs radically from all of the theories summarized above. According to the theories described above, knowledge is a phenomenon that exists independently from humans. However, social constructionism claims that knowledge and reality are social structures built by human. That is, all knowledge and reality are constructed and spread during social interactions (Andrews, 2012).

Burr (2015) mentioned that it is difficult to make a definition accepted by everyone for social constructionism. Nevertheless, to summarize the main features of social constructivism and to show their differences from traditional psychology is possible. There are four main common points for social constructionist approaches. First, social constructionist approaches have a critical attitude towards taken-for-granted knowledge. For example, the concept of gender is divided into two categories, and this is considered natural. People are born into this knowledge and they live accordingly. Scientific research is also affected by this situation. Researches are based on the bipolar understanding of gender and build new knowledge on this basis. However, social constructionist approaches suggest that gender categories are not natural like all taken-for-granted categories. They claim that a bipolar understanding of gender and/or sex is insufficient because there are many situations that cannot be included in any category. For example, there are biologists who recommend at least five different sex categories for people, even considering only biological features (Fausto-Sterling, 1993). As mentioned before, gender-schema theory also made a proposal to increase the number of sex categories. Uncertain areas between categories cause us to question the naturalness of the categories and suggests that categories considered natural may actually have been built by culture and social interaction (Burr, 2015). Second, social constructionist approaches declare that the categories and concepts we have are specific to a particular history and culture. The meaning of the concepts and categories varies depending on the history and culture as they are created within the history and culture. The history of heterosexuality is an example in this regard. Blank (2019) mentions that the concept of heterosexuality emerged in 1869. It is not possible to categorize human sexuality as heterosexual and homosexual before this date. However, once these categories were created, they became inevitable. In addition, as reported by Blank (2019), the meaning of heterosexuality has changed since it emerged like all other categories. Third, according to social constructionist, knowledge is created and maintained by daily social interactions. Daily social interactions simulate people's knowledge of facts. For instance, gender is an inseparable part of daily life and people usually “doing gender” without realizing it (Lorber, 1991). Thus, our knowledge of gender interacts with each other and becomes identical in our daily lives without our awareness. Finally, social constructionist approaches emphasize that knowledge and social action move together. The relationship between the course of the feminist movement in the world and the



perception of homosexuality is an example. Homosexuality was accepted as a psychological disorder for many years, but with the rise of the feminist movement, homosexuality was removed from the disorder category by the American Psychologists Association (APA) and the World Health Organization (WHO) (Clarke and Braun, 2012).

In conclusion, social constructionist approaches indicate that gender or/and sex is not a constant, innate and natural category. In this aspect, it differs from traditional psychological approaches. Criticisms of social constructionism focused on ignoring the contribution of biological science.

### **1.5.2. Sexual Scripts Theory**

Gagnon and Simon (1973) admit that sexuality has originated from biological processes. However, some other processes have more impact on sexuality than biological processes. The impact of biological processes on sexuality is limited, and sociocultural factors are much more active in this area.

The theory uses the concept of script as a metaphor to understand human sexuality. The concept of script can be compared to the concept of schema. As mentioned above, schemas are cognitive structures that regulate behaviour and take place in the human mind. Scripts, like schemes, regulate behaviour, but they exist in society. Scripts teach people the order of sexual behaviour, the meaning of new situations, and the limits of sexual reactions (Gagnon & Simon, 1973).

Empirical testing of the sexual scripts theory is difficult. However, some researchers have tried to understand the scripts that exist in society by examining the findings of previous research. For example, Monto and Carey (2014) reviewed the data of sexuality studies in the USA. In this way, they wanted to understand the changing standards of sexual behaviour. The findings of the study revealed that young adults in the US have increased the likelihood of having sex with friends or acquaintances. This can be interpreted as the sexual scripts for young adults change over time. Some researchers have analysed television programs to identify scripts in society. For example, Kelly (2010) used television series to reveal scripts about virginity. This study, limited to the US series, identified three scripts about virginity and illuminated the different meanings and implications of virginity for each script.

There are criticisms of the sexual scripts theory. The theory has hypotheses that are difficult to test and has therefore been criticized. Some researchers have suggested that this situation leads to many unanswered questions (Wiederman, 2015). In addition, like every constructionist approach, the sexual scripts theory has been accused of underestimating the impact of biological factors.

### **1.5.3. Queer Theory**

Queer was a slang word. For a long time, it was used to insult homosexuals and the word queer had meanings such as strange, eccentric, suspicious, makeshift, unbalanced, bad, worthless (Jagose, 1996; Minton, 1997). However, queer activists rewrite the meaning of the word and gave it a positive meaning. This change has taken place from the beginning of the 1990s. *The History of Sexuality*, written by Foucault (1990), is considered to be the forerunner of the queer theory. Subsequent Butler (2008) and Sedgwick (1990) contributed to the development of the theory.

Queer theory emerges from feminist and constructionist approaches but criticizes them. Instead of defending one pole in the nature-nurture dilemma, it rejects the dilemma. The theory criticizes biological sex and gender distinction because such a distinction accepts the existence of biological sex. However, queer theory argues that biological sex is constructed just like gender and is not natural. That is, there is no constant and natural biological sex (Jagose, 1996). From this point of view, the theory also rejects social gender built on biological sex. It argues that homosexuality is an artificial institution as well as heterosexuality. At this point, LGBTI identities are opened to discussion by the theory. LGBTI identities are claimed to be restrictive and oppressive, like heterosexuality because sexuality does not have a natural form. Sexuality is built too. Identities limit sexual behaviour and defines some sexual practices as normal and others as abnormal. Homosexuality and bisexuality are normative identities, like femininity and masculinity. Homosexuality, such as heterosexuality, compels people to have some behavioural patterns. People, such as masculinity and femininity, perform homosexuality and bisexuality according to these patterns. However, according to the theory, there is no abnormal and normal in sexuality. Sexualities are multiple, unbounded and fluid. In this case, gender is not the cultural expression of a biological sex, but the result of repeated normative gender performance. (Butler, 2008; Sedgwick, 1990).

Queer theory criticizes the research methods of positivist psychology. According to the theory, the way of asking questions affects the answer. Psychology generally prefers quantitative methods. The theory claim that this method makes some questions and answers visible but makes others invisible (Şah, 2016). Therefore, the number of empirical findings related to queer theory is small. However, the number of sociological discussions and qualitative studies is higher. For example, the performative expressions of heterosexuality and bisexuality have been discussed before. Rich (1980) mentioned that women are oppressed by heterosexual norms claimed that women behave like heterosexuals even if they are not heterosexual. Rich (1980) conceptualized this situation as compulsory heterosexuality. A qualitative study based on this conceptualization has been shown that heterosexual women perform bisexual performances in some cases (Fahs, 2009). These two studies are important in terms of showing that sexual identity can be performative. A survey study conducted by Joel, Tarrasch, Berman, Mukamel and Ziv (2014) provided support for the claims of queer theory. This study showed that dichotomic understanding of sex does not cover the experience of most individuals. The most important part of this study is even individuals within the normative sexual boundaries show that they have experiences that do not comply with the norms. According to the study, the bonds of heterosexuals to their sexual identities are not as strong as expected and gender dysphoria can occur in anyone. Based on the findings, the researchers argued that a more fluid, non-dichotomic and more transitive gender conceptualization is needed.

### **1.6. Sexual Fluidity**

Sexual fluidity has been described by Diamond (2008) as a capacity. In this context, the capacity refers to the amount of change in sexual responsiveness. The sexual responses of every person are affected by the situation they are in, and because of this sometimes they show discrepancies between their sexual identity and behaviours. According to Diamond (2016), this does not mean that there is no sexual orientation or identity. Rather, this explains that identities are not as stable as expected and cannot predict all sexual responses. Homosexuals sometimes desire other-sex, and heterosexuals sometimes desire same-sex, in a way that does not comply with the identity definitions. Sexual fluidity focuses on the causes of this mismatch among identity, behaviour and desire.

An important question is how bisexuality and fluidity differ from each other. According to Diamond (2016), the main difference between these two concepts is the way of their expression. Bisexuality is a relatively stable sexual predisposition. However, sexual fluidity may never manifest. For others, it is expressed only once or twice during life. Sexual fluidity is contextual, but bisexuality is less affected by context.

There are prevalence studies on sexual fluidity (Diamond, 2016). In addition, some empirical evidence of sexual fluidity can be found in the literature (Chivers, Seto & Blanchard, 2007). According to Diamond (2016), fluidity is more common among women. For example, the researchers conducted a study involving lesbian, gay and bisexuals and heterosexual women and men. Sexual fluidity experiences of the participants were measured retrospectively. The findings showed that women experienced more fluidity than men among lesbian, gay and heterosexual people. However, there was no gender difference between bisexuals (Kinnish, Strassberg, & Turner, 2005). Katz-Wise (2015) investigated sexual fluidity in sexual minority young adult men and women. The findings revealed that women reported more fluidity among sexual minorities. Also, the review of recent sexual fluidity evidence supported that fluidity is greater among women (Diamond, 2016).

The reactions of women and men to sexual stimuli in experimental conditions support the hypothesis that women have a more fluid sexuality than men. Chivers, Seto and Blanchard (2007) mentioned that the genital and subjective responses of men to sexual stimuli are gender-specific. In other words, heterosexual men react to stimuli in which women are shown, and homosexual men react to stimuli in which men are shown. In contrast, Women's reactions are nonspecific. Women react genitally regardless of the sex of the sexual stimuli. Even in this study, women responded genitally to bonobo copulation. However, this effect did not occur in men.

There are discussions in the literature that try to explain the causes of sexual fluidity (Baumeister, 2000; Diamond, 2007; Kuhle & Radtke 2013, Kanazawa, 2016). These explanations generally focused on why sexual fluidity is more common among women. According to Baumeister (2000); there are three possible causes for this condition. Firstly, women are open to behavioural shaping by men. Therefore, they can show variable desires according to men's desires. Baumeister (2000) argues that this feature is an adaptive feature that emerged in the evolutionary process. Secondly, women are flexible in sexuality as a mandatory result of sexual scripts. Finally, the

fact that women are more flexible in sexuality is the result of weak sex drive. Baumeister (2000) suggest that weak impulses are shaped more easily. Kuhle and Radtke (2013), criticized Baumeister's explanations not being specific and introduces the alloparenting hypothesis for the evolutionary explanation of sexual fluidity. Alloparenting refer to the help of an animal other than biological parents in the breeding of offspring. According to Kuhle and Radtke (2013), In cases where the parental investment was insufficient, women sought different collaborations to care for their offspring. The alloparenting hypothesis states that sexual fluidity is an evolutionary consequence of this collaboration Thanks to the same-sex desire, women were able to support each other in raising offspring. Thus, sexual fluidity contributed to the reproductive success of the ancestors. Another evolutionary explanation focuses on polygyny (Kanazawa, 2017). Kanazawa (2017) mentions that men are mildly polygamous throughout the history of evolution and sexual fluidity is functional in terms of reducing tension between cowives marrying the same man. However, Diamond (2007) thought that sexual fluidity is a by-product of evolutionary mechanisms. Therefore, sexual fluidity may not have an evolutionary function.

Apart from evolutionary explanations, a different explanation of sexual fluidity was made by Morin and Garfinkle (1978). Accordingly, men have the advantage of gender roles and they do not want to lose it. So, they perceive homosexuality as a threat to male roles and are afraid to express their fluid desires. Morin and Garfinkle (1978) conceptualized this situation as male homophobia.

### **1.7. The Present Study**

Experimental studies on gender fluidity often use a similar method. The participant is shown the same-sex and other-sex stimuli and the response of the participant to these stimuli is evaluated. That is, the sex of the stimuli is evident and the participant can determine the sex of the stimulus. This can disrupt the reactions of the participant because many of the theories outlined above emphasize that people have learned to act in accordance with their gender identity. Men know that they should like women, women know that they should like men, gays know that they should like men or lesbians know that they should like women. Nevertheless, past research based on both self-report and genital measurements was able to detect behaviours incompatible with the gender identity developed by the person. Findings in the literature show that this mismatch is more common among women, and men's

responses are more gender-specific (Diamond, 2016; Chivers, Seto & Blanchard, 2007). However, the number of empirical evidences of gender fluidity is small because sexual fluidity is a relatively new concept and it may not be easy to study experimentally. Therefore, the lack of experimental evidence is expected. However, theoretical discussions and prevalence studies on sexual fluidity need to be supported empirically.

The present study aims to make an experimental contribution to the discussions of sexual fluidity. Two separate experimental studies were organized for this purpose. Both studies asked the same questions; Is the gender of the stimulus or the gender “label” of the stimulus important? Is sexual desire affected by the stimulus or is it from the stimulus label? To find answers to these questions, participants were shown gender-neutral facial photographs in Study-1. One group of participants was informed that the photos belong to women, the other group was informed that the photos belong to men. It was tested whether the participants would express different sexual desires for the same gender-neutral photos only because of the gender tag of the photo. In Study-2, feminine and masculine face photos were shown to the participants. Male participants saw feminine faces and female participants saw masculine faces. However, one group was informed that the faces belong to women, and the other group was informed that the faces belong to men. What do participants pay attention to when expressing their sexual desires; to the feminine and masculine gender cues on the faces or the gender tag of the photo? If the sex labels of stimuli have an effect beyond and above other features of stimuli, this may contribute to understanding the relationship between gender and sex. If the signals of stimuli detected by our biological equipment have a stronger effect than gender labels, this underlines the biological aspect of sex and gender. However, if gender labels affect the participant's decision more than other characteristics, this highlights the learned, social and constructed part of gender.

The hypotheses of both studies are as follows;

A. Male participants will report more sexual desire when stimulants are labelled as women than the gender-neutral stimulants are labelled as men.

B. Sexual desire levels of female participants will not be affected by male or female label.

In addition, participants of both studies were selected from heterosexuals. Heterosexuals are expected to express desire only for other-sex photos. In Turkey, there is no study on non-heterosexual behaviour of heterosexuals. This study will show whether heterosexual participants express a desire for same-sex photos. In this regard, it will have an exploratory contribution to gender fluidity studies in Turkey.



## CHAPTER II

### 2. STUDY-1

Gender-neutral photos were used to test hypotheses. Details of the study are explained in the next section.

#### 2.1. Method

Hypotheses and analysis plan were pre-registered via the Open Science Framework (<https://osf.io/pufmb>).

#### 2.2. Participants

We used the software program G\*Power to conduct a power analysis. The goal was to obtain .80 power to detect a small to medium effect size of  $f = .20$  at the standard .05 alpha error probability. Accordingly, our target sample size was 280 participants. We attempted to recruit up to 300, assuming that not all participant complete the task. The participants were recruited through Qualtrics Survey Software. A total of 820 people clicked on the questionnaire link. 340 of the questionnaires were not completely filled and these questionnaires were excluded. 480 questionnaires were completely answered. The rate of the questionnaires answered in all questionnaires is 58.5%. In 73 of the remaining surveys, participants stated that they were not heterosexual, and these questionnaires were not included in the analysis. Other demographic variables of the participants were not important to study. Thus, the analyses were made on 407 questionnaires. 278 of the participants were female and 129 were male.

#### 2.3. Materials

For the study, gender-neutral photos were created with the help of FaceGen Modeller (Singular Inversions, 2020). Sample photos are shown in Figure 1 (for all gender-neutral photos used in the study see Appendix A).



## Figure 1

*Gender-neutral photo examples*



### **2.4. Dependent Variables**

#### **2.4.1. Sex and Sexual Orientation**

The participants were asked to state their gender and sexual orientation separately.

#### **2.4.2. Sexual Desire**

Sexual desires of the participants regarding the photographs were measured with 3 questions. First, "Would you like to date the person you see in the photo?" (on a scale of 1-7, 1 being 'never', 7 being 'exactly') were asked. Second, "Would you kiss the person you see in the photo?" (on a scale of 1-7, 1 being 'never', 7 being 'exactly') were asked. Third, "How sexy is the person you see in the photo?" (on a scale of 0-10, 0 being 'not sexy at all', 10 being 'very sexy') were asked.

#### **2.4.3. Ideology**

The participants were said to "Mark where you feel in the political scale." And the political view of the participants was evaluated with a 7-point Likert scale. 1 was "Extremely Left" and 7 was "Extremely Right".

#### 2.4.4. Religious Belief

The participants were asked to answer the question "How religious do you see yourself?". The religious belief of the participants was evaluated with a 7-point Likert scale. 1 was "Not at all" and 7 was "Completely".

#### 2.4.5. Gender Role Attitude Scale (Toplumsal Cinsiyet Rollerini Tutum Ölçeği)

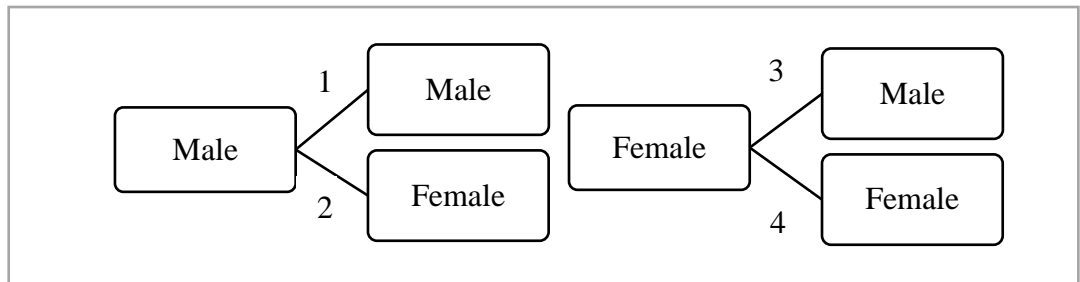
Gender attitudes of the participants were measured by the Gender Role Attitude Scale developed by Zeyneloğlu and Terzioğlu (2011). The scale contains 38 items and 5 dimensions (Egalitarian Gender Role, Female Gender Role, Marriage Gender Role, Traditional Gender Role and Male Gender Role). "Her family should allow a young girl to flirt" and "A woman should experience sexual intercourse after marriage" are sample items (For all items see Appendix B). Coefficient alpha is .92 for the scale.

#### 2.5. Procedure

The number of the photos evaluated by the participants was 30. All participants saw the same gender-neutral faces. However, the participants were given different information about the gender of the photos. The design of the study was 2 (male vs. female) x 2 (same-sex vs. opposite-sex). One group saw a label stating that gender-neutral stimuli belong to someone of the same-sex and the other group will see a label stating that gender-neutral stimuli belong to someone of the opposite sex (Figure 2.).

**Figure 2**

*Experimental groups. 1, male participants who see the photos with the "male" label. 2, male participants who see the photos with the "female" label. 3, female participants who see the photos with the "male" label. 4, female participants who see the photos with "female label.*



Participants were randomly assigned to groups and photographs were shown randomly to participants with the randomization feature of Qualtrics Survey Software. Participants, first, evaluate the photos one by one. Then, they filled a gender attitude

scale and finally answered demographic questions such as gender, sexual orientation, political view and religious belief.



## CHAPTER III

### 3. RESULTS OF STUDY-1

Sexual desires of the participants were measured with 3 questions. The mean of "Would you like to date the person you see in the photo?", "Would you kiss the person you saw in the photo?" and "How sexy is the person you see in the photo?" questions were calculated separately. Kolmogorov-Smirnov test indicates that the mean of date scores does not follow a normal distribution,  $D(407) = 0.105, p < .001$ . For question of kissing, Kolmogorov-Smirnov test indicates that the mean of scores does not follow a normal distribution,  $D(407) = 0.134, p < .001$ . Finally, Kolmogorov-Smirnov test indicates that the mean of how sexy scores does not follow a normal distribution,  $D(407) = 0.127, p < .001$ . There was positive skewness for all distributions. There was an excessive agglomeration on one side of the Likert scale. This made it difficult to analyse and we decided to recode the data dichotomically (as "Yes" or "No"). Because, 1 (the agglomeration score) on the Likert scale meant "never", but 2, 3, 4, 5, 6 meant some "yes" and 7 meant absolutely "yes". So, the distance between 1 and 2 was much more than the distance between 2 and 3, and agglomeration was probably because of this. The data were dichotomically recoded. However, Kolmogorov-Smirnov test indicates that the total of recoded data scores does not follow a normal distribution  $D(407) = 0.163, p < .001$ . For total of recoded kissing score, Kolmogorov-Smirnov test indicates that it does not follow a normal distribution,  $D(407) = 0.123, p < .001$ . Finally, Kolmogorov-Smirnov test indicates that the total of recoded how sexy scores does not follow a normal distribution,  $D(407) = 0.155, p < .001$ . Since normality assumptions were not met, recoded scores were analysed with the Kruskal-Wallis H test. Even so, Factorial ANOVA test results are included in the appendix (see appendix C).

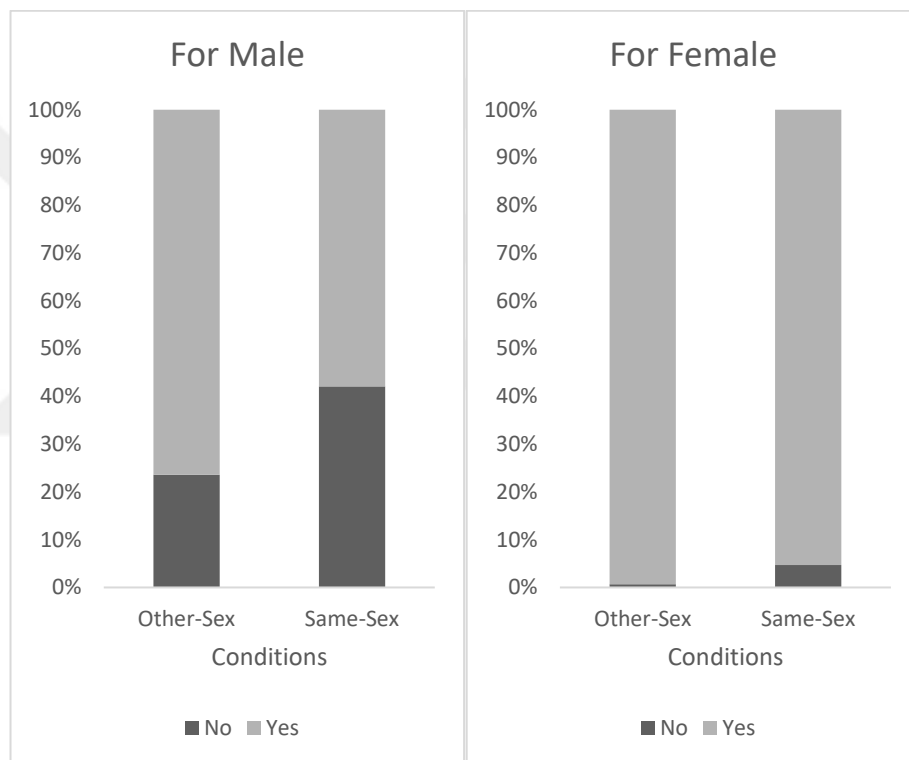
#### 3.1. The Main Analyses

The answers of the participants to the three basic questions about the photographs were evaluated separately. The change of the answers given to the question of "Would you like to date the person you see in the photo?" according to the groups was as follows, in the same-sex condition (the gender of the participant and photos are the same), 42.1% of the male participants did not want to date with none of the photos and 57.9% of the male participants said "yes" to this question for at least one photo. For female, the proportion of those who said "no" to all photographs was

4.7% and the proportion of those who said “yes” to at least one photo was 95.3%. In the other-sex condition (the gender of the participant and photo are the different), 23.6% of the male participants did not want to date with none of the photos and 76.4% of the male participants said “yes” to this question for at least one photo. For female, the proportion of those who said “no” to all photographs was 0.7% and the proportion of those who said “yes” to at least one photo was 99.3% (Figure 3).

**Figure 3**

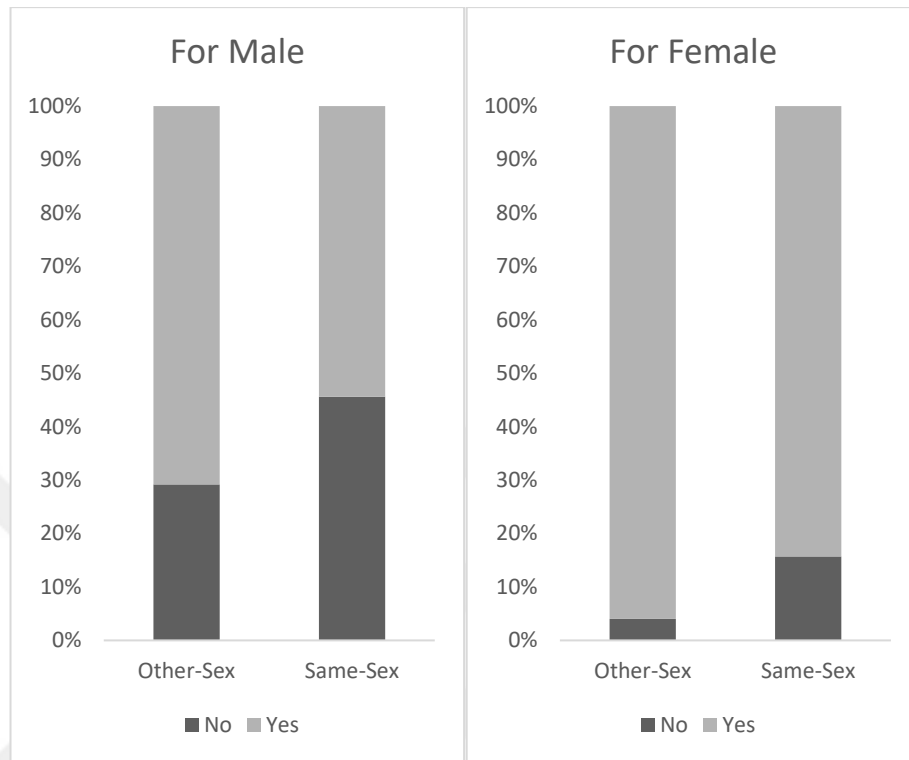
*In the Study-1, for the question of "Would you like to date the person you see in the photo?", response changes of male and female participants according to the conditions.*



The change of the answers given to the question of “Would you kiss the person you saw in the photo?” according to the groups was as follows, in the same-sex condition, 45.6% of the male participants did not want to kiss with none of the photos and 54.4% of the male participants said “yes” to this question for at least one photo. For female, the proportion of those who said “no” to all photographs was 15.7% and the proportion of those who said “yes” to at least one photo was 84.3%. In the other-sex condition, 29.2% of the male participants did not want to kiss with none of the photos and 70.8% of the male participants said “yes” to this question for at least one photo. For female, the proportion of those who said “no” to all photographs was 4% and the proportion of those who said “yes” to at least one photo was 96% (Figure 4).

**Figure 4**

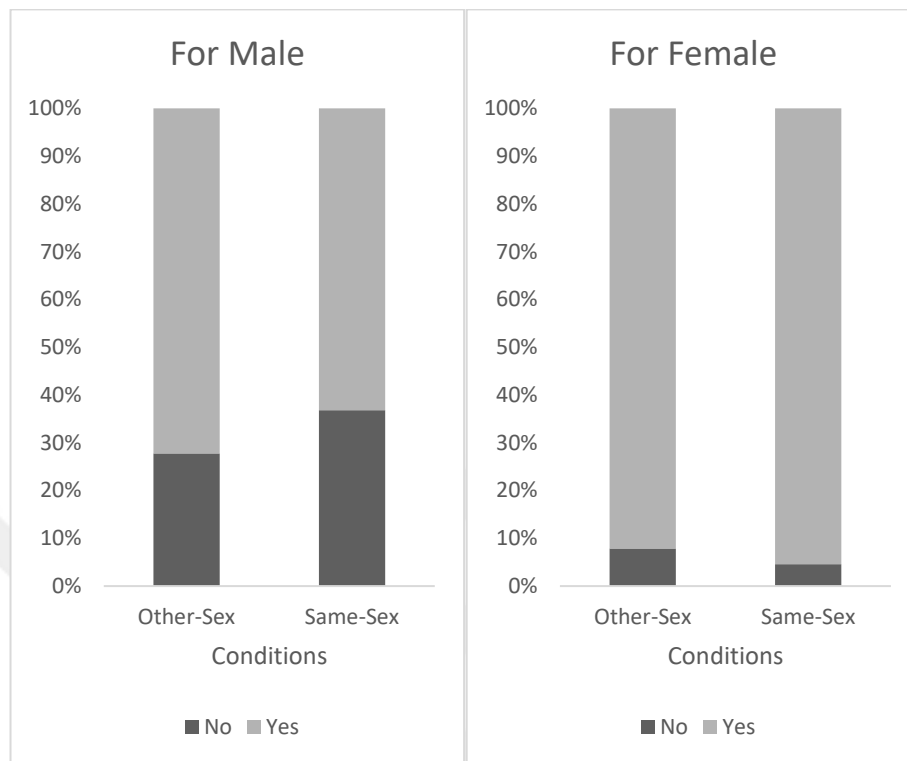
*In the Study-1, for the question of “Would you kiss the person you saw in the photo?”, response changes of male and female participants according to the conditions.*



The question of "How sexy is the person you see in the photo?" was accepted as “Is the person you see in the photo sexy?”. Likert scale was recoded as 0 “no”, 1-2-3-4-5-6-7-8-9 and 10 “yes”. The change of the answers given to the question according to the groups was as follows, in the same-sex condition, 36.8% of the male participants said “no” for all photos and 63.2% of the male participants said “yes” to this question for at least one photo. For female, the proportion of those who said “no” to all photographs was 4.6% and the proportion of those who said “yes” to at least one photo was 95.4%. In the other-sex condition, 27.8% of the male participants said “no” for all photos and 72.2% of the male participants said “yes” to this question for at least one photo. For female, the proportion of those who said “no” to all photographs was 7.9% and the proportion of those who said “yes” to at least one photo was 92.1% (Figure 5).

**Figure 5**

*In the Study-1, for the question of “Is the person you see in the photo sexy?”, response changes of male and female participants according to the conditions.*



For the question of date, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 50.38, p < .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between MM (participant, “Male”; photo’s label, “Male”) and MF (participant, “Male”; photo’s label, “Female”) conditions ( $p = .686, r = -.10$ ) or FF (participant, “Female”; photo’s label, “Female”) and FM (participant, “Female”; photo’s label, “Male”) conditions ( $p = 1.00, r = -.01$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM (participant, “Male”; photo’s label, “Male”) and FF (participant, Female”; photo’s label, “Female”) conditions ( $p < .001, r = -.15$ ), MM (participant, “Male”; photo’s label, “Male”) and FM (participant, “Female”; photo’s label, “Male”) conditions ( $p < .001, r = -.14$ ), MF (participant, “Male”; photo’s label, “Female”) and FF (participant, “Female”; photo’s label, “Female”) conditions ( $p = .001, r = -.10$ ) or MF (participant, “Male”; photo’s label, “Female”) and FM (participant, “Female”; photo’s label, “Male”) conditions ( $p < .001, r = -.10$ ). For  $r$  coefficient, .10 is a small effect size, .30 is a medium effect size and .50 is a large

effect size (Field, 2013). All comparisons yielded small and small to medium effect sizes.

For the question of kissing, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 45.66, p < .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between MM and MF conditions ( $p = .072, r = -.15$ ), MF and FF conditions ( $p = .448, r = -.05$ ) or FF and FM conditions ( $p = .096, r = -.08$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM and FF conditions ( $p < .001, r = -.13$ ), MM and FM conditions ( $p < .001, r = -.15$ ) or MF and FM conditions ( $p = .001, r = -.08$ ). All comparisons yielded small and small to medium effect sizes.

For the question of sexy, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 26.58, p < .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between MM and MF conditions ( $p = .763, r = -.09$ ), MF and FF conditions ( $p = .087, r = -.07$ ) or FF and FM conditions ( $p = 1.00, r = -.01$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM and FF conditions ( $p < .001, r = -.12$ ), MM and FM conditions ( $p < .001, r = -.11$ ) or MF and FM conditions ( $p = .014, r = -.06$ ). All comparisons yielded small and small to medium effect sizes.

### **3.2. The Exploratory Analyses**

Participants were asked to answer questions of political opinion, religious belief, and gender roles attitude scale. These variables were excluded from the study considering that there was no significant contribution to the study. However, for those who want to access this information, the information is available in the data set that is accessible online  
([https://osf.io/serd5/?view\\_only=292bcabd46a048669e1d70502c0d2585](https://osf.io/serd5/?view_only=292bcabd46a048669e1d70502c0d2585)).

### **3.3. DISCUSSION**

According to non-parametric statistics, for all main questions, there was no significant difference between the sexual desire expressed by male participants in the



same-sex condition and the sexual desire expressed in the other-sex condition. This situation fails to support the Hypothesis A.

According to non-parametric statistics, for all main questions, there was no significant difference between the sexual desire expressed by female participants in the same-sex condition and the sexual desire expressed in the other-sex condition. This situation supports the Hypothesis B.

However, female participants answered yes to all questions significantly more than male. For all questions, women answered yes in the same-sex condition significantly more than men. Also, for all question, women answered yes in the other-sex condition significantly more than men.

For  $r$  coefficient, .10 is a small effect size, .30 is a medium effect size and .50 is a large effect size (Field, 2013). The effect size was small and small to medium for all analyses. This situation is sufficient to suspect the results. Therefore, hypotheses need to be retested with other studies.

Also, all participants of the study were selected from heterosexuals. However, the excess of yes answers given in the same-sex condition is striking. For the sample of Turkey, there is no study investigating the frequency of non-heterosexual behaviour of heterosexual women and men. However, these rates are comparable to those in the world. Diamond (2016), gathered the findings of 6 different representative studies investigating this question. Accordingly, the proportion of heterosexual men reporting non-heterosexual behaviours ranged from 1 to 3 percent. For heterosexual women, this ratio was between 2 and 7 percent. The rates of the current study are more than these figures. However, it is worth remembering that the current study is not about behaviours, but about expressing sexual attraction. Some of the difference between the sample of the current study and the studies in the world may be due to this situation.

## CHAPTER IV

### 4. STUDY-2

The second study is a replication of the first study. The 3 basic questions of the first study were made dichotomic and asked again. The impact of political views, religious beliefs, and attitudes towards gender roles were again controlled.

#### 4.1. Method

Hypotheses and analysis plan were pre-registered via the Open Science Framework (<https://osf.io/gcd6r>). Some corrections and additions made after the first form are specified in an additional pre-registration form (<https://osf.io/2n87u>).

##### 4.1.1. Participants

We used the software program G\*Power to conduct a power analysis. The goal was to obtain .80 power to detect a small to medium effect size of  $f = .20$  at the standard .05 alpha error probability. Accordingly, our target sample size was 280 participants. We attempted to recruit up to 300, assuming that not all participants will complete the task. The participants were recruited through Qualtrics Survey Software. A total of 510 people clicked on the questionnaire link. 152 of the questionnaires were not completely filled and these questionnaires were excluded. 358 questionnaires were completely answered. The rate of the questionnaires answered in all questionnaires is 70.2%. In 24 of the remaining surveys, participants stated that they were not heterosexual, and these questionnaires were not included in the analysis. 1 participant who expressed his / her gender as other was removed from the analysis. 1 participant was not included in the questionnaire because he/she did not give informed consent. Since 10 of the participants participated in the previous study, their data were not included in the analysis. Finally, 28 non-singles participants were excluded from the analysis. Other demographic variables of the participants were not important to study. Thus, the analyses were made on 282 questionnaires. 151 of the participants were female and 131 were male.

##### 4.1.2. Materials

Masculine and feminine facial photos were used in Study-2. Masculinized and feminised photos were created with the help of Face-Gen Models (Singular Inversions, 2020). 75% masculine photo examples shown to male participants are in Figure-8 (for all 75% masculine photos used in the study see Appendix D). 75% feminine photo

examples shown to female participants are in Figure-9 (for all 75% feminine photos used in the study see Appendix E).

**Figure 6**

*75% masculinized photo examples*



**Figure 7**

*75% Feminized photo examples*



### **4.1.3. Dependent Variables**

#### **4.1.3.1. Sex and Sexual Orientation**

The participants were asked to state their gender and sexual orientation separately.

#### **4.1.3.2. Sexual Desire**

Sexual desires of the participants regarding the photographs were measured dichotomically with 3 questions. First, "Would you like to date the person you see in the photo?" were asked. Second, "Would you kiss the person you saw in the photo?" were asked. Third, "Is the person you saw in the photo sexy for you?" were asked. For all questions, the participants could only say "yes" or "no".

#### **4.1.3.3. Ideology**

It was measured in the same way as in Study-1.

#### **4.1.3.4. Religious Belief**

It was measured in the same way as in Study-1.

#### **4.1.3.5. Gender Role Attitude Scale (Toplumsal Cinsiyet Rollerini Tutum Ölçeği)**

The scale used in Study-1 was reused.

#### **4.1.3.6. Relationship Status**

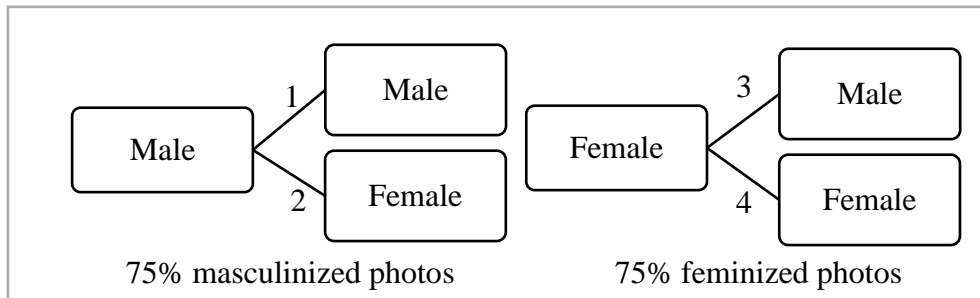
The relationship status of the participants was controlled with the question "Do you have a romantic or sexual partner?".

### **4.1.4. Procedure**

Both women and men evaluated 30 photos. Male participants were shown 75 percent feminised photos and female participants were shown 75 percent masculinized photos. The labels of the photos are manipulated as "women" for one group and "men" for one group. The design of the study was 2 (male vs. female) x 2 (same-sex vs. opposite-sex). One group were saw label stating that gender-neutral stimuli belong to someone of the same-sex and the other group will see a label stating that gender-neutral stimuli belong to someone of the opposite sex (Figure 10).

## Figure 8

*Experimental groups. 1, male participants who see the 75% masculinized photos with the “male” label. 2, male participants who see the 75% masculinized photos with the “female” label. 3, female participants who see the 75% feminized photos with the “male” label. 4, female participants who see the 75% feminized photos with “female” label.*



Participants were randomly assigned to groups and photographs were shown randomly to participants with the randomization feature of Qualtrics Survey Software. Participants were first asked about their sex and sexual orientation. Then, they evaluate the photos one by one. After that, they stated whether they have participated in a similar study before and their relationship status. Finally, they filled a gender attitude scale and answered question of political view and religious belief.

## CHAPTER V

### 5. RESULTS OF THE STUDY-2

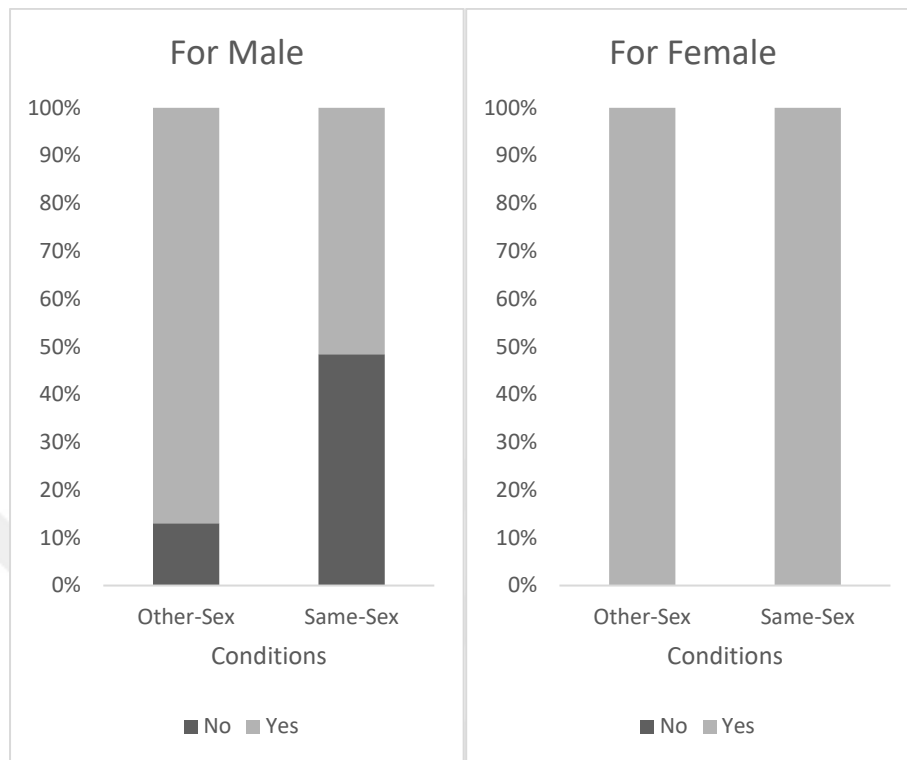
Again, sexual desires of the participants were measured with same 3 questions. However, this time, our questions were dichotomic. “Yes” answers were coded as 1, “No” answers were 0 and the total scores of the participants were calculated separately for each question. Kolmogorov-Smirnov test indicates that the total of date scores does not follow a normal distribution,  $D(282) = 0.075, p = .001$ . For question of kissing, Kolmogorov-Smirnov test indicates that the total of scores does not follow a normal distribution,  $D(282) = 0.107, p < .001$ . Finally, Kolmogorov-Smirnov test indicates that the total of how sexy scores does not follow a normal distribution,  $D(282) = 0.133, p < .001$ . Since normality assumptions were not met, recoded scores were analysed with the Kruskal-Wallis H test. Factorial ANOVA test results are included in the appendix (see appendix F).

#### 5.1. The Main Analyses

The answers of the participants to the three basic questions about the photographs were evaluated separately. The participants' answers to the date question were as follows; in the same-sex condition, 48.39% of the male participants did not want to date with none of the photos and 51.61% of the male participants said “yes” to this question for at least one photo. In this condition, all female participants answered "yes" to the date question for at least one photograph. In the other-sex condition, 13.04% of the male participants did not want to date with none of the photos and 86.96% of the male participants said “yes” to this question for at least one photo. In this condition, all female participants answered "yes" to the date question for at least one photograph (Figure 11).

**Figure 9**

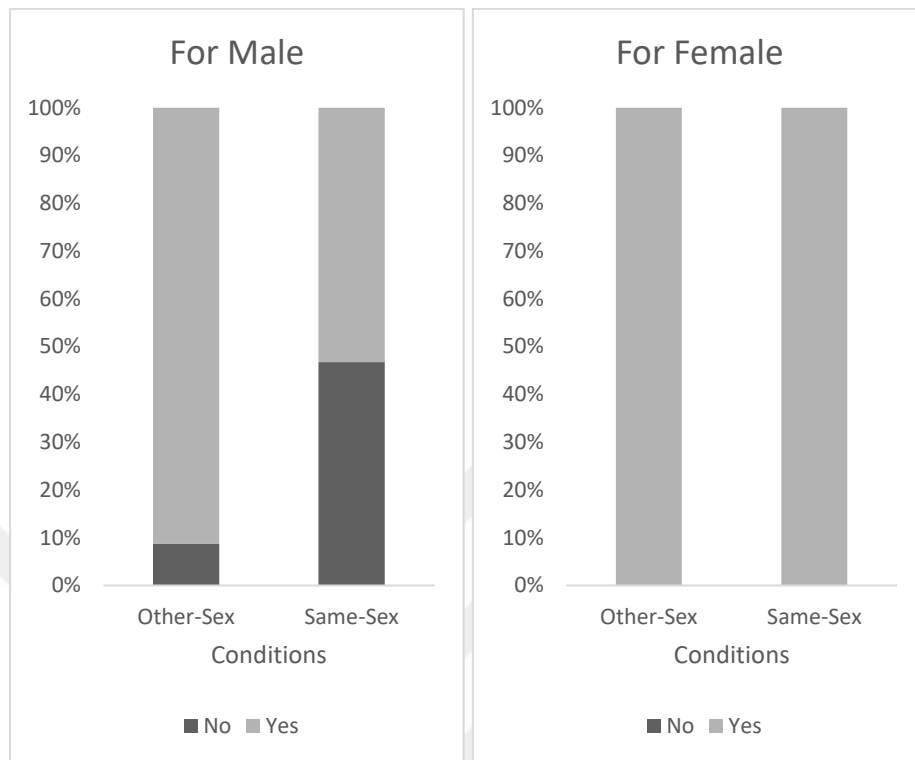
*In the Study-2, for the question of "Would you like to date the person you see in the photo?", response changes of male and female participants according to the conditions.*



The participants' answers to the kissing question were as follows; in the same-sex condition, 46.77% of the male participants did not want to kiss with none of the photos and 53.23% of the male participants said “yes” to this question for at least one photo. In this condition, all female participants answered "yes" to the kissing question for at least one photograph. In the other-sex condition, 8.7% of the male participants did not want to kiss with none of the photos and 91.03% of the male participants said “yes” to this question for at least one photo. In this condition, all female participants answered "yes" to the kissing question for at least one photograph (Figure 12).

**Figure 10**

*In the Study-2, for the question of “Would you kiss the person you saw in the photo?”, response changes of male and female participants according to the conditions.*

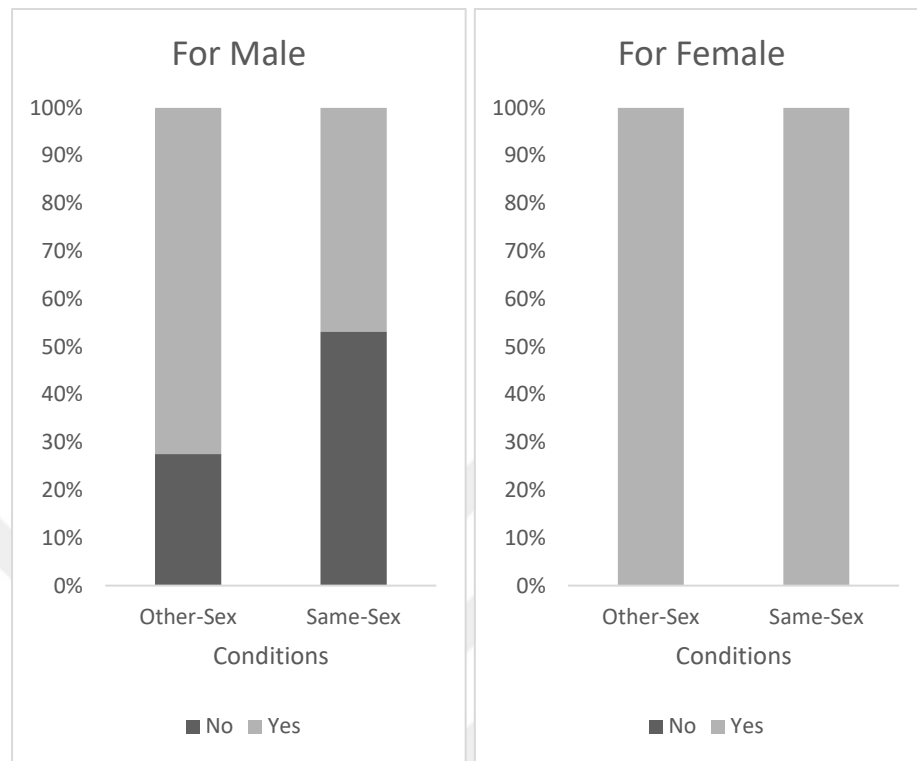


The participants' answers to the sexiness question were as follows; In the same-sex condition, 53.23% of the male participants did not find any photos sexy and 46.77% of the male participants found at least one photo sexy. In this condition, 4.6% of the female participants did not find any photos sexy and 95.4% of the female participants found at least one photo sexy. In the other-sex condition, 27.54% of the male participants found at least one photo sexy. In the other-sex condition, 27.54% of the male participants did not find any photos sexy and 72.46% of the male participants found at least one photo sexy. In this condition, 7.9% of the female participants did not find any photos sexy and 92.1% of the female participants found at least one photo sexy (Figure 13).



**Figure 11**

*In the Study-2, For the question of “Is the person you see in the photo sexy?”, response changes of male and female participants according to the conditions.*



For the question of date, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 66.99, p = .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM and MF conditions ( $p < .001, r = -.35$ ), MM and FF conditions ( $p < .001, r = -.59$ ) or MM and FM conditions ( $p < .001, r = -.62$ ), MF and FF conditions ( $p = .027, r = -.24$ ), MF and FM conditions ( $p = .003, r = -.28$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between FF and FM conditions ( $p = 1.00, r = .04$ ).

For the question of kissing, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 102.56, p < .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM and MF conditions ( $p < .001, r = -.45$ ), MM and FF conditions ( $p < .001, r = -.71$ ) or MM and FM conditions ( $p < .001, r = -.79$ ), MF and FF conditions ( $p = .017, r = -.25$ ), MF and FM conditions

( $p < .001$ ,  $r = -.34$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between FF and FM conditions ( $p = 1.00$ ,  $r = .09$ ).

For the question of sexiness, Kruskal-Wallis H test was used to see if the scores of the four experimental groups differed significantly. The responses to the photos were significantly affected by the experimental conditions in which the participants were placed  $H(3) = 102.58$ ,  $p < .001$ . Pairwise comparisons with adjusted  $p$ -values showed that there were significant differences between MM and MF conditions ( $p = .002$ ,  $r = -.32$ ), MM and FF conditions ( $p < .001$ ,  $r = -.71$ ) or MM and FM conditions ( $p < .001$ ,  $r = -.74$ ), MF and FF conditions ( $p < .001$ ,  $r = -.39$ ), MF and FM conditions ( $p < .001$ ,  $r = -.43$ ). However, pairwise comparisons with adjusted  $p$ -values showed that there were no significant differences between FF and FM conditions ( $p = 1.00$ ,  $r = .04$ ).

For  $r$  coefficient, .10 is a small effect size, .30 is a medium effect size and .50 is a large effect size (Field, 2013). The effect sizes obtained in Study-2 were generally higher than the effect sizes obtained in Study-1.

## 5.2. The Exploratory Analyses

Participants were asked to answer questions of political opinion, religious belief, and gender attitude scale. These variables were excluded from the study considering that there was no significant contribution to the study. However, for those who want to access this information, the information is available in the data set that is accessible online  
([https://osf.io/yjgk5/?view\\_only=852e56c6ddd24b429b529e5f4474365d](https://osf.io/yjgk5/?view_only=852e56c6ddd24b429b529e5f4474365d)).

## 5.3. DISCUSSION

For the 3 main questions, male participants in the other-sex condition said yes more than in the same-sex condition. Descriptive analysis shows this situation. According to non-parametric analyses, this trend was significant. This situation supports the Hypothesis A. For the all question, all female participants expressed sexual desire for at least one photograph. There was no significant difference between the experimental conditions. This situation supports the Hypothesis B. Thus, Study-2 was supported in two hypotheses of the study.

Female participants answered yes to all questions significantly more than male. For all question, women answered yes in the same-sex condition significantly more than men. Also, for all question, women answered yes in the other-sex condition significantly more than men.

For  $r$  coefficient, .10 is a small effect size, .30 is a medium effect size and .50 is a large effect size (Field, 2013). The effect sizes obtained in Study-2 were generally higher than the effect sizes obtained in Study-1. Therefore, the findings of the current study are more remarkable than the first study.

Finally, the proportion of participants who made non-heterosexual expressions was still very high. In particular, all women expressed non-heterosexual desire regardless of the experimental condition for all questions.

The differences between the findings of the first study and the findings of the current study may have originated from dichotomically asking 3 basic questions.

## CHAPTER VI

### 6. CONCLUSION AND GENERAL DISCUSSION

There are many studies in the literature that examine the relationship between various facial characteristics and attractiveness. For example, findings were shared that women prefer testosterone-related characteristic on the face of men, such as large jaws (Grammer & Thornhill, 1994) and cheekbone prominence (Scheib, Gangestad & Thornhill, 1999). There are also findings that these preferences change according to women's menstrual cycles (Penton-Voak, & Perrett, 2000). Men prefer feminine female faces (Shiramizu, Docherty, DeBruine, and Jones, 2020; Little, Jones and DeBruine, 2011). These findings are generally explained in the light of evolutionary approaches. Accordingly, facial characteristics that men and women find attractive actually give clues about one's genetics and the evolutionary mechanisms that emerged in the evolutionary process of man have evolved to find the person with the best genotype attractive (Thornhill & Gangestad, 1999; Little et al., 2011). The current study tested whether gender roles had an effect above and beyond other characteristics on the face.

For this purpose, in the first study, how participants responded to gender-neutral faces was investigated. If the participant knows the gender of a face, he/she can adjust his/her reaction accordingly. Sexual scripts theory discusses this situation (Gagnon & Simon, 1973). Scripts in society teach women to find men attractive and men to find women attractive. Based on this, gender clues on the faces have been removed and “male” and “female” labels were assigned to gender-neutral faces. It was analysed whether the participants would react differently to the same photograph just because of its label. It was hypothesized that the tags would change the response of male participants and not affect female participants. According to the findings, there was no significant differences between the responses of male and female participants to the photographs' labels. Therefore, while the part of the hypothesis related to the female participants was supported, the part related to the male participants was not supported. The effect size of the study indicated that it was beneficial to retest the hypotheses. Study-2 tested the same hypotheses. This time, however, male participants were shown feminine faces and female participants were shown masculine faces. The manipulation was still the same. One group was informed that the photos belonged to men and the other group belonged to women. Now, which one is more important;

femininity/masculinity characteristic or gender of the face? In Study-2, male participants changed their reactions according to the label of the photo. When the feminine faces were informed that they belonged to the men, male participants' expressions of attraction significantly decreased. There was no significant difference in the sexual attraction expressions of female participants according to the label of the photo. Thus, Study-2 supported hypotheses. Moreover, the effect size of Study-2 was higher compared to the first study. According to these findings, the claim that compatibility with social scripts is sought in attractiveness statements and then attention is paid to other physical features is worth discussing.

In the literature, it has been shown that the inconsistency between people's identities and their sexual attraction, behaviour, and expressions. Moreover, these discrepancies are seen among both heterosexual (Hegna & Larsen, 2007; Kinnish, Strasberg & Turner, 2005) and other sexual minority groups (Katz-Wise, 2015; Ott, Corliss, Wypij, Rosario, & Austin, 2011). The inconsistency is more common among women (Diamond, 2016). Also, men's sexual responses are more category-specific than women (Chivers et al., 2007). Category-specific means that heterosexual men only respond sexually to stimuli in which women are shown. The responses of women are non-specific, that is, they show similar sexual reactions regardless of the gender of the stimulus shown. For example, in the study of Chivers et al. (2007), women were sexually aroused from sexually explicit films featuring bonobo monkeys, while men were not. The findings of the current study are compatible with the literature in this regard. Male and female participants expressed sexual attraction incompatible with their sexual identity. Female and male participants expressed sexual attraction incompatible with their sexual identity, and this ratio was significantly higher among women than men in both studies. In addition, women were not affected by the label of the photographs in both studies. This supports the fact that women's sexual responses are non-specific. While male participants were not affected by the labels of the photographs in the first study, the effects of the photos' labels were seen in the second study. There are theories that mention about the evolutionary functions of female same-sex behaviours (Kuhle & Radtke, 2013; Kanazawa, 2016). However, the rate of same-sex expressions among men is quite high. This brings to mind the statements of Diamond (2007), who stated that sexual fluidity should not have an evolutionary function. The concept of male homophobia tries to explain that why sexual fluidity is more common among women, although it is seen in both genders (Morin & Garfinkle,

1978). Accordingly, Men are argued to be afraid of losing their power and central position, which originates from male roles, so they perceive homosexuality as a threat to their advantageous position and react more than women. Studies showing that men have more negative attitudes towards homosexuality than women support this concept (Brown & Amoroso, 1975; Liebllich & Friedman, 1985, Bruce, Shrum, Trefethen & Slovik, 1990).

Also, the discrepancy between sexual identity, behaviours and expressions has been shown in many countries such as USA (Katz-Wise, 2015), France (Lhomond, Saurel-Cubizolles, Michaels & CSF Group, 2014), Sweden (Priebe & Svedin, 2013), Norway (Gulløy & Normann, 2010). This inconsistency is discussed around the concept of sexual fluidity (Diamond, 2008; Katz-Wise, 2015; Diamond, 2016). According to Diamond (2008), people's sexual perceptions may change depending on the time and situation. Gender identities are not as stable and stable as one might think. There has been no such study in Turkey. The present study is the first study on sexual fluidity in Turkey. It is important in terms of contributing to the cross-cultural validity of the sexual fluidity phenomenon.

### **6.1. Scientific Contributions**

Three main contributions of the current study to the scientific literature can be mentioned. First, the findings may contribute to understanding the interaction between the biological and evolutionary dimension of sex and the social and constructed dimension of gender. Social and constructed parts of sexual preferences as well as biological and evolutionary explanations should be considered. Second, the findings of the study are consistent with the literature on sexual fluidity. It replicates the prevalence of behaviours and expressions that are incompatible with gender identities and gender differences in this topic. Finally, the present study was conducted the first study on sexual fluidity in Turkey. Contributing to the cross-cultural validity of the concept of sexual fluidity and encourage the study of sexual fluidity is important in Turkey. In this regard, it can be said that the study fills a gap in the sexual fluidity literature.

### **6.2. Limitations and Future Directions**

In both studies, the data were not normally distributed and non-parametric tests were activated. Particularly in Study-1, the participants were stacked on the negative end of the Likert scale under all experimental conditions. So, they gave negative

answers to questions about photos. The attractiveness of the photos created before the experiment phase has not been tested. The photos may be really unattractive. Future studies may retest hypotheses with photos whose attractiveness has been tested. To solve this clutter, the questions were asked dichotomically in the second study. However, the total scores were still not normally distributed. It may be difficult for the participants to express a positive opinion on issues such as date and kissing by looking at only one face photo. Future studies can evaluate participants' expressions of attraction with different questions.

As the number of tests increases, the probability of a correct null hypothesis rejection increases (Chen, Feng & Yi, 2017). It should be taken into account that the current study contains too many tests and some findings may have been incidentally significant. Adjusted- $p$  values are recommended for the solution of this problem (Shaffer, 1995; Chen, Feng & Yi, 2017). The Kruskal-Wallis H test used in the basic analysis sections provides adjusted- $p$  values for multiple comparisons (Field, 2013) and the report is written according to the adjusted- $p$  values. However, the results can be replicated parametrically and by recovering from multiple comparison effects. Because some researchers have suggested that adjusted- $p$  values may lead to miss an existing effect (Althouse, 2016; Rothman, 1990). The Kruskal-Wallis H test automatically compares between all groups and adjusts the  $p$ -value according to the number of tests (Field, 2013). However, group comparisons that are not required for the study are also made, which continues to affect  $p$  by increasing the number of tests. For example, in the current study, comparisons such as FM condition and MM condition or MF condition and FF condition are not required. This may have caused some effects to disappear. The effect size is useful in solving this issue (Field, 2013). The low effect size obtained in Study-1 shows that the probability of repetition of the results is also low. According to the effect size, the findings of Study-2 are more likely to be replicated.

In addition, both studies were conducted online. Findings need to be replicated in a laboratory. As a requirement of online research, the participants read the experimental instructions themselves. Whether there will be a change when the instructions are given by the experimenter in the laboratory environment may be the subject of future research.

The current study is the first study on sexual fluidity in Turkey and the sample is limited. There is a need for representative studies on sexual fluidity in Turkey.

Finally, the sample of the study has a high level of egalitarian attitude towards gender roles, predominantly left-wing and low religiosity. There is a need for studies in which groups from different religious and political orientations participate.





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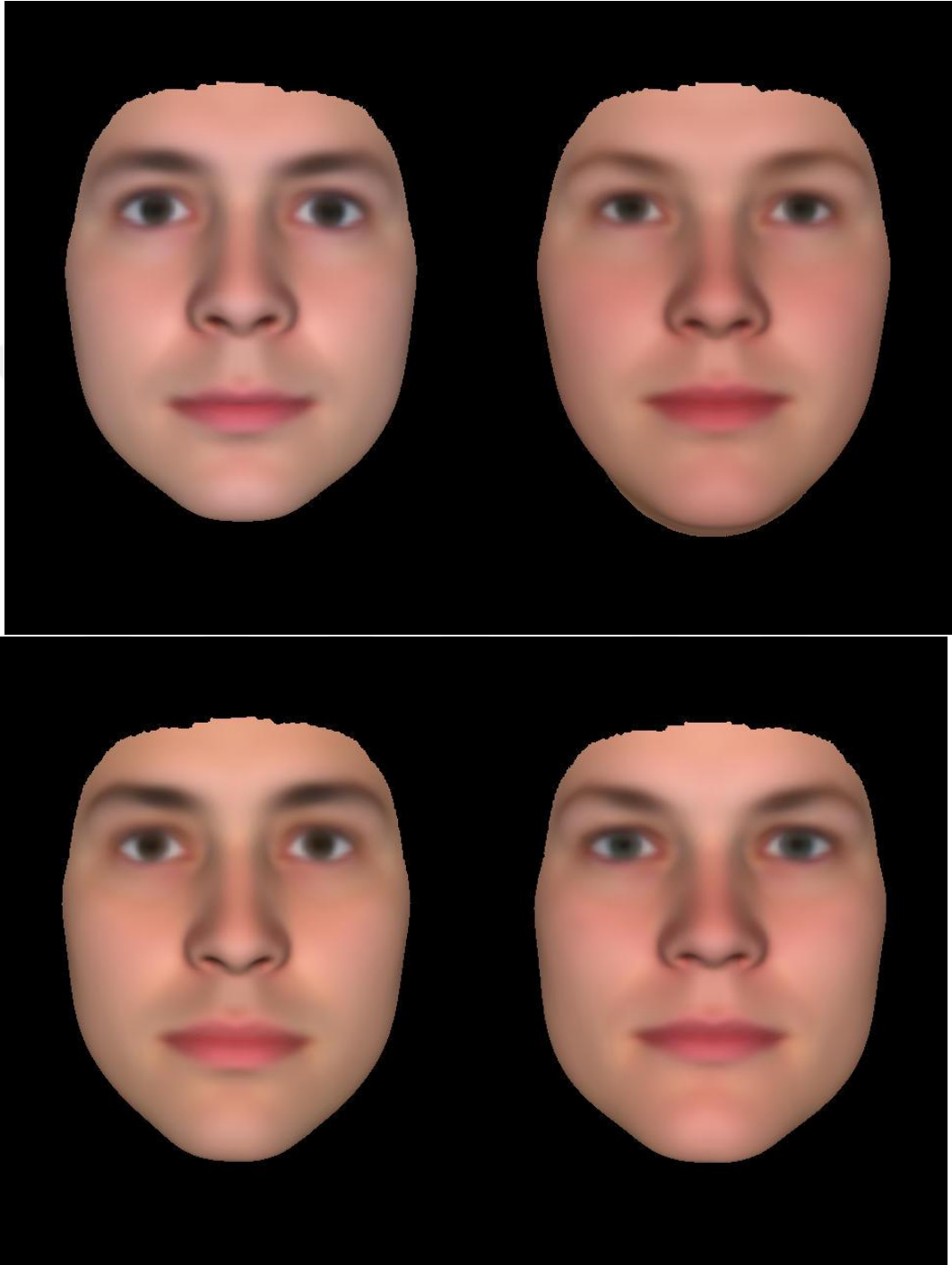
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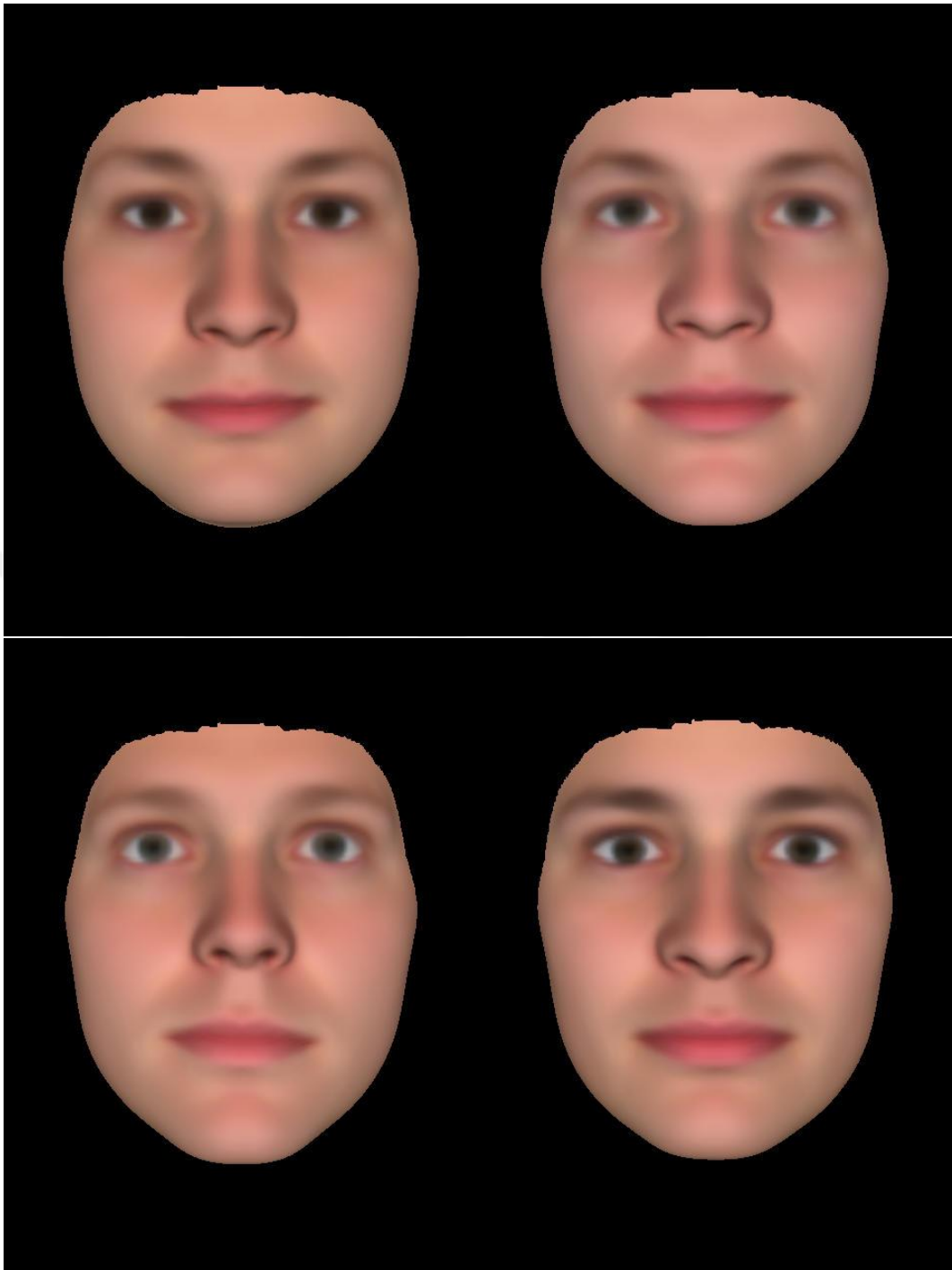


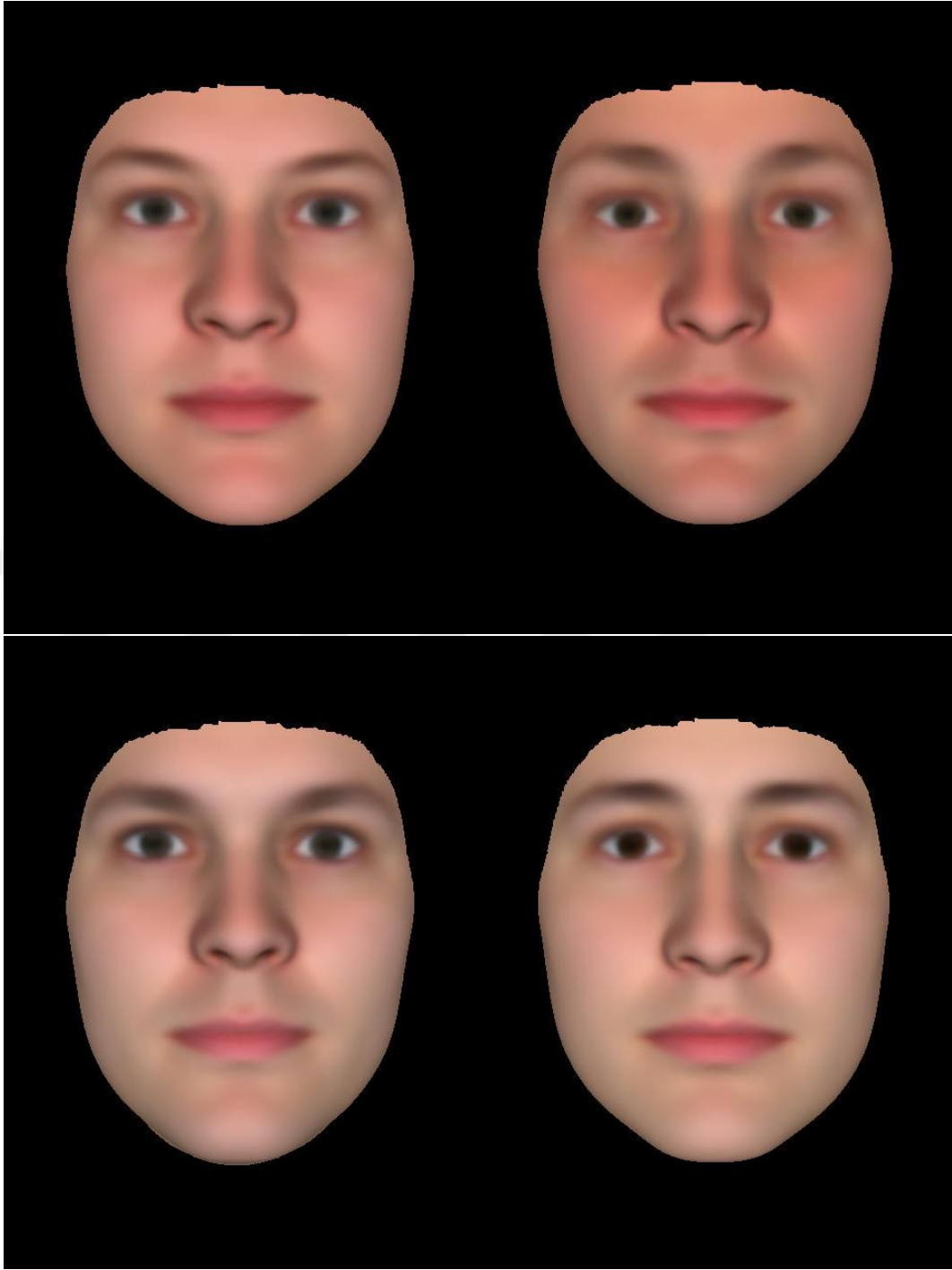
## APPENDICES

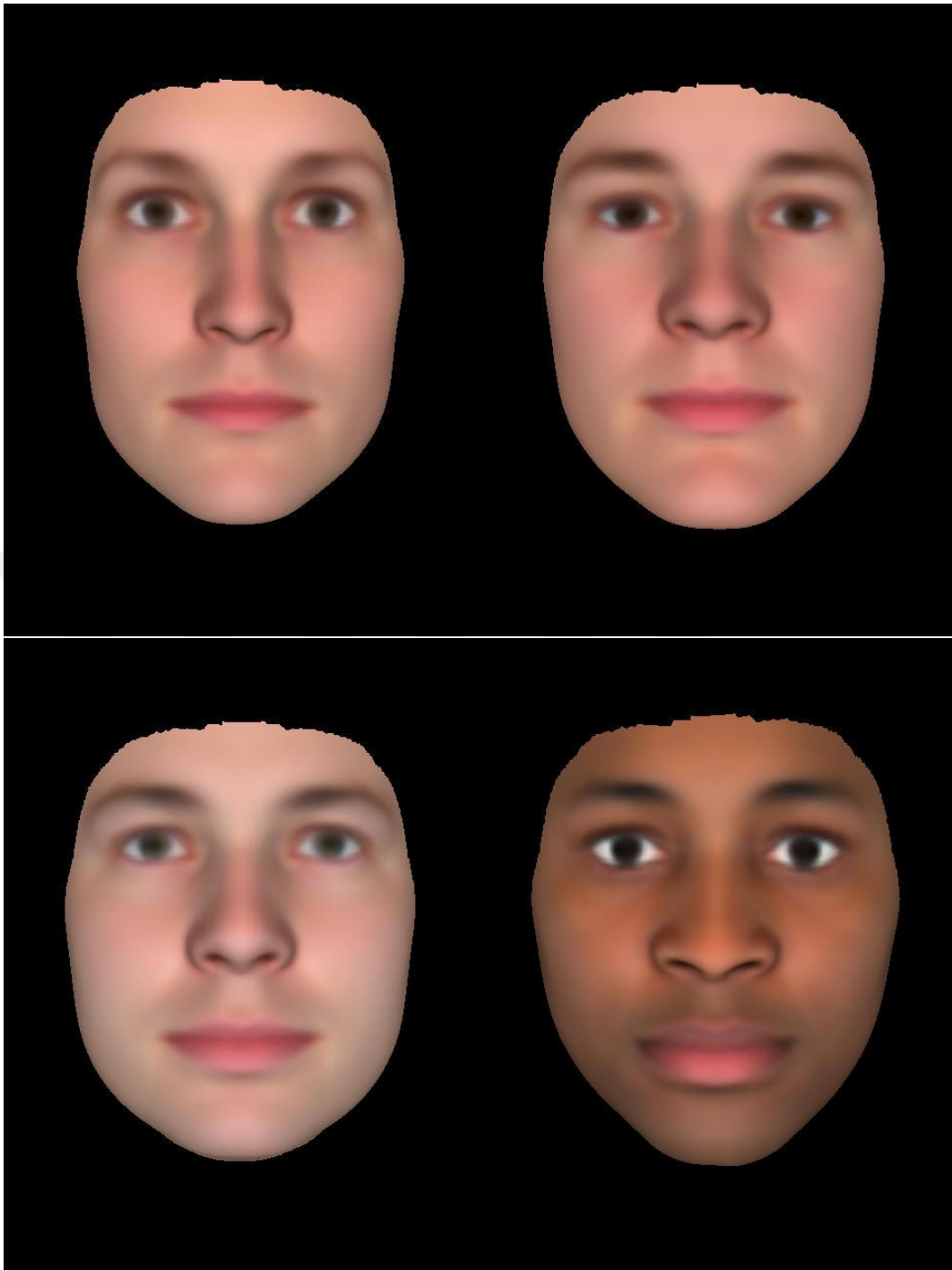
A

Gender-neutral faces photos











7









**B**

## Gender Role Attitude Scale

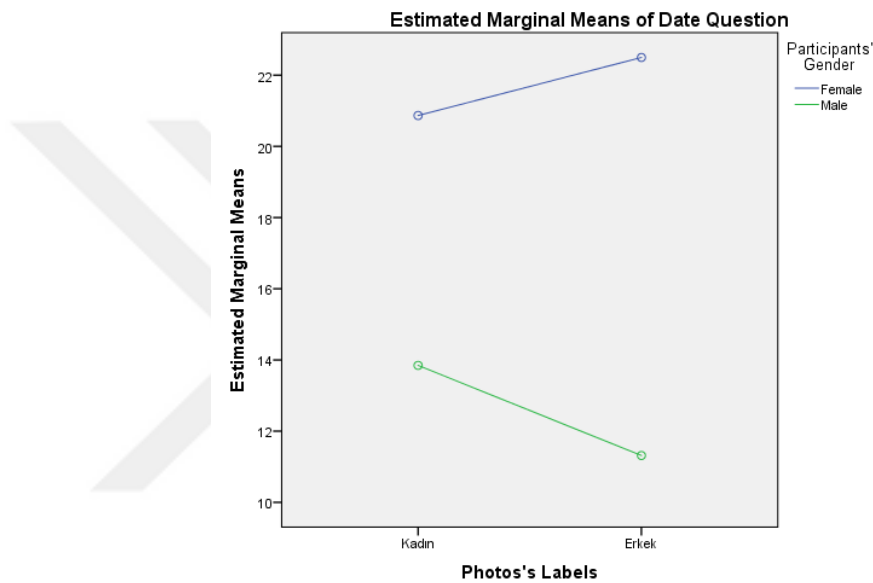
| Tutum İfadeleri   | Kesinlikle Katılmıyorum | Katılmıyorum | Kararsızım | Katılıyorum | Tamamen Katılıyorum |
|---|-------------------------|--------------|------------|-------------|---------------------|
| 1. Kızlar, ekonomik bağımsızlıklarını kazandıklarında ailelerinden ayrı yaşayabilmelidir.     |                         |              |            |             |                     |
| 2. Erkeğin evde her dediği yapılmalıdır.  |                         |              |            |             |                     |
| 3. Kadının yapacağı meslekler ile erkeğin yapacağı meslekler ayrı olmalıdır.                  |                         |              |            |             |                     |
| 4. Evlilikte çocuk sahibi olma kararını eşler birlikte vermelidir.                            |                         |              |            |             |                     |
| 5. Bir genç kızın evleneceği kişiyi seçmesinde son sözü baba söylemelidir.                    |                         |              |            |             |                     |
| 6. Kadının erkek çocuk doğurması onun değerini artırır.                                       |                         |              |            |             |                     |
| 7. Kadının doğurganlık özelliği nedeniyle, iş başvurularında erkekler tercih edilmelidir.     |                         |              |            |             |                     |
| 8. Ailede ev işleri, eşler arasında eşit paylaşılmalıdır.                                     |                         |              |            |             |                     |
| 9. Kadının yaşamıyla ilgili kararları kocası vermelidir.                                      |                         |              |            |             |                     |
| 10. Kadınlar kocalarıyla anlaşamadıkları konularda tartışmak yerine susmayı tercih etmelidir. |                         |              |            |             |                     |
| 11. Bir genç kız, evlenene kadar babasının sözünü dinlemelidir.                               |                         |              |            |             |                     |
| 12. Ailenin maddi olanaklarından kız ve erkek çocuk eşit yararlanmalıdır.                     |                         |              |            |             |                     |
| 13. Çalışma yaşamında kadınlara ve erkeklere eşit ücret ödenmelidir.                          |                         |              |            |             |                     |
| 14. Bir erkeğin karısını aldatması normal karşılanmalıdır.                                    |                         |              |            |             |                     |
| 15. Kadının çocuğu olmuyorsa erkek tekrar evlenmelidir.                                       |                         |              |            |             |                     |
| 16. Kadının temel görevi anneliktir.  |                         |              |            |             |                     |
| 17. Evin reisi erkektir.  |                         |              |            |             |                     |
| 18. Dul kadın da dul erkek gibi yalnız başına yaşayabilmelidir.                               |                         |              |            |             |                     |
| 19. Bir genç kızın, flört etmesine ailesi izin vermelidir.                                    |                         |              |            |             |                     |
| 20. Ailede kararları eşler birlikte almalıdır.  |                         |              |            |             |                     |
| 21. Bir kadın akşamları tek başına sokağa çıkabilmelidir.                                     |                         |              |            |             |                     |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| 22. Eşler boşandığında mallar eşit paylaşılmalıdır.                                |  |  |  |  |  |
| 23. Kız bebeğe pembe, erkek bebeğe mavi renkli giysiler giydirilmelidir.           |  |  |  |  |  |
| 24. Erkeğin en önemli görevi evini geçindirmektir.                                 |  |  |  |  |  |
| 25. Erkeğin maddi gücü yeterliyse kadın çalışmamalıdır.                            |  |  |  |  |  |
| 26. Evlilikte, kadın istemediği zaman cinsel ilişkiyi reddetmelidir.               |  |  |  |  |  |
| 27. Mesleki gelişme fırsatlarında kadınlara ve erkeklere eşit haklar tanınmalıdır. |  |  |  |  |  |
| 28. Evlilikte erkeğin öğrenim düzeyi kadından yüksek olmalıdır.                    |  |  |  |  |  |
| 29. Bir kadın cinsel ilişkiyi evlendikten sonra yaşamalıdır.                       |  |  |  |  |  |
| 30. Ailede erkek çocuğun öğrenim görmesine öncelik tanınmalıdır                    |  |  |  |  |  |
| 31. Erkeğin evleneceği kadın bakire olmalıdır.                                     |  |  |  |  |  |
| 32. Alışveriş yapma, fatura ödeme gibi ev dışı işlerle erkek uğraşmalıdır.         |  |  |  |  |  |
| 33. Erkekler statüsü yüksek olan mesleklerde çalışmalıdır.                         |  |  |  |  |  |
| 34. Ailede kazancın nasıl kullanılacağına erkek karar vermelidir.                  |  |  |  |  |  |
| 35. Bir erkek gerektiğinde karısını dövmelidir.                                    |  |  |  |  |  |
| 36. Evlilikte gebelikten korunmak sadece kadının sorumluluğudur.                   |  |  |  |  |  |
| 37. Bir kadın hastaneye gittiğinde kadın doktora muayene olmalıdır.                |  |  |  |  |  |
| 38. Evlilikte erkeğin yaşı kadından büyük olmalıdır.                               |  |  |  |  |  |

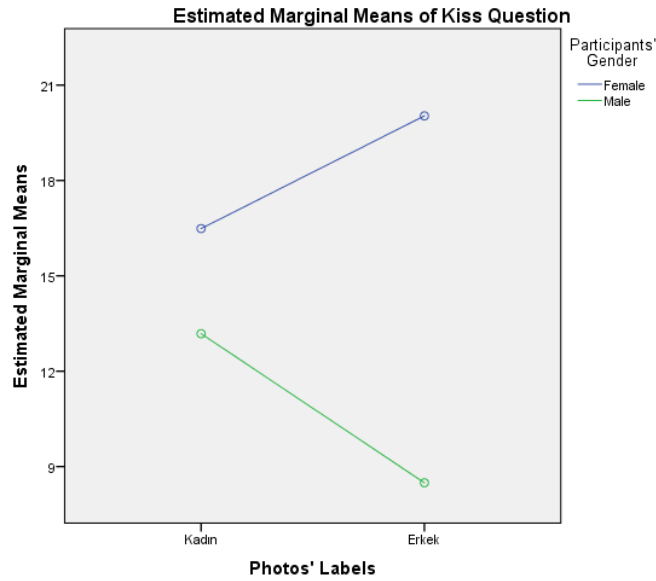
## C

### Factorial ANOVA for Study-1

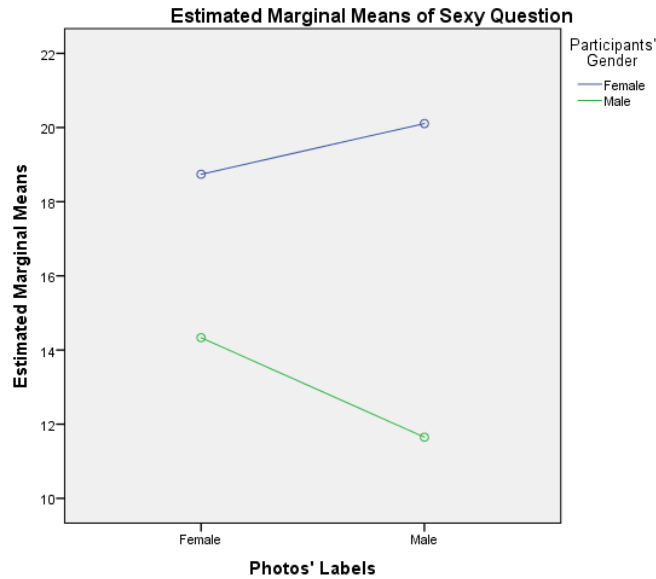
For date question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 403) = 67.21, p < .001, \eta^2 = .14$ . There was a non-significant main effect of photos' labels on the participants' responses,  $F(1, 403) = 0.165, p = .69, \eta^2 < .001$ . There was a non-significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 403) = 3.515, p = .062, \eta^2 = .009$ . Findings are summarized in the chart below.



For kissing question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 403) = 40.61, p < .001, \eta^2 = .09$ . There was a non-significant main effect of photos' labels on the participants' responses,  $F(1, 403) = 0.241, p = .62, \eta^2 = .001$ . There was a significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 403) = 12.487, p < .001, \eta^2 = .03$ . Findings are summarized in the chart below.



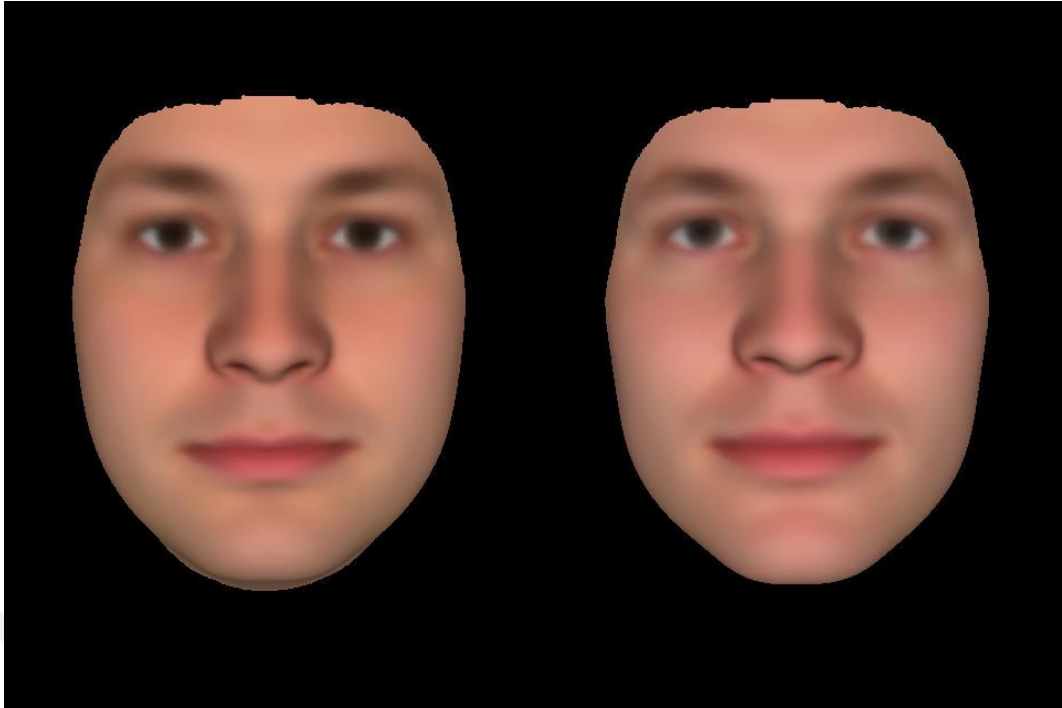
For how sexy question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 403) = 29.73, p < .001, \eta^2 = .07$ . There was a non-significant main effect of photos' labels on the participants' responses,  $F(1, 403) = 0.312, p = .58, \eta^2 = .001$ . There was a significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 403) = 2.947, p = .087, \eta^2 = .007$ . Findings are summarized in the chart below.



**D**

75 Percent masculine face photos













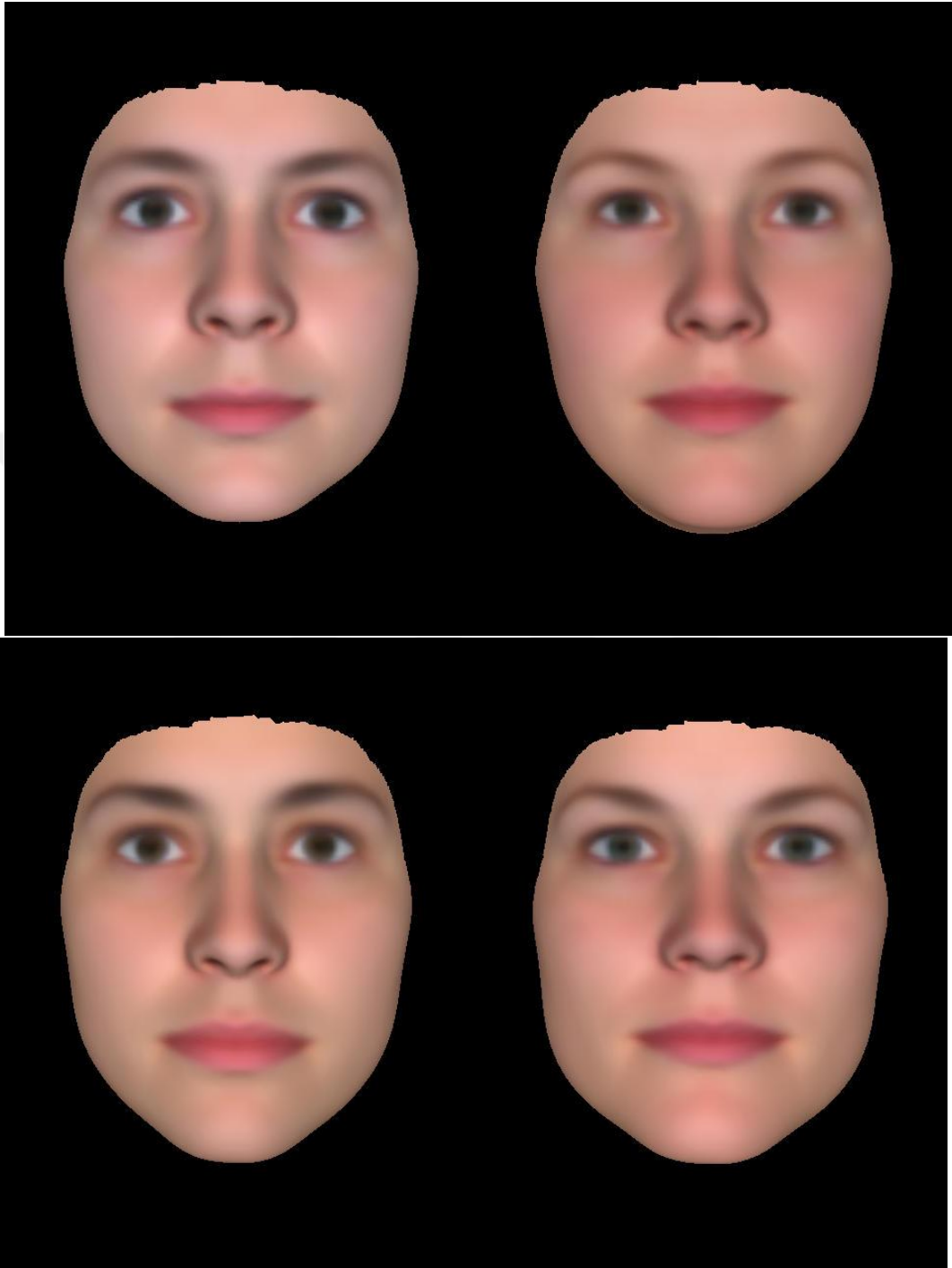


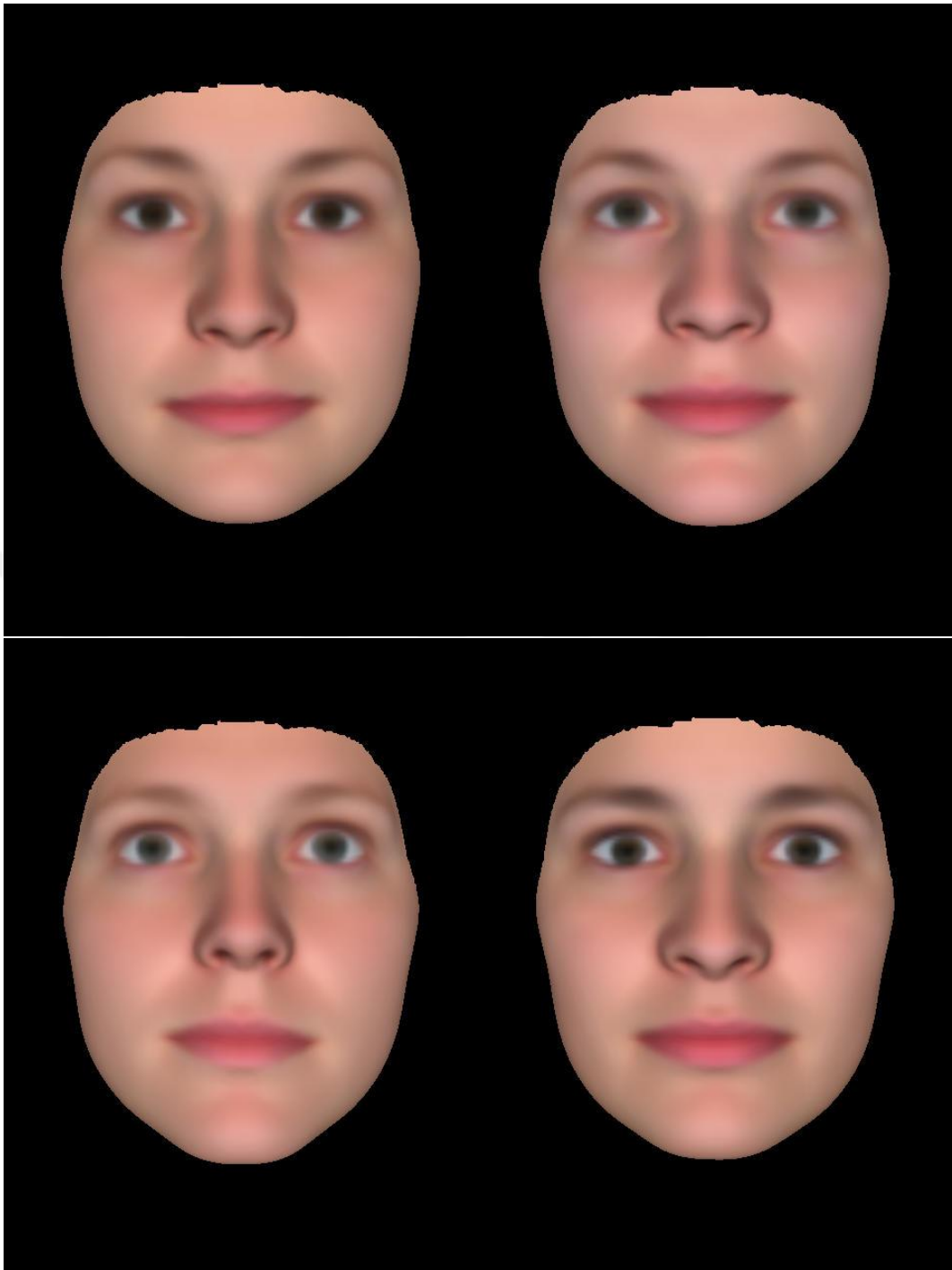




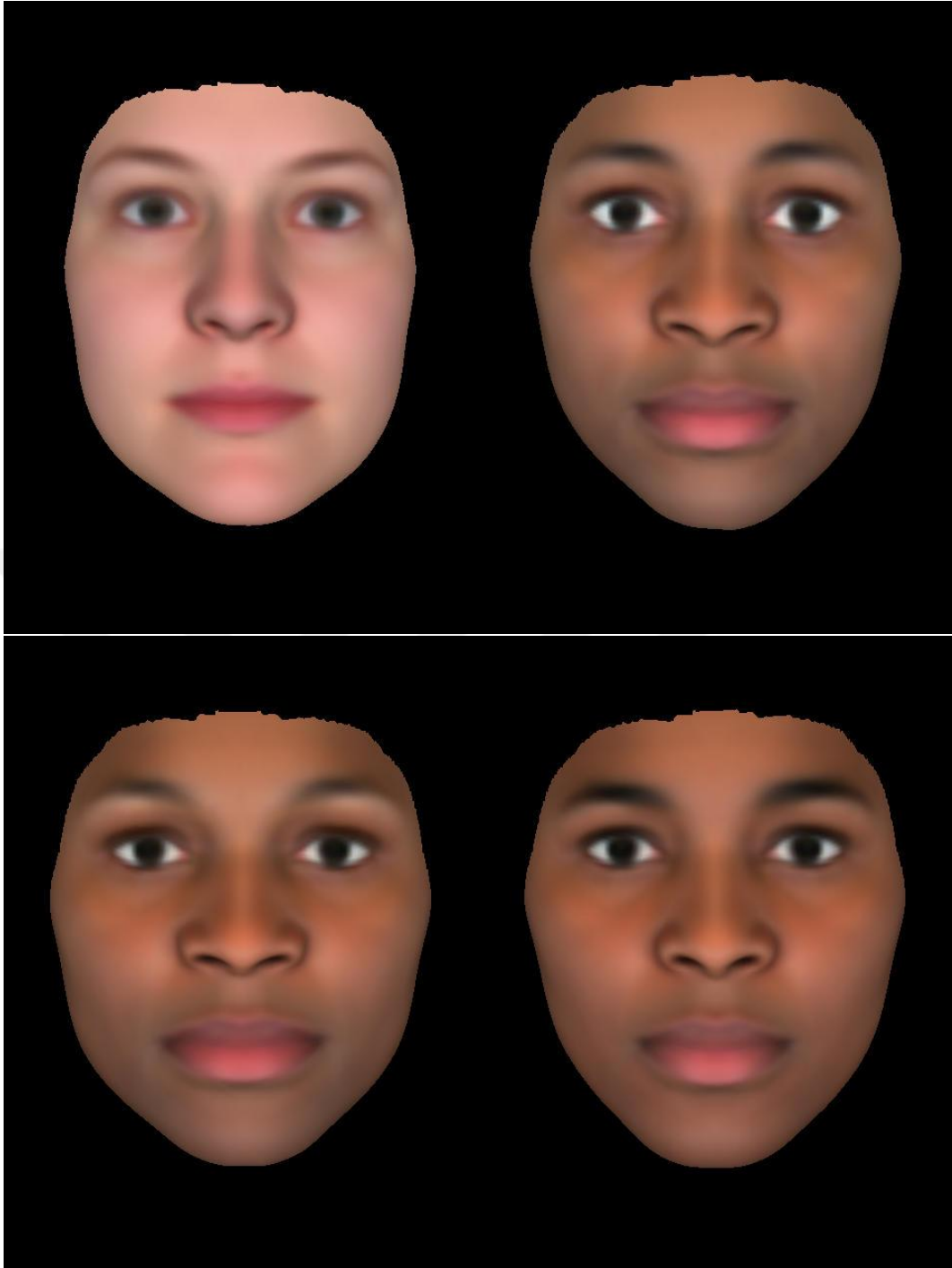
**E**

75 percent feminine face photos

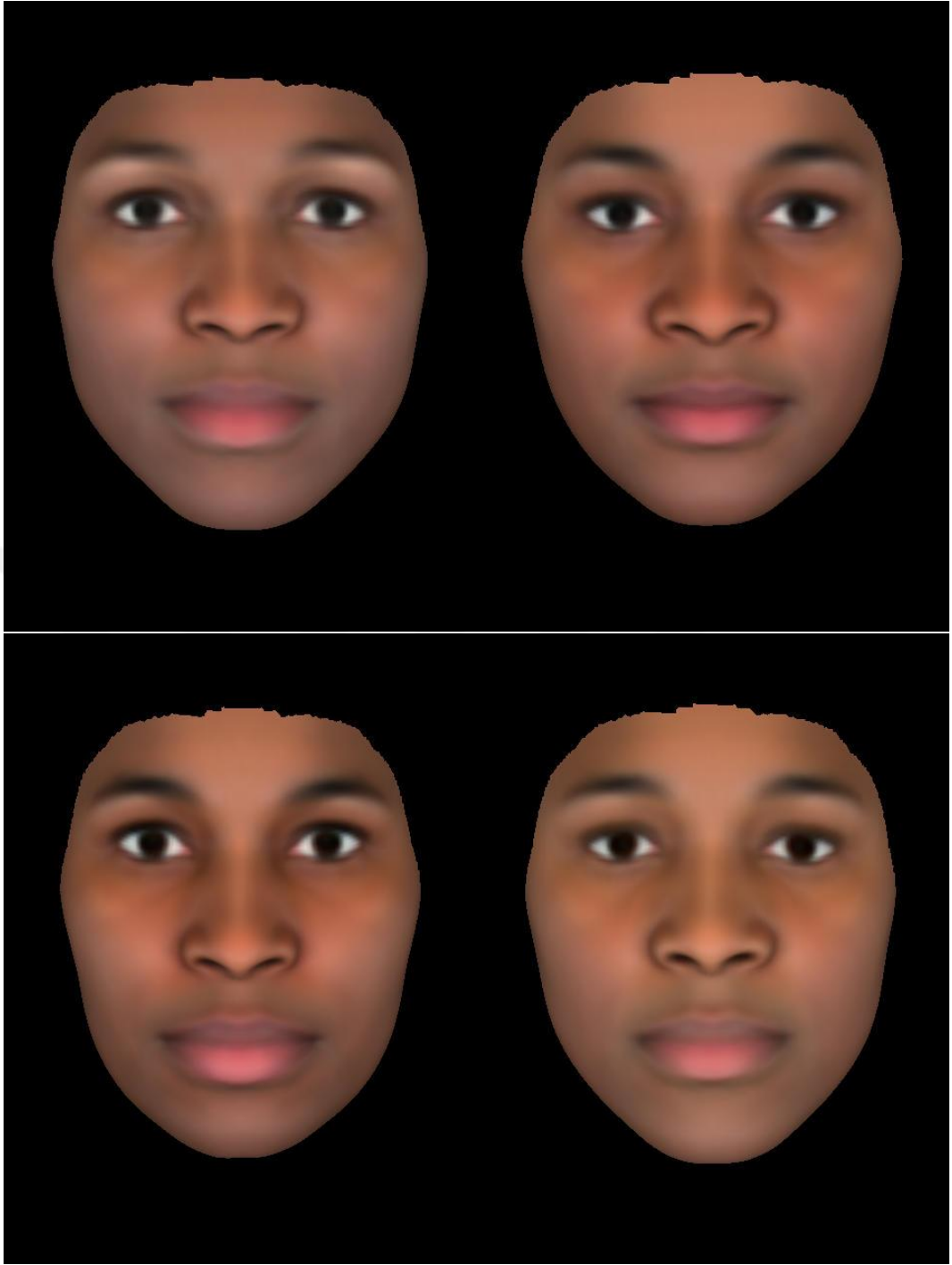


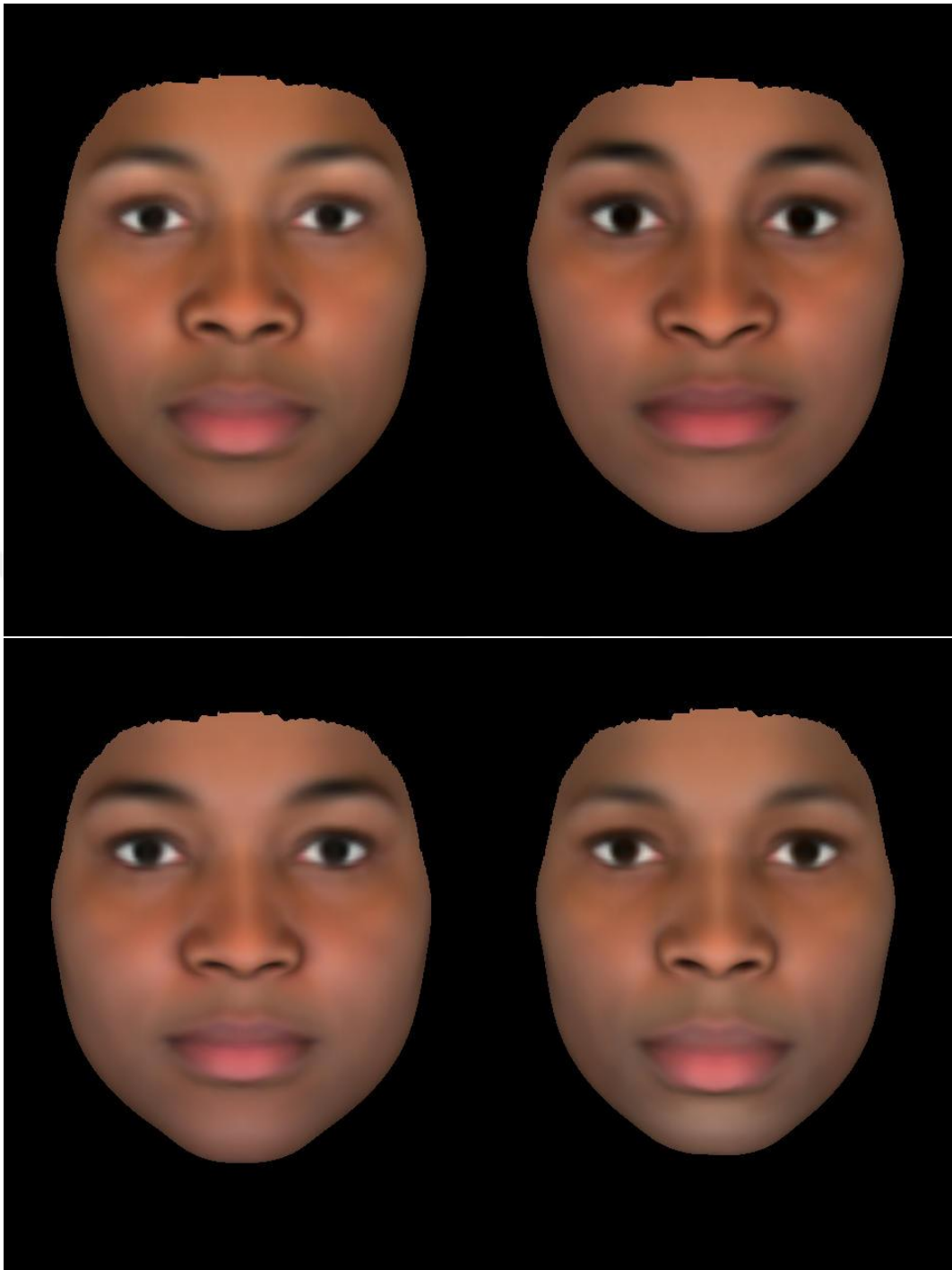


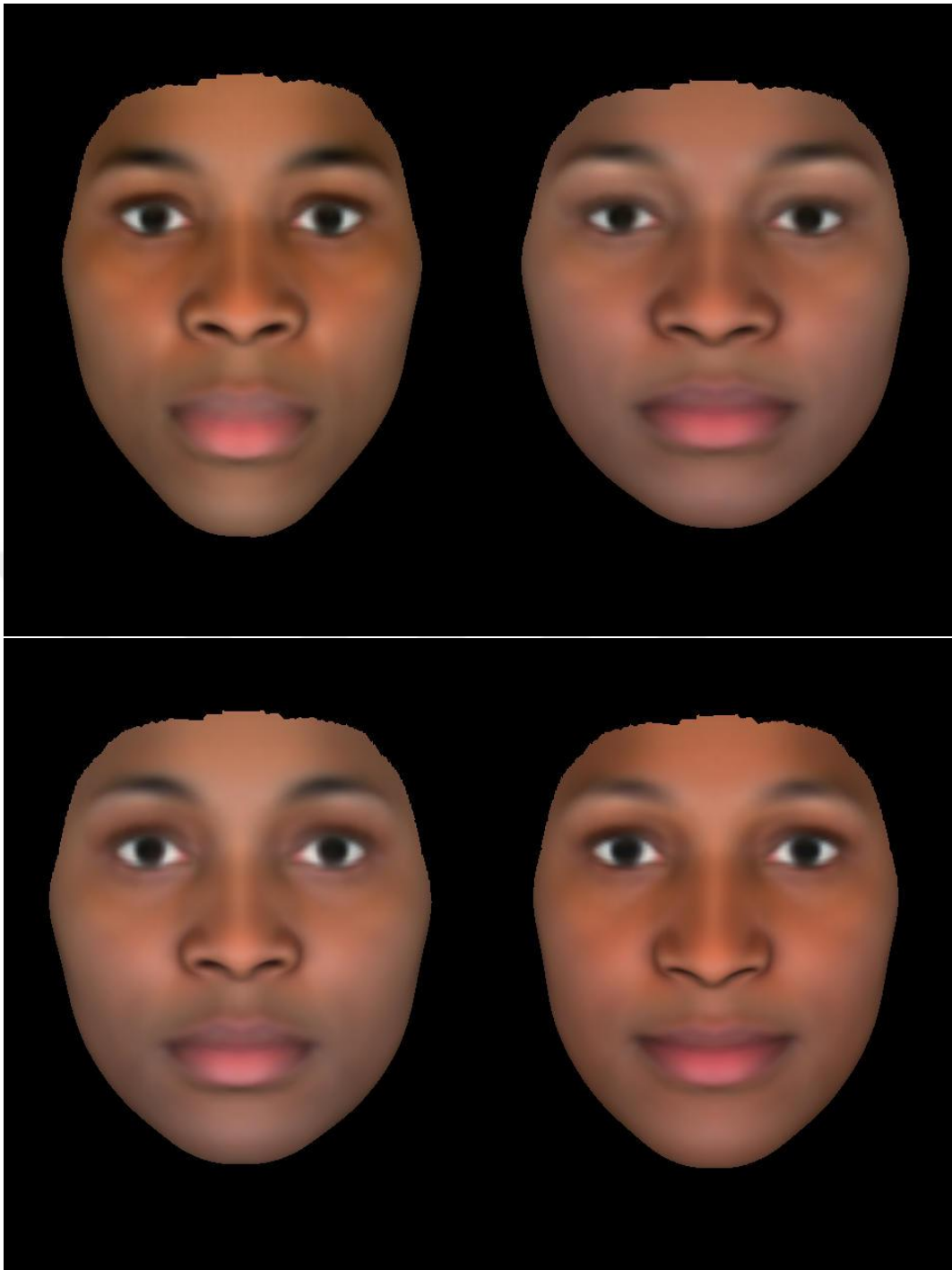


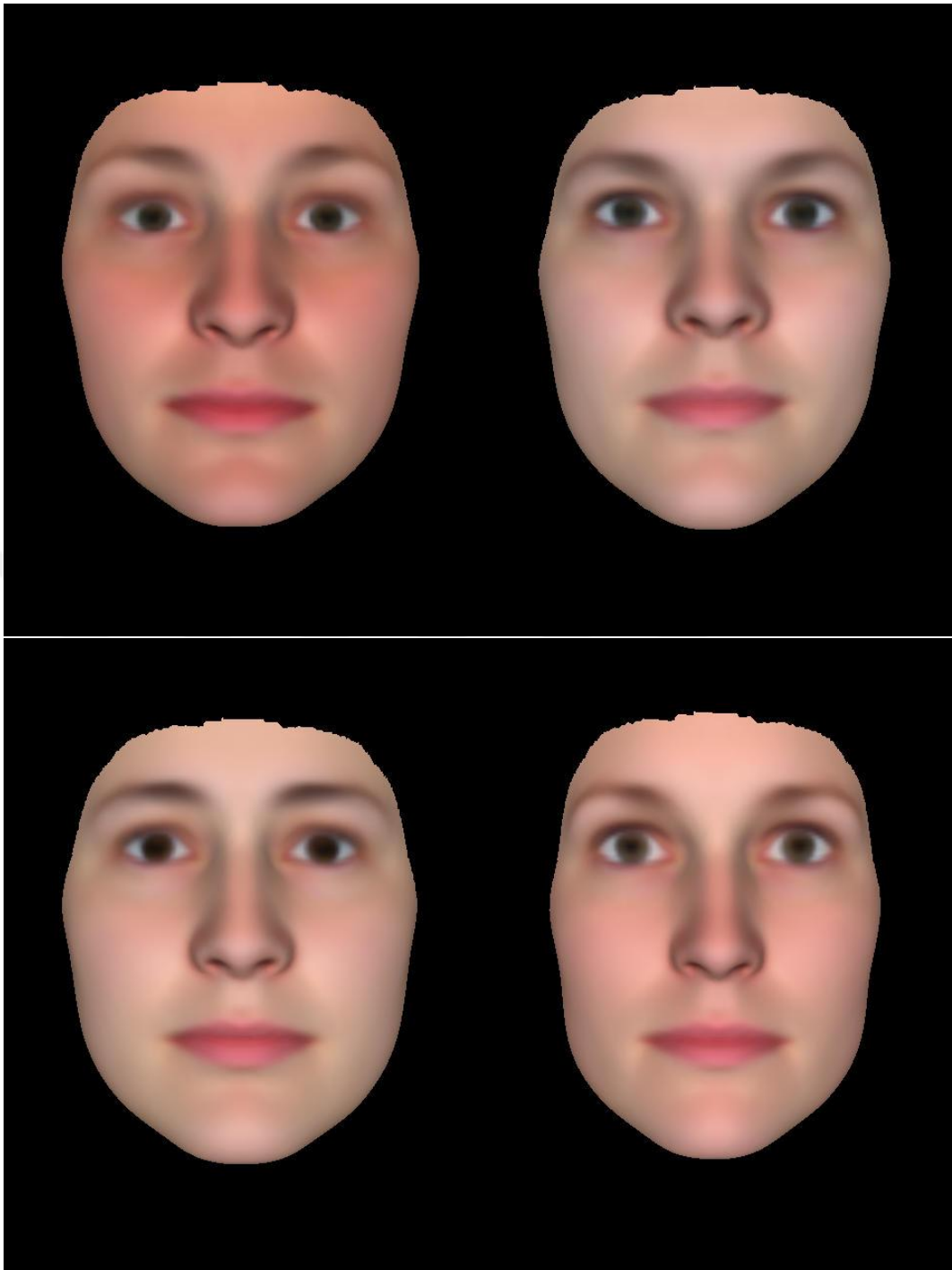


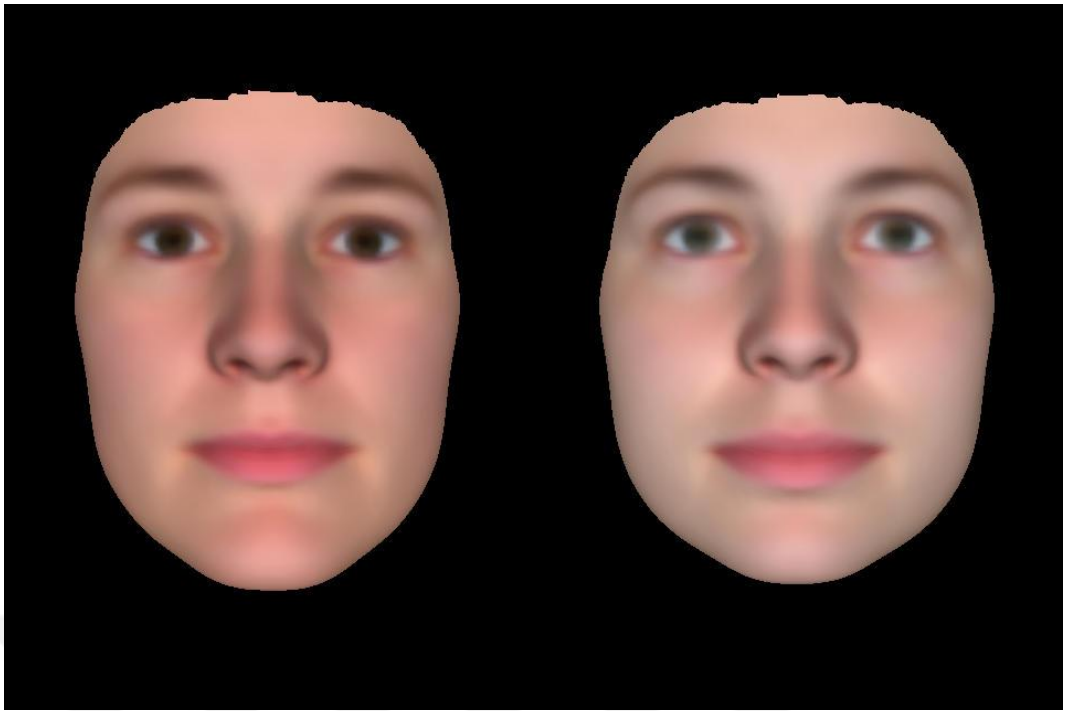








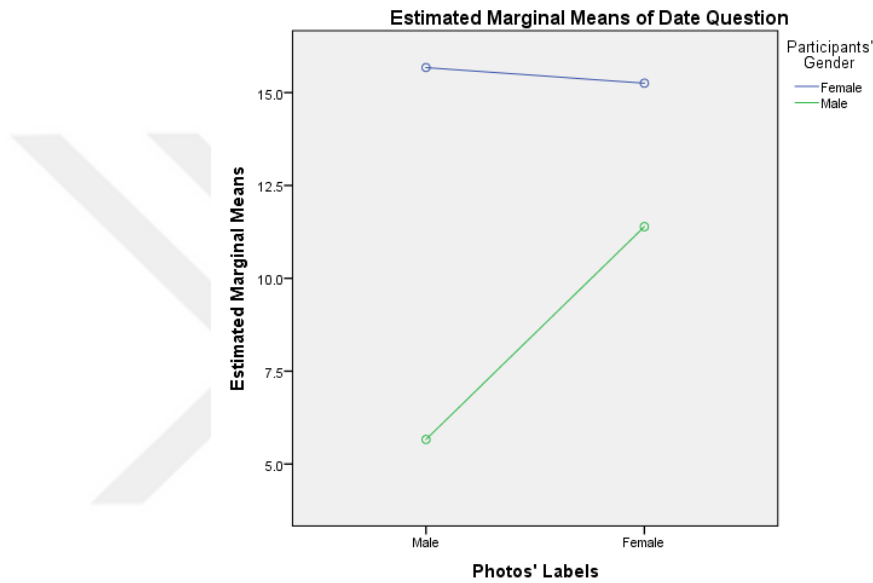




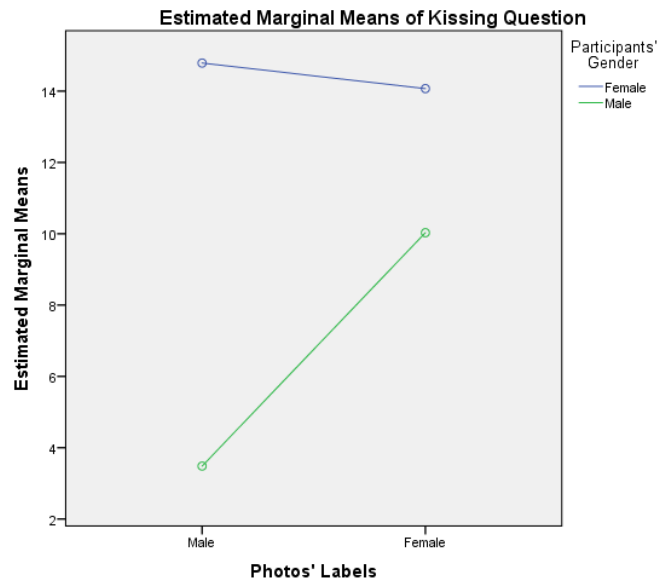
## F

### Factorial ANOVA for Study-2

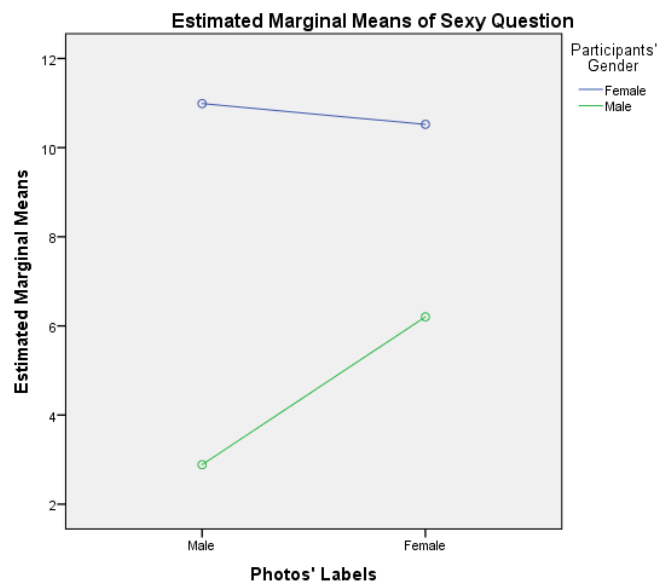
For date question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 278) = 57.49, p < .001, \eta^2 = .17$ . There was a significant main effect of photos' labels on the participants' responses,  $F(1, 278) = 8.414, p < .01, \eta^2 = .03$ . There was a significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 278) = 11.299, p = .001, \eta^2 = .04$ . Findings are summarized in the chart below.



For kissing question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 278) = 52.70, p < .001, \eta^2 = .06$ . There was a significant main effect of photos' labels on the participants' responses,  $F(1, 278) = 17.44, p < .001, \eta^2 = .30$ . There was a significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 278) = 27.071, p < .001, \eta^2 = .09$ . Findings are summarized in the chart below.



For sexy question, there was a significant main effect of the participants' gender on the participants' responses,  $F(1, 278) = 114.98, p < .001, \eta^2 = .29$ . There was a significant main effect of photos' labels on the participants' responses,  $F(1, 278) = 6.053, p < .05, \eta^2 = .02$ . There was a significant interaction between participants' gender and photos' labels, on the participants' responses,  $F(1, 278) = 10.665, p = .001, \eta^2 = .04$ . Findings are summarized in the chart below.



## CURRICULUM VITAE

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## EDUCATION

|                      |   |
|----------------------|---|
| <b>Graduate</b>      | <b>General Psychology, Yaşar University</b>   |
| 2018-                | Thesis: The Effect of Gender Roles on Gender Identity, Sexual Orientation and Subjective Tastes of Individuals<br>Anticipated Completion: June 2020 |
| <b>Undergraduate</b> | <b>Psychology, Ege University</b>   |
| 2013 – 2018          | Thesis: The Effect of Mental Representations of Landmarks on Memory Processes   |
| <b>High School</b>   | <b>Ankara Kanuni High School</b>  |
| 2005 - 2008          |   |

## WORK EXPERIENCE

|                         |  |
|-------------------------|--|
| February -May 2018      | Panda-2 Kindergarten<br>Intern Psychologist  |
| October 2017-April 2018 | Siyah Pembe Üçgen İzmir Association<br>Volunteer Intern                                    |
| September 2017-cont.    | Consultation<br>Social and academic support for children with neurodevelopmental disorders |
| June-July 2017          | Manisa Mental Health and Diseases Hospital<br>Intern Psychologist                          |



January-February 2017

Ege University Substance Abuse, Toxicology and  
Pharmaceutical Sciences Institute

Volunteer Intern

#### **PRESENTATIONS & CONFERENCES**

VI. International Critical Psychology Congress, İzmir

October 2018

Oral Presentation: Arabesque: A Historical and Cultural Analysis

#### **COMPUTER SKILLS**

- Word
- Excel
- Powerpoint
- SPSS
- Lisrel
- Prezi
- Canva
- Audacity

#### **LANGUAGE SKILLS**

**English** Reading: Advanced, Writing: Advanced, Speaking: Good