

TO HAVE OR NOT TO HAVE: THE ROLE OF DESIRE TO HAVE CHILDREN
AND GENDER IN VISUAL REPRESENTATIONS OF BABIES

The Graduate School of Economics and Social Sciences

of

İhsan Doğramacı Bilkent University

by

BÜŞRA AKGÖNÜL

In Partial Fulfillment of the Requirements for the Degree of
MASTER OF ARTS IN PSYCHOLOGY

THE DEPARTMENT OF

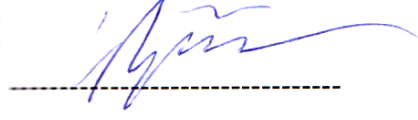
PSYCHOLOGY

İHSAN DOĞRAMACI BİLKENT UNIVERSITY

ANKARA

July 2016

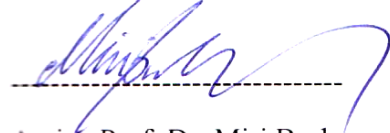
I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Psychology



Assist. Prof. Dr. Gül Günaydın

Supervisor

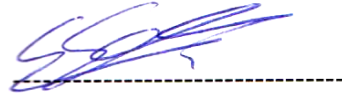
I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Psychology.



Assist. Prof. Dr. Miri Besken

Examining Committee Member

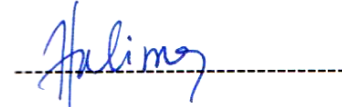
I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Psychology.



Assist. Prof. Dr. Emre Selçuk

Examining Committee Member

Approval of the Institute of Economics and Social Sciences



Prof. Dr. Halime Demirkan

Director

ABSTRACT

TO HAVE OR NOT TO HAVE: THE ROLE OF DESIRE TO HAVE CHILDREN AND GENDER IN VISUAL REPRESENTATIONS OF BABIES

Akgönül, Büşra

M.A., Department of Psychology

Supervisor: Assist. Prof. Dr. Gül Günaydın

July 2016

Past research has shown that desire to have children (DTC) and gender play a role in expectations about having children whether individuals construe becoming a parent as a positive or a negative experience. The present study aims to extend previous literature by studying for the first time visual representations of babies. In this research, the reverse correlation method was used to examine how men and women's DTC is linked with their visual representations of babies. Participants' visual representations of babies was evaluated according to cuteness and temperament of the baby image. Results showed that women represented babies as cuter compared with men. In addition, participants with high DTC represented babies as cuter compared with participants with low DTC. Men with high DTC represented babies as cuter compared to men with low DTC. However, baby representations of women with high DTC and baby representations of women with low DTC did not significantly differ from each other on cuteness. Both men and women with high DTC had more easygoing baby representations compared to men and women with low DTC. Nonetheless, the link between DTC and representations of a prototypical baby's temperament was stronger

for men than for women, parallel to the findings on cuteness. Moreover, women represented babies more as a baby girl than as a baby boy whereas men represented babies more as a baby boy rather than a baby girl. By investigating visual representations, this study extends past work which studied the role of gender and DTC on expectations about parenthood.

Keywords: Desire to Have Children, Face Perception, Reverse Correlation, Visual Representations of Babies



ÖZET

OLMAK YA DA OLMAMAK: ÇOCUK SAHİBİ OLMA İSTEĞİ VE CİNSİYETİN BEBEKLERİN GÖRSEL TEMSİLİNDEKİ ROLÜ

Akgönül, Büşra

Yüksek Lisans, Psikoloji Bölümü

Tez danışmanı: Yard. Doç. Dr. Gül Günaydın

Temmuz 2016

Geçmiş araştırmalar, bireylerin ebeveyn olmayı olumlu ya da olumsuz bir tecrübe olarak görmesi bağlamında, cinsiyetin ve çocuk sahibi olma isteğinin çocuk sahibi olmakla ilgili beklentiler konusunda rol oynadığını göstermiştir. Bu çalışma geçmiş literatürü, bebeklerin görsel temsillerini araştırarak genişletmeyi hedeflemektedir. Bu araştırmada, ters korelasyon yöntemi kullanılarak erkek ve kadınların çocuk sahibi olma isteklerinin, bebeklere dair görsel temsilleri ile bir bağlantısı olup olmadığı incelenmiştir. Bu teknik bebeklere dair görsel temsillerin incelenmesi için ilk defa kullanılmıştır. Katılımcıların bebeklere dair görsel temsilleri, bir bebek görüntüsünün sevimlilik ve mizacı bağlamında değerlendirilmiştir. Sonuçlar göstermiştir ki, kadınlar, erkeklere kıyasla daha sevimli bir bebek temsiline sahiptir. Ek olarak, çocuk sahibi olma isteği yüksek olan katılımcılar, çocuk sahibi olma isteği düşük olan katılımcılara kıyasla daha sevimli bir bebek temsiline sahiptir. Çocuk sahibi olma isteği yüksek olan erkekler çocuk sahibi olma isteği düşük olan erkeklere oranla daha sevimli bir bebek temsiline sahipken çocuk sahibi olma isteği yüksek ya da düşük olan kadınlar arasında sevimlilik açısından istatistiksel olarak anlamlı bir fark bulunmamıştır. Çocuk sahibi olma isteği yüksek olan kadın ve erkekler, çocuk sahibi

olma isteđi düşük olan kadın ve erkeklere kıyasla bakımı daha kolay bir bebek temsil etmişlerdir. Yine de, çocuk sahibi olma isteđiyle prototipik bir bebeđin mizacına dair temsil arasındaki bağlantının, kadınlara kıyasla erkeklerde daha güçlü olduđu bulunmuştur. Ayrıca, kadınların bebek temsiliinin cinsiyeti daha çok kızken, erkeklerin bebek temsiliinin cinsiyetinin erkek olduđu gösterilmiştir. Bu çalışma geçmişte cinsiyet ve çocuk sahibi olma isteđi bağlamında yapılan çalışmaları görsel temsilleri araştırarak genişletmektedir.

Anahtar Kelimeler: Bebeklerin Görsel Temsili, Çocuk Sahibi Olma İsteđi, Ters Korelasyon, Yüz Algılaması



To the love of my life and my family

ACKNOWLEDGEMENTS

I thank deeply to my supervisor Assist. Prof. Dr. Gül Günaydın for the guidance, comments and encouragement throughout this study.

I thank my thesis jury members Assist. Prof. Dr. Miri Besken and Assist. Prof. Dr. Emre Selçuk for their valuable comments on my thesis.

I also thank my father Osman, my mother Hatice and my brother Buğra Akgönül for their invaluable support throughout my life. I know they will always be there for me.

Lastly, I am grateful to Caner Yener for being the sun of my life in the darkest moments. His unconditional love and endless support made me who I am. Thank you darling, I love you so much.

TABLE OF CONTENTS

ABSTRACT	iv
ÖZET.....	vi
ACKNOWLEDGMENTS.....	ix
TABLE OF CONTENTS.....	x
LIST OF FIGURES.....	xii
CHAPTER I: INTRODUCTION.....	1
1.1.Overview.....	1
1.2. Desire to Have Children as a Predictor of Visual Representations	1
1.3. Gender as a Predictor of Visual Representations	3
1.4. The Present Study	5
CHAPTER II: MATERIALS AND METHODS.....	9
2.1.Participants.....	9
2.2.Procedure.....	10
2.2.1. Stimuli creation phase.....	10
2.2.2. Reverse correlation image classification phase.....	10
2.2.3. Survey phase.....	12
2.2.3.1. Desire to have children questionnaire.....	13
2.2.3.2. Experiences in close relationships inventory.....	13
2.2.3.3. Relationship Quality Scale.....	14
2.2.3.4. Demographics.....	14
2.2.4. Rating phase.....	14
CHAPTER III: RESULTS.....	17
3.1. Do Baby Representations of Men and Women Differ as a Function of Desire to Have Children?	17
3.1.1. Cuteness.....	17
3.1.2. Temperament.....	19
3.2. What is the Gender of the Baby Representation as a Function of Participants' Gender and Desire to Have Children?.....	20

CHAPTER IV: DISCUSSION.....	23
4.1. Main Findings: Cuteness and Temperament of Baby Representations ...	23
4.2. Supplementary Results: Gender of Baby Representations	26
4.3. Future Directions	27
4.4. Conclusion	28
REFERENCES.....	29
APPENDICES.....	34
A. DESIRE TO HAVE CHILDREN QUESTIONNAIRE	34
B. EXPERIENCES IN CLOSE RELATIONSHIPS INVENTORY	36
C. RELATIONSHIP QUALITY SCALE	40
D. INSTRUCTIONS FOR REVERSE CORRELATION IMAGE CLASSIFICATION TASK.....	41

LIST OF FIGURES

1. Base image and examples of stimuli presented in a trial of the image classification phase.....	12
2. Classification images of women and men who reported high vs. low desire to have children.....	16
3. Mean cuteness ratings as a function of Gender (men vs women) and Desire to Have Children (DTC) (high vs low).....	18
4. Mean temperament ratings as a function of Gender (men vs women) and Desire to Have Children (DTC) (high vs low).....	20
5. Percentages of baby images rated as a baby boy vs. a baby girl as a function of participants' gender and desire to have children (DTC).....	22

CHAPTER I

INTRODUCTION

1.1. Overview

When you ask people to imagine that they will have a baby in the future, some of them may think about a baby crying and shouting all the time. Also, associating parenthood with financial costs and seeing it as a restriction of their freedom might lead them to perceive parenthood as a burden (Ross & Van Willigen, 1996). But, some people may think otherwise. They might imagine a cuter and happier baby that they would have fun with and who would take care of them when they get old. In their minds, they would have positive images for their future baby. Considering these two different visual representations in two distinct scenarios, what kind of factors might play a role in visual representations of babies? In this study, we particularly focused on two important factors that might affect people's mental representations of babies: desire to have children and gender.

1.2. Desire to Have Children as a Predictor of Visual Representations

Desire to have children can be defined as whether individuals' wish to have children and become a parent in the future (Rholes, Simpson, Blakely, Lanigan, & Allen, 1997). It can be argued that desire to have children would be linked with how individuals

visualize a prototypical baby in their minds (*baby representations*) because desire to have children was found to predict expectations about parenthood (Rholes et al., 1997) which likely shape baby representations. In their study, Rholes and his colleagues (1997) asked individuals who do not have children to imagine that they have a 3-year-old child and asked them to describe the behaviors and characteristics of their prospective child. They also measured participants' desire to have children. Results showed that participants having less desire to have children expected their prospective child to display more avoidant and less affectionate behavior and to have inappropriate social behaviors. As a whole, they found that people with lower (vs. higher) desire to have children expected their future children to have more negative behaviors and characteristics. The same study also revealed that people with less desire to have children expected to have less satisfaction when they become parents in the future and also to not get along well with the child. This study shows that desire to have children is related with individuals' expectations about having children, which is a likely predictor of visual representations of children.

In another study, Zeanah, Keener and Anders (1986) looked at how expectations regarding children shape mental representations of prospective parents. Researchers found that mothers' prenatal expectations about their child's temperament as easy, intermediate or difficult are correlated with their perceptions of the child's temperament during infancy. This study concluded that the prospective mothers formed internal representations of their children based on their expectations about their children. Based on this work, it is possible that prospective mothers form visual representations of children long before actually having children.

The importance and common findings in these research are that individuals' desire to have children influence their expectations about having a child (Rholes et al., 1997).

Those expectations also shape individual's mental representations about children (Zeanah et.al, 1986). Specifically, people with higher desire to have children have more positive expectations about being a parent and therefore they would be expected to have more positive visual representations of children compared with people with lower desire to have children. Given most research so far focused on expectations, there is no research to date focusing on the visual component of baby representations.

1.3. Gender as a Predictor of Visual Representations

Men and women have different expectations about having children (Kerpelman & Schvaneveldt, 1999; Lawson, 2004; Liefbroer, 2005; Yaremko & Lawson, 2007). These differences in expectations mostly stem from the roles given to genders by societal norms. Women, as compared with men, put having children at the center of their lives even though they think the costs of being a parent are higher for themselves (Yaremko & Lawson, 2007). Since society demands women to become a mother, they internalize their gender role more than men do. In one study, Yaremko and Lawson (2007) investigated expectations about being a parent and their motivations to pursue parental role of young adults who do not have children. They found that young women were more motivated to pursue parental roles and to become a parent compared to young men. Moreover, it was found that young women were more concerned about parental costs, time consumption and effort due to childcare than young men. Similar findings have also been found in other work. Liefbroer (2005) found that young adult men expected greater rewards and fewer costs associated with having a child than young adult women did. These expected costs are related with career opportunities and personal autonomy and they are greater for women compared to men. Although men expected lower costs than women, these costs postponed both gender's decision to have their first child.

Although women expect a greater cost for having children, they perceive being mother as a primary goal for their life and idealize the parenthood more than men do (Eibach & Mock, 2011). This idealization makes a lot of sense because expectations from a woman to be the primary child bearer and women's engagement to their career and being a parent make them choose between their responsibilities as a mother and their responsibilities at their jobs, as it was the case for their ancestors (Kerpelman & Schvaneveldt, 1999). In another study, both unmarried young men and women perceive their mother's parental identity more important than their own and see their mother's career identity less important than their own career identity (Kerpelman & Schvaneveldt, 1999). Interestingly, young women viewed their father's career identity having higher importance than their own.

Although women are more concerned with the costs, men think about the privileges and pleasures of being a parent. In one study, Renk and her colleagues (2003) investigated the mother's and father's time spent with their children. Although men and women do not differ in terms of time spent with their children, women reported taking more responsibility than men for primary activities of children such as feeding, cleaning etc. While women are busy with child's caregiving activities, men are involved in more secondary activities such as playing with child (Renk et al., 2003). As a result, the low costs of having a child could affect men's expectations of having a child positively. Also, society's lower pressure on men to become a parent further allows them to consider being a parent as a more positive experience.

All of these studies showed that women internalize their parental role more than men do (Yaremko & Lawson, 2007) because these roles are imposed on them by the society (Kerpelman & Schvaneveldt, 1999). So it might be expected that women have more favorable representations of babies than men do. But parenthood also have many costs

for women than for men. (Yaremko & Lawson, 2007) To deal with the costs of parenthood, women tend to idealize being a parent more than men do (Eibach & Mock, 2011). So it is possible that women might report high desire to have children because they think this is what they should do for the sake of their identity in the society rather than because they really want to have children. However, men were shown to get more rewards in their relationship with their children (Renk et al., 2003). Since they do not identify themselves with parental roles as women do (Kerpelman & Schvaneveldt, 1999), men may not feel the pressure of being a parent; thus, their expectations about having a child may be affected mostly by their desire to have children. Based on this reasoning, it is possible that gender would moderate the link between desire to have children and baby representations. Past research mostly focused on expectations of men and women about having children. However, to my knowledge, how men and women visually represent babies depending on their gender and the moderating role of gender in the link between desire to have children and baby representations have not been investigated. This research fills this important gap in the literature by looking at the link between desire to have children and men and women's visual representations of babies.

1.4. The Present Study

The present study aimed to investigate how men and women's desire to have children is linked with their visual representations of babies. For example, when we are asked to think of a baby, every one of us would conjure up a different image representing a baby. In the present study, visual representation of a baby face is defined as an image one has in mind whenever they are asked to think of a baby face. In other words, it is the facial appearance of a typical baby in participants' minds. To reveal visual representations of babies, reverse correlation technique (Mangini & Biederman, 2004)

was used. In the classification phase, participants were asked to complete a forced-choice classification task for 300 trials to measure their visual representations. Participants were presented with a pair of faces in each trial. These faces were created by adding or subtracting noise to the base face which distorted the base face and created slightly different images than the original one. Participants were asked to choose the image that best represents a prototypical baby in their mind. Participants filled out the desire to have children questionnaire to assess whether or not they want to have children in the future. After that, both men and women were divided into two groups within their gender based on their score on the desire to have children questionnaire. Classification images for high desire to have children and low desire to have children were created for each gender separately. The average of all noises selected by the participants was calculated for each group and then this average was combined with the base face. The resulting classification images provided a visual representation of the prototypical baby in participants' mind. To evaluate the classification images (of women with high desire to have children, women with low desire to have children, men with high desire to have children and men with low desire to have children), an independent group of participants rated these pictures on cuteness and temperament, which have been used in previous research to measure favorableness of the baby pictures (Lobmaier, Sprengelmeyer, Wiffen & Perrett, 2010).

Previous research that used reverse correlation showed that this technique reliably and validly captures visual representations of various individuals and groups such as romantic partners (Gunaydin & Delong, 2015), attractive or unattractive possible mates (Karremans, Dotsch, Corneille, 2011) and Moroccans (Dotsch, Wigboldus, Langner, & Van Knippenberg, 2008). Research by Mangini and Biederman (2004) provided further evidence that the reverse correlation technique is a valid method to

measure facial representations. In their study, John Travolta and Tom Cruise images were morphed to be used as the base image. Participants were shown the base image (embedded in noise) in each trial and were asked to choose whether this image looks like Travolta or Cruise. The average of all images indicated to “look like Travolta” appeared as Travolta whereas the average of all images indicated to “look like Cruise” appeared as Tom Cruise. The results of the study suggest that reverse correlation method is a valid technique because it revealed the very representation that was intended to be measured.

Another evidence for the validity of the reverse correlation technique is its association with the Implicit Association Test (IAT; Greenwald, McGhee & Schwartz, 1998). IAT is a widely used test which is repeatedly shown by past research to be reliable (McConnell & Leibold, 2001; Greenwald & Farnham, 2000). In their study Dotsch and his colleagues (2008) measured participants prejudice level towards Moroccans by using IAT and then participants completed the reverse correlation task. Participants who had higher implicit prejudice also had more negatively biased visual representations of Moroccans (as measured by the reverse correlation technique) compared with those with lower implicit prejudice. This research shows that reverse correlation technique is linked with a widely used implicit technique and hence is a valid method to measure implicit evaluations.

This technique has not been used before to study mental representations of babies and therefore the current study is the first attempt at studying how babies are represented in people’s minds. Moreover, this technique minimizes the possible biases that might arise from self-reports because rather than explicitly asking participants how they evaluate babies, it measures individuals’ representation implicitly (Dotsch et al., 2008). As a result, using this method in the current study helped reveal visual

representations of babies with as little bias as possible. Moreover, reverse correlation method has some advantages over other implicit measures. Other implicit measures such as the IAT measure global positivity and negativity (Greenwald, McGhee & Schwartz, 1998). However, the reverse correlation technique gives researchers detailed information about the nature of representations by allowing them to measure any specific domain of interest such as trustworthiness, attractiveness and competence. Thus, it is possible to get a more fine-grained picture of mental representations by using the reverse correlation technique.

Another advantage of the reverse correlation method over other implicit measures is being a bottom up approach to measure mental representations. In other implicit measures such as the IAT, it is possible that participants might have clues about what researchers are trying to measure because their target of interest was shown to participants with negative or positive connotations. However, in the reverse correlation method, participants were just asked to choose the prototypical representation of the target of interest in their minds. As a result, there are no positive or negative connotations about the target of interest and hence there is likely less bias compared with other implicit measures.

CHAPTER II

MATERIALS AND METHODS

2.1. Participants

A total of 124 people were recruited for the classification phase of the study. However, three participants could not complete the reverse correlation classification task due to technical errors and one participant's data was excluded from the analysis because she finished the study in a very short time compared with the other participants. At the end, 120 participants (60 females and 60 males) completed the classification phase of the study. To determine the number of participants, previous studies with similar designs were reviewed and their participant numbers varied between 28 (Dotsch et al., 2008) and 82 (Karremans et al., 2011). To ascertain reliable visual representations, we wanted to exceed the number of participants recruited in previous studies. All participants were recruited from Bilkent University ($Mean\ age_{women} = 20.25$, $SD = 2.02$, $Mean\ age_{men} = 20.58$, $SD = 2.23$) and 55 participants had a romantic relationship.

For the rating phase of the study, the number of participants was determined using the G*power software (Faul, Erdfelder, Lang, & Buchner, 2007). A total number of 213 participants was estimated for obtaining .80 power ($p < .05$, Cohen's $d_z = .30$). Four hundred and seventy three individuals were reached via social media (Facebook and email communication). Out of those 473 people who started the survey, only 213

completed at least 95% of the whole rating task. When the desired numbers were reached for both parts of the study (classification and rating phase), data collection was stopped.

2.2. Procedure

2.2.1. Stimuli creation phase

The first step was the construction of the base face for the reverse correlation image classification task. For this purpose 47 infant (18 females and 29 males, ages between 8-13 months) photographs were taken. In the photographs, infants had a neutral facial expression and looked directly at the camera.

Background of each photo was standardized by using image manipulation software Adobe Photoshop CS. Photographs were cropped and the background was filled with a neutral gray color ($R = 128$, $G = 128$, $B = 128$). After standardization of the photographs, a base face was created by averaging 47 infant pictures using PsychoMorph (Tiddeman, Burt, & Perrett, 2001) morphing software. Infants' gender was not taken into account while creating the base face because at this age range sexual dimorphic features are not as distinct as in older ages (Samal, Subramani, & Marx, 2007). The base image was Gaussian blurred using Adobe Photoshop to prevent the contrast on edges (Figure 1).

2.2.2. Reverse correlation image classification phase

In the classification phase of the study, participants were asked to complete a forced-choice image classification task for 300 trials to reveal their mental representation of babies. The task was programmed using Psychophysics Toolbox-3 extensions on Matlab (Brainard, 1997). Participants were presented with a pair of faces in each trial. These faces were created by adding or subtracting noise to the base face. The noise

was created via a Matlab code used in Gunaydin and DeLong (2015) and consisted of 4092 sinusoids of different sizes, orientations and phases. In each trial, the contrast intensity was randomly picked so that the base face was made up of 4092 sinusoids that had a random contrast between the values -1 and 1. When one face was created, mathematical opposite of it was also created automatically to be presented in a given trial (Figure 1).

Before beginning the classification task, participants were asked to focus for a couple of seconds on the prototypical baby in their mind. They were told that they would see two pictures and were asked to choose the image representing the prototypical baby in their mind by pressing “F” (left) or “J” (right) on the keyboard.

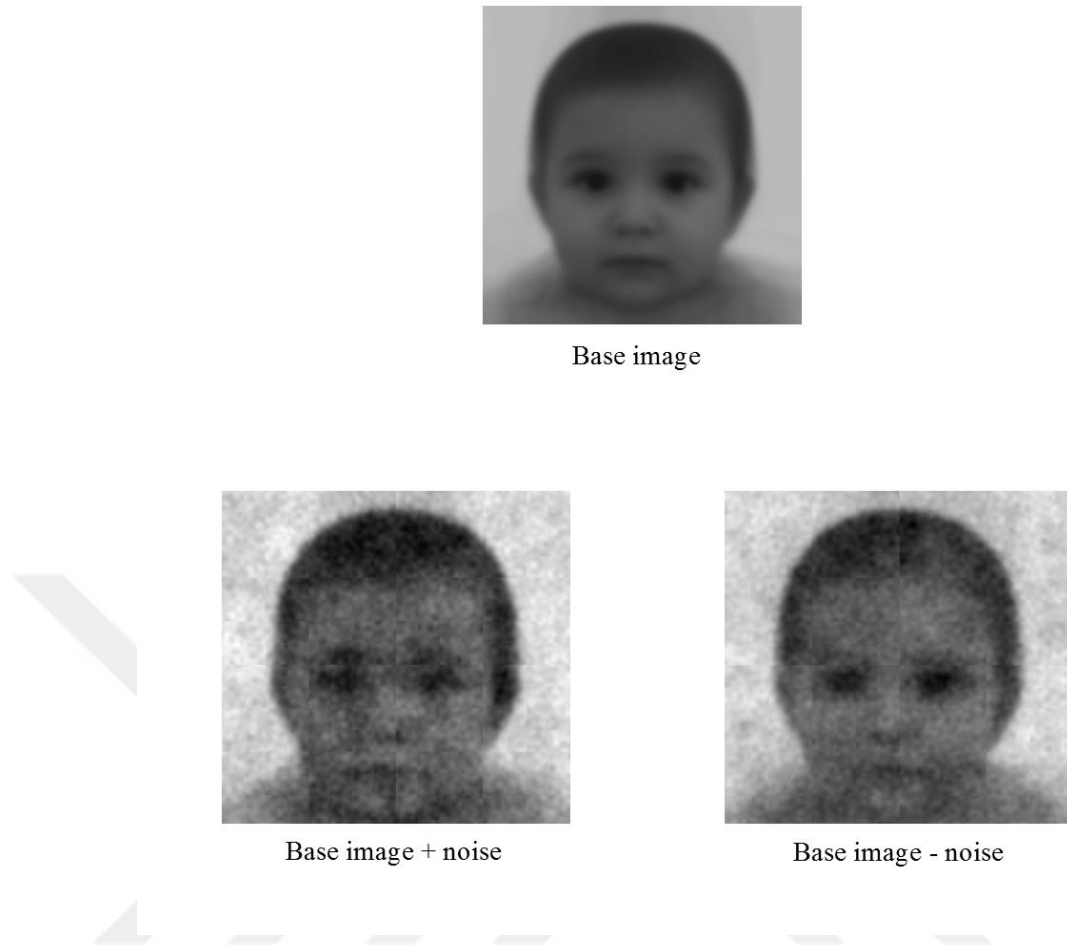


Figure 1. Base image and examples of stimuli presented in a trial of the image classification phase.

2.2.3. Survey phase

The survey included the desire to have children questionnaire (Rholes et al., 1997), the Experiences in Close Relationships Inventory-II (ECR-R; Selcuk, Gunaydin, Sumer & Uysal, 2005), the Relationship Quality Scale (Fletcher, Simpson & Thomas, 2000) and some demographic information (age, gender, relationship status). However, ECR-R and Relationship Satisfaction Scale were not used in further steps because they were not relevant to the main purposes of the study. Some of the participants completed the image classification task first and then completed the survey and some of them started

with the survey and then completed the image classification task. Thus, the order of survey and reverse correlation image classification task was counterbalanced across participants.

2.2.3.1. Desire to have children questionnaire

This questionnaire was used to measure whether participants want to have children or not in the future (Rholes, et al., 1997). It consists of 12 statements such as "I know I would be very upset and disappointed if my spouse and I could not have children." The items were answered on a 7 point scale ranging from (1) *completely disagree* to (7) *completely agree*. Higher scores in the desire to have children questionnaire meant a stronger wish to have a child in the future. Participants' desire to have children scores were calculated by recoding the reverse items first and then averaging across all items (*Cronbach's* $\alpha = 0.88$, $M = 4.29$, $SD = 1.23$).

2.2.3.2. Experiences in close relationships inventory

Participants' attachment related anxiety and attachment related avoidance in close relationships were measured using the Experiences in Close Relationships Inventory (ECR-R; Fraley, Waller & Brennan, 2000), which was translated into Turkish by Selçuk et al. (2005). The scale consists of 36 items: 18 items measure attachment related anxiety which is seeking constant intimacy from partner and depending too much to the partner's approval (e.g. "I worry that romantic partners won't care about me as much as I care about them") and 18 items measure attachment related avoidance which is seeking independence by avoiding intimacy with the partner (e.g. "I am nervous when partners get too close to me"). The items were answered on a 7 point scale ranging from (1) *completely disagree* to (7) *completely agree*. Participants' ECR anxiety and ECR avoidance scores were calculated by recoding the reverse items first.

After that, scores of anxiety related items were averaged to get average anxiety score for the each participant. Same procedure was applied to create an average avoidance score for the each participant (*Cronbach's* $\alpha_{anxiety} = 0.90$, $M_{anxiety} = 4.03$, $SD_{anxiety} = 1.23$; *Cronbach's* $\alpha_{avoidance} = 0.89$ $M_{avoidance} = 2.87$, $SD_{avoidance} = 0.88$).

2.2.3.3. Relationship Quality Scale

Participants' who have a romantic relationship also completed Relationship Quality Scale (Fletcher et al., 2000). This scale consists of 6 statements related to their romantic relationship such as "How satisfied are you with your relationship?" and "How passionate is your relationship?" The items were answered on a 7 point scale ranging from (1) *not at all* to (7) *very much*. Participants' average relationship satisfaction scores were calculated by averaging the answers given each item of the scale (*Cronbach's* $\alpha = 0.87$, $M = 6.18$, $SD = 0.80$).

2.2.3.4. Demographics

In this part of the survey, participants completed questions about their gender, age and relationship status.

2.2.4. Rating phase

Based on their scores on the desire to have children questionnaire, both female and male participants were divided into high desire to have children and low desire to have children groups within their genders via median split ($Mdn_{women} = 4.75$, $M_{women} = 4.44$, $SD_{women} = 1.22$, $range_{women} = 2.00 - 6.67$, $Mdn_{men} = 4.25$, $M_{men} = 4.14$, $SD_{men} = 1.23$, $range_{men} = 1.75 - 6.67$). As a result, four groups were formed according to participants' gender and desire to have children scores (women having high desire to have children, women having low desire to have children; men having high desire to have children, men having low desire to have children). Classification images for each of four groups

were computed by averaging all noise patterns which were selected as resembling the prototypical baby by each participant within the group and by combining averaged noise with the base face. Final classification images showed how men (women) who have low desire to have children and men (women) who have high desire to have children represent a prototypical baby in their mind (Figure 2).

To examine whether the classification images that belonged to each of the four groups were different than one another, an independent group of participants were recruited to rate these images. Participants rated each image 1(*not at all*) through 7(*very*) on a Likert-type scale on cuteness and temperament. To measure cuteness the adjectives cute, pretty, loveable and sweet (“sevimli”, “şirin”, “sempatik” and “tatlı” in Turkish) were used. To measure temperament the adjectives quiet, calm, happy and easygoing (“uslu”, “sakin”, “mutlu” ve “uysal” in Turkish) were used. To obtain an average score of cuteness for each participant, their ratings of cuteness related adjectives were averaged. Similarly, to obtain an average score of temperament for each participant, their ratings of temperament related adjectives were averaged. The order of images and traits were randomly determined. For exploratory purposes, participants were also asked to make a forced-choice rating whether the baby in each image looked like a baby boy or a baby girl.

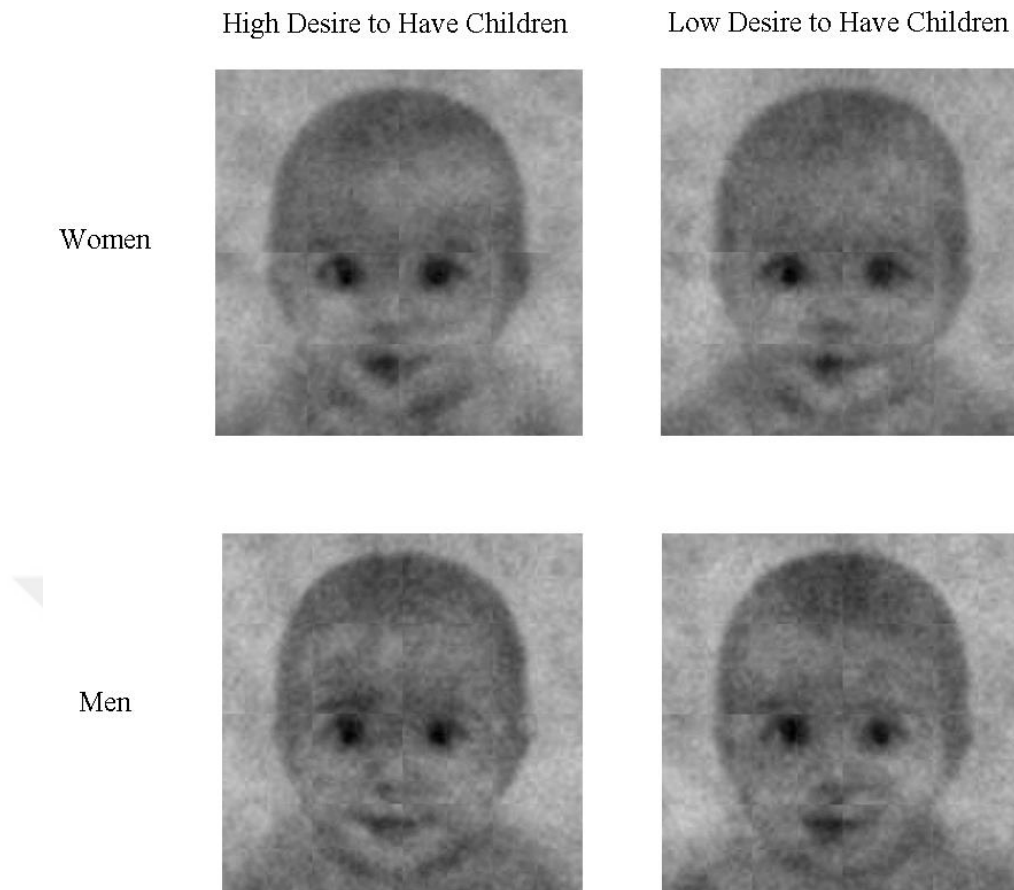


Figure 2. Classification images of women and men who reported high vs. low desire to have children.

CHAPTER III

RESULTS

3.1. Do Baby Representations of Men and Women Differ as a Function of Desire to Have Children?

3.1.1. Cuteness

Whether there is a difference in representations of babies between men and women on cuteness was examined using a 2 (gender: men and women) x 2 (desire to have children; high and low) repeated measures analysis of variance (ANOVA). This analysis yielded a significant main effect of gender $F(1, 212) = 26.19, p < .001, \eta_p^2 = .110$. Baby image of women ($Mean = 5.03, 95\% CI [4.88, 5.17]$) was rated as cuter compared with the baby image of men ($Mean = 4.69, 95\% CI [4.52, 4.86]$). There was also a significant main effect of desire to have children $F(1, 212) = 21.14, p < .001, \eta_p^2 = .091$. Baby image of participants with high desire to have children ($Mean = 4.97, 95\% CI [4.81, 5.12]$) was rated as cuter compared with the baby image of participants with low desire to have children ($Mean = 4.75, 95\% CI [4.60, 4.90]$).

The interaction effect was also significant, $F(1, 212) = 36.07, p < .001, \eta_p^2 = .145$. Pairwise comparisons revealed that the baby image of men with having desire to have children ($Mean = 4.95, SD = 1.36, 95\% CI [4.76, 5.13]$) was rated as cuter compared

with the baby image of men having low desire to have children ($Mean = 4.44$, $SD = 1.31$, 95% CI [4.26, 4.61], $p < .001$). However, the baby image of women with high desire to have children ($Mean = 4.99$, $SD = 1.18$, 95% CI [4.83, 5.15]) and the baby image of women with low desire to have children ($Mean = 5.07$, $SD = 1.22$, 95% CI [4.90, 5.23]) did not significantly differ from one another on cuteness, $p = .246$ (Figure 3).

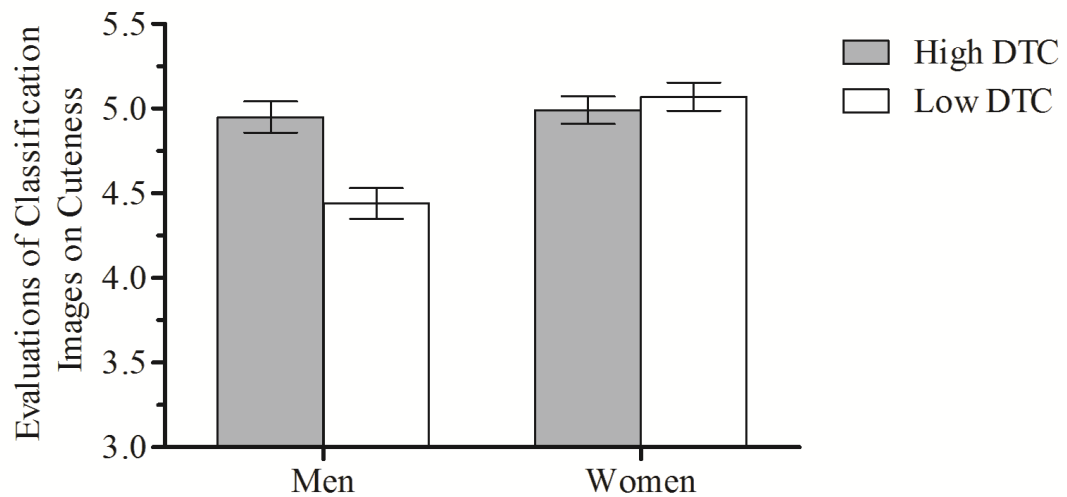


Figure 3. Mean cuteness ratings as a function of Gender (men vs women) and Desire to Have Children (DTC) (high vs low). Error bars stand for standard errors of the means.

3.1.2. Temperament

Differences in baby images on temperament were examined using a 2 (gender: men and women) x 2 (desire to have children; high and low) repeated measures ANOVA. Baby image of men ($Mean = 4.70$, 95% CI [4.57, 4.83]) and baby image of women ($Mean = 4.67$, 95% CI [4.55, 4.79]) did not significantly differ from one another on temperament, $F(1, 212) = .23$, $p = .635$, $\eta_p^2 = .001$. However, results showed a significant main effect of desire to have children $F(1, 212) = 31.59$, $p < .001$, $\eta_p^2 = .130$. The baby image of people with high desire to have children ($Mean = 4.82$, 95% CI [4.71, 4.94]) was rated as more easygoing compared with the baby image of people with low desire to have children ($Mean = 4.55$, 95% CI [4.42, 4.67]). Importantly, the interaction between gender and desire to have children was also significant $F(1, 212) = 10.80$, $p < .01$, $\eta_p^2 = .048$, revealing that the link between desire to have children and representations of a prototypical baby's temperament was stronger for men than for women. Pairwise comparisons showed that the baby image of men with high desire to have children ($Mean = 4.91$, $SD = 1.05$, 95% CI [4.77, 5.05]) was rated as more easygoing than the baby image of men with low desire to have children ($Mean = 4.49$, $SD = 1.11$, 95% CI [4.34, 4.64], $p < .001$). Moreover, unlike cuteness, the baby image of women with high desire to have children ($Mean = 4.73$, $SD = 0.98$, 95% CI [4.61, 4.86]) was also rated as more easygoing than the baby image of women with low desire to have children ($Mean = 4.60$, $SD = 1.08$, 95% CI [4.46, 4.75], $p < .05$) (Figure 4).

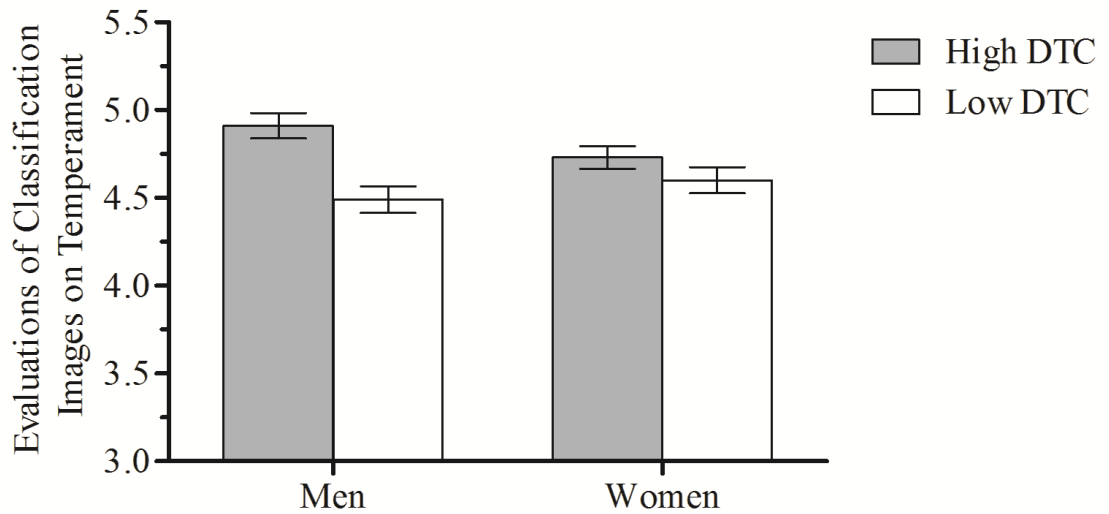


Figure 4. Mean temperament ratings as a function of Gender (men vs women) and Desire to Have Children (DTC) (high vs low). Error bars stand for standard errors of the means.

3.2. What is the Gender of the Baby Representation as a Function of Participants' Gender and Desire to Have Children?

To explore whether there is a difference in representations of babies between men and women in terms of the baby's gender (a baby girl or a baby boy), McNemar test was used. The baby image of men was more likely to be rated as a baby boy (86.5%) than the baby image of women (41.8%). The difference between these images in terms of ratio distribution of gender of the baby was significant ($\chi^2 = 112.45, p < .001$). Moreover, ratings of the baby image of individuals with high desire to have children (62.5% baby boy) and low desire to have children (64.2 % baby boy) did not significantly differ ($\chi^2 = 0.235, p = 0.628$).

To compare the proportions of each answer (either a baby girl or a baby boy) given to the four baby images, 2 (gender: men and women) x 2 (desire to have children; high and low) McNemar test was used. For individuals with low desire to have children, the baby image of men was more likely to be rated as a baby boy (86.5%) than the baby image of women (41.8%) (Figure 5). There is a significant difference between these images in terms of ratio distribution of gender of the baby ($\chi^2 = 66.65, p < .001$). Moreover, for individuals with high desire to have children, the baby image of men was more likely to be rated as a baby boy (80.8%) than the baby image of women (44.2%) (Figure 5). There is also a significant difference between these images in terms of ratio distribution of gender of the baby ($\chi^2 = 45.36, p < .001$). The analyses did not yield a significant difference between the images of men with low desire to have children and men with high desire to have children in terms of ratio distribution of gender of the baby ($\chi^2 = 2.24, p = 0.134$). Similarly, there is no significant difference between the images of women with low desire to have children and women with high desire to have children in terms of ratio distribution of gender of the baby ($\chi^2 = 0.162, p = 0.688$).

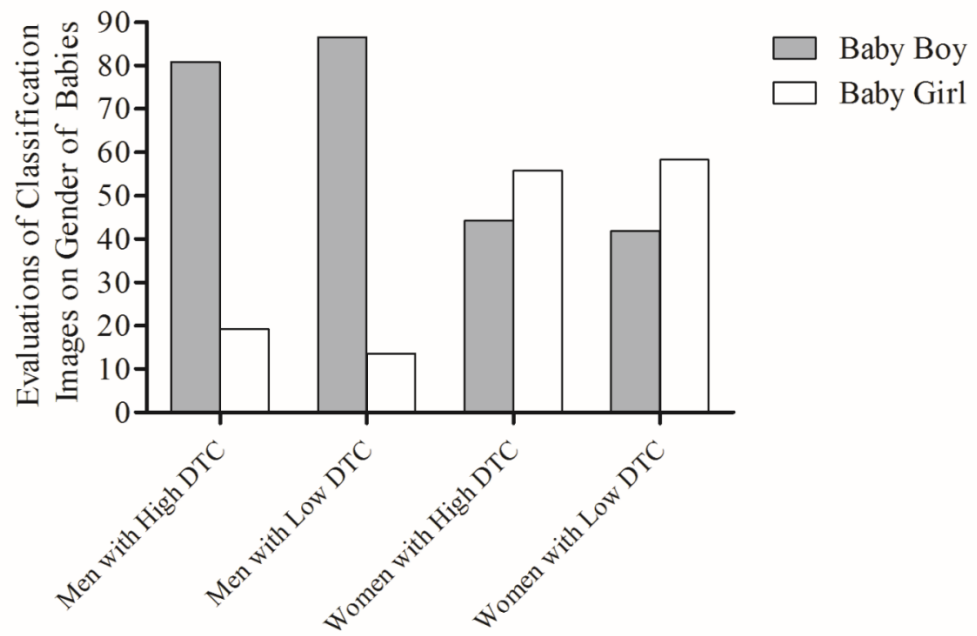


Figure 5. Percentages of baby images rated as a baby boy vs. a baby girl as a function of participants' gender and desire to have children (DTC).

CHAPTER IV

DISCUSSION

The current research is the first study examining visual representations of babies by using the reverse correlation method. Expectations about being a parent and desire to have children have been addressed in past work by using self-report techniques (Rholes et al., 1997). However, the current study is novel in terms of both the technique that has been used and revealing the links between individuals' desire to have children and gender, and their visual representations of babies.

4.1 Main Findings: Cuteness and Temperament of Baby Representations

Results of the present study showed that women represented babies as cuter compared with men. In addition, participants with high desire to have children represented babies as cuter compared with participants with low desire to have children. Interestingly, men with high desire to have children represented babies as cuter compared to men with low desire to have children. However, baby representations of women with high desire to have children and baby representations of women with low desire to have children did not significantly differ from each other on cuteness. The fact that women idealize parenthood more than men do might be a reason why desire to have children did not affect women's baby representations. There is reason to expect women might

idealize parenthood to a greater extent as compared with men. First reason might be reducing the dissonance arising from costs vs. benefits of having children. Women, compared with men, expect that there will endure more costs when they have children in terms of experiencing lower feelings of autonomy, missing career opportunities, sacrificing their personal time (Liefbroer, 2005). Women also expect that their commitment to their children would be more time-consuming since in most cultures women are seen as the primary caregiver (Novack & Novack, 1996). However, women cannot easily escape these costs as in most societies they are expected to be a mother (Novack & Novack, 1996). Moreover, women often internalize these societal expectations seeing the role of motherhood at the center of their life and believing that motherhood is one of the most important purposes of their life (Bielby & Bielby, 1989). Although the expected costs are high for women because of societal expectations, they cannot easily escape becoming a parent. Thus, these two conflicting cognitions about having children might create dissonance for women. To resolve this dissonance, they might engage in more parenthood idealization than men do.

Another reason why women might idealize parenthood more than men do is the social pressures encouraging women to have children. If you are a female, society thinks that being a mother is one of the obvious stages of your life and internalization of parental role is easier for women compared with men. Moreover, women usually give more importance on their parental identity than other identities such as career identity (Kerpelman & Schvaneveldt, 1999). As a result, women are more motivated to be a mother and accomplish their duty to the society more than men do (Yaremko & Lawson, 2007). Women are expected by the society to fulfill their role to become a mother regardless of whether they really want to have children or not. To the extent

that women internalize these societal expectations they may have favorable representations of babies regardless of their desire to have children.

When it comes to being a parent, men do not feel social pressures as much as women do. Men also expect greater rewards and fewer costs from parenthood as compared with women (Liefbroer, 2005). They tend to spend their time with the child doing fun activities such as playing rather than tedious activities such as feeding and cleaning the baby (Renk et al., 2003). Thus, men might perceive being a parent as a reward rather than a cost. As a result men might feel less dissonance than women because expected costs are low and there is less social pressure on them about being a parent. Hence, whether men want to have children or not might be more tightly linked with their visual representations of babies, consistent with the results of the current study.

Results on temperament showed that participants with high desire to have children had a more easygoing baby representation compared with participants with low desire to have children. Both women and men who had higher desire to have children represented babies as having an easier temperament. Unlike cuteness, women's representations of a baby's temperament depended on their desire to have children. Women with low (vs. high) desire to have children represented a baby with difficult temperament. Temperament of the child is more related with the expectations of taking care of the children. Since women are aware the fact that they will assume more responsibilities for taking care of the child (Yaremko & Lawson, 2007), their baby representation on temperament might be less affected from parenthood idealization compared to cuteness. Nonetheless, the link between desire to have children and representations of a prototypical baby's temperament was stronger for men than for women, parallel to the findings on cuteness. This might again reflect greater idealization of parenthood by women compared with men.

4.2 Supplementary Results: Gender of Baby Representations

We also wanted to explore whether men and women represent babies as a baby boy or a baby girl and whether this relationship depends on their desire to have children. Results showed that regardless of desire to have children, women represented babies more as a baby girl than as a baby boy; whereas, men represented babies more as a baby boy rather than a baby girl. These findings are interesting because there is a gender preference in most countries that favors having a male offspring (Arnold, 1997). In one study, gender preferences for children have been investigated across 44 countries. Results showed that most developing countries including Turkey showed a preference for male offspring. However, in the present study we found that women represented babies more as a baby girl than as a baby boy. The change in the gender preference of children could be explained by the changing value of children. To be specific, across the time children have had different meanings for parents. For example, children's economic (utilitarian) value decreased over time meaning that the children are no longer seen as providers of care and earnings to the parents (Aycicegi-Dinn & Kagitcibasi, 2010; Kağıtçıbaşı, 1982). In light of this finding, it is possible to speculate that economic value of children is more related with giving birth to male offspring because in traditional Turkish culture, men are more likely to be the breadwinner. Male children have an obligation for taking care of their parents. However with industrialization this perception declined in Turkey and children's economic value decreased also. As a result, families may not have strong gender preference for male offspring anymore. However, this does not explain why the prototypical baby in men's mind is a baby boy vs. a baby girl. Nonetheless, why men represent a baby boy in their minds may be related with their desire to continue their family names which is important in Turkish culture.

4.3. Future Directions

Findings of the current study raised some important questions to be answered in future studies. First, given this study used a correlational design it is not clear that whether people with high desire to have children have more favorable visual representation of babies or people having more favorable representations have high desire to have children. To clarify the direction of the link between desire to have children and visual representations of babies, experimental studies manipulating desire to have children may be conducted in the future.

Moreover, results revealed that men and women have different visual representations of babies on cuteness and temperament. The underlying reasons of this difference can be studied in future studies as well. The difference in visual representations could be a result of women giving more importance to their parental identity than do men (Kerpelman & Schvaneveldt, 1999). In the future, the parental identity levels of women and men could be measured to examine visual representations.

An interesting question for future work is whether results reported here might hold for individuals who are trying to have children or those who are expecting children. There is research showing that expectations about parenthood also influence unmarried young adults' attitudes towards having children in the future and their perceptions of the unborn child's temperament. For example, Silverman and Dubow (1991) investigated whether college students' expectations about their future child's temperament are matching with actual mother's perception of their child's temperament. Results showed that college students have more negative expectations about their unborn child's temperament than actual mothers do. Therefore, there might

be differences between prospective parents and unmarried young adults in terms of babies' visual representations.

In the present study, median split was used to divide participants into two groups (high desire to have children vs. low desire to have children). The desire to have children scores of participants were close to each other around the median value. That is, there was little difference between the scores of participants which was just below or above the median. This might have caused noise in the data and might have obscured the differences between high desire to have children and low desire to have children groups. Future work may recruit more participants in the classification phase to be able to select only those participants in the upper and lower quartiles when creating the high and low desire to have children groups. This way, any possible noise that may arise from similar scores in high and low desire to have children groups might be prevented.

4.4. Conclusion

The present study was the first attempt to reveal baby representations in people's minds by using the reverse correlation method. This study extended the past work which studied the relationship with gender and desire to have children by investigating visual representations. The results of the study concluded that individuals' desire to have children and gender predicted favorableness of visual representations of babies in their minds.

REFERENCES

- Arnold, F. (1997). *Gender preferences for children*. Calverton, MD: Macro International.
- Aycicegi-Dinn, A., & Kagitcibasi, C. (2010). The value of children for parents in the minds of emerging adults. *Cross-Cultural Research*, 44(2), 174-205.
doi:10.1177/1069397109358389
- Brainard, D. H. (1997). The Psychophysics Toolbox. *Spatial Vision*, 10(4), 433-436.
doi:10.1163/156856897x00357
- Bielby, W. T., & Bielby, D. D. (1989). Family Ties: Balancing Commitments to Work and Family in Dual Earner Households. *American Sociological Review*, 54(5), 776. doi:10.2307/2117753
- Dotsch, R., Wigboldus, D. H. J., Langner, O., & Van Knippenberg, A. (2008). Ethnic out-group faces are biased in the prejudiced mind. *Psychological Science*, 19(10), 978–980. doi: 10.1111/j.1467-9280.2008.02186.x
- Eibach, R. P., & Mock, S. E. (2011). Idealizing parenthood to rationalize parental investments. *Psychological Science*, 22(2), 203–208. doi: 10.1177/0956797610397057
- Faul, F., Erdfelder, E., Lang, A.G., Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191. doi: 10.3758/BF03193146
- Fletcher, G. J., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived

relationship quality components: a confirmatory factor analytic approach.

Personality and Social Psychology Bulletin, 26(3), 340-354.

doi:10.1177/0146167200265007

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350-365. doi: 10.1037//0022-3514.78.2.350

Greenwald, A. G., & Farnham, S. D. (2000). Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79(6), 1022-1038. doi:10.1037/0022-3514.79.6.1022

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, 74, 1464–1480.

Gunaydin, G., & DeLong, J. E. (2015). Reverse correlating love: highly passionate women idealize their partner's facial appearance. *PLoS ONE*, 10(3). doi:10.1371/journal.pone.0121094

Karremans, J. C., Dotsch, R., & Corneille, O. (2011). Romantic relationship status biases memory of faces of attractive opposite-sex others: Evidence from a reverse-correlation paradigm. *Cognition*, 121(3), 422–426. doi:10.1016/j.cognition.2011.07.008

Kagitcibasi, C. (1982). Old-Age security value of children: cross-national socioeconomic evidence. *Journal of Cross-Cultural Psychology*, 13(1), 29-42. doi:10.1177/0022022182131004

Kerpelman, J. L., & Schvaneveldt, P. L. (1999). Young adults' anticipated identity

importance of career, marital, and parental roles: comparisons of men and women with different role balance orientations. *Sex Roles*, 41(3/4), 189-217.
doi:10.1023/a:1018802228288

Lawson, K. L. (2004). Development and psychometric properties of the perceptions of parenting inventory. *The Journal of Psychology*, 138, 433-455.

Liefbroer, A. C. (2005). The impact of perceived costs and rewards of childbearing on entry into parenthood: Evidence from a panel study. *European Journal of Population*, 21(4), 367-391. doi: 10.1007/s10680-005-2610-y

Lobmaier, J. S., Sprengelmeyer, R., Wiffen, B., & Perrett, D. I. (2010). Female and male responses to cuteness, age and emotion in infant faces. *Evolution and Human Behavior*, 31(1), 16-21. doi:10.1016/j.evolhumbehav.2009.05.004

Mangini, M. C., & Biederman, I. (2004). Making the ineffable explicit: Estimating the information employed for face classifications. *Cognitive Science*, 28(2), 209-226. doi: 10.1207/s15516709cog2802_4

McConnell, A. R., & Leibold, J. M. (2001). Relations among the Implicit Association Test, Discriminatory Behavior, and Explicit Measures of Racial Attitudes. *Journal of Experimental Social Psychology*, 37(5), 435-442.
doi:10.1006/jesp.2000.1470

Novack, L. L., & Novack, D. R. (1996). Being female in the eighties and nineties: Conflicts between new opportunities and traditional expectations among white, middle class, heterosexual college women. *Sex Roles*, 35(1-2), 57-77. doi: 10.1007/BF01548175

Renk, K., Roberts, R., Roddenberry, A., Luick, M., Hillhouse, S., Meehan, C., . . .

- Phares, V. (2003). Mothers, fathers, gender role, and time parents spend with their children. *Sex Roles*, 48(7-8), 305-315. doi: 10.1023/A:1022934412910
- Rholes, W. S., Simpson, J. A., Blakely, B. S., Lanigan, L., & Allen, E. A. (1997). Adult attachment styles, the desire to have children, and working models of parenthood. *Journal of Personality*, 65(June 1997), 357-385. doi: 10.1111/j.1467-6494.1997.tb00958.x
- Ross, C. E., & Willigen, M. V. (1996). Gender, parenthood, and anger. *Journal of Marriage and the Family*, 58(3), 572. doi:10.2307/353718
- Samal, A., Subramani, V., & Marx, D. (2007). Analysis of sexual dimorphism in human face. *Journal of Visual Communication and Image Representation*, 18(6), 453-463. doi:10.1016/j.jvcir.2007.04.010
- Selçuk, E., Günaydin, G., Sumer, N., & Uysal, A. (2005). Yetişkin bağlanma boyutları için yeni bir ölçüm: Yakın ilişkilerde yaşantılar envanteri-II'nin Türk örnekleminde psikometrik açıdan değerlendirilmesi. *Türk Psikoloji Yazıları*, 8, 1-11
- Silverman, I. W., & Dubow, E. F. (1991). Looking ahead to parenthood: Nonparents' expectations of themselves and their future. *Merrill-Palmer Quarterly*, 37(2), 231-250. Retrieved from <http://www.jstor.org/stable/23087364>
- Tiddeman, B., Burt, M., Perrett, D. (2001). Prototyping and transforming facial textures for perception research. *IEEE Computer Graphics and Applications*. 21: 42-50. doi: 10.1109/38.946630
- Yaremko, S. K., & Lawson, K. L. (2007). Gender, internalization of expressive traits, and expectations of parenting. *Sex Roles*, 57(9-10), 675-687. doi:

10.1007/s11199-007-9301-6

Zeanah, C. H., Keener, M. A., & Anders, T. F. (1986). Developing perceptions of temperament and their children to mother and infant behavior. *Journal of Child Psychology and Psychiatry*, 27(4), 499-512. doi:10.1111/j.1469-7610.1986.tb00637.x



APPENDICES

APPENDIX A – DESIRE TO HAVE CHILDREN QUESTIONNAIRE

Aşağıda çocuk sahibi olmayı istemeye yönelik bazı ifadeler verilmiştir. Her ifadeyi dikkatlice okuyunuz ve, şu anda her bir ifadeye ne kadar katıldığınızı 7 puanlık ölçek üzerinde değerlendiriniz.

-
- 1 = Hiç katılmıyorum
2 = Katılmıyorum
3 = Biraz katılmıyorum
4 = Kararsızım/fikrim yok
5 = Biraz katılıyorum
6 = Katılıyorum
7 = Tamamen katılıyorum
-

1. Eşim ve ben çocuk sahibi olamazsak çok üzüleceğimi ve hayal kırıklığına uğrayacağımı düşünüyorum.	1	2	3	4	5	6	7
2. Çocuk sahibi olmayı çok arzuluyorum.	1	2	3	4	5	6	7
3. Sadece bir tane çocuğum olmasını istiyorum.	1	2	3	4	5	6	7
4. Çocuk sahibi olmak istediğimden emin değilim.	1	2	3	4	5	6	7
5. Çocuk sahibi olmadan da oldukça mutlu olabilirim.	1	2	3	4	5	6	7
6. Eğer ileride eşimle çocuk sahibi olamazsak kesinlikle evlat edinmeyi denerim.	1	2	3	4	5	6	7
7. Çocuk sahibi olmayı hiç istemeyen biriyle asla evlenmem.	1	2	3	4	5	6	7
8. İleride çocuğum olmazsa	1	2	3	4	5	6	7

hayatımda eksik bir şeyler
varmış gibi hissedirim.

9. Çocuklar olmadan bir aile
düşünemiyorum.

1 2 3 4 5 6 7

10. Benim için ebeveyn olmak çok
önemlidir.

1 2 3 4 5 6 7

11. Bazen çocuk sahibi olmak
istiyormuşum gibi geliyor,
bazen de istemiyormuşum gibi.

1 2 3 4 5 6 7

12. Çocuk sahibi olmayı isteyip
istemediğime şimdiye kadar
pek kafa yormadım ve benim
için olup olmaması çok da fark
etmiyor.

1 2 3 4 5 6 7

APPENDIX B - EXPERIENCES IN CLOSE RELATIONSHIPS INVENTORY

Aşağıda verilen cümlelere ne ölçüde katıldığınızı **yakın ilişkilerinizi (örneğin, romantik partneriniz, aileniz ve/veya yakın arkadaşlarınızla olan ilişkilerinizi)** göz önünde bulundurarak cevaplayınız.

1 = Hiç katılmıyorum

2 = Katılmıyorum

3 = Biraz katılmıyorum

4 = Kararsızım/fikrim yok

5 = Biraz katılıyorum

6 = Katılıyorum

7 = Tamamen katılıyorum

1. Yakın ilişkide bulunduğum kişilerin sevgisini kaybetmekten korkarım.	1	2	3	4	5	6	7
2. Gerçekte ne hissettiğimi yakın ilişkide bulunduğum kişilere göstermemeyi tercih ederim.	1	2	3	4	5	6	7
3. Sıklıkla, yakın ilişkide bulunduğum kişilerin artık benimle olmak istemediği korkusuna kapılırım.	1	2	3	4	5	6	7
4. Özel duygu ve düşüncelerimi yakın ilişkide bulunduğum kişilerle paylaşmak konusunda kendimi rahat hissedirim.	1	2	3	4	5	6	7
5. Sıklıkla, yakın ilişkide bulunduğum kişilerin beni gerçekten sevmediği duygusuna kapılırım.	1	2	3	4	5	6	7
6. Yakın ilişkide bulunduğum kişilere güvenip dayanmak konusunda kendimi rahat bırakmakta zorlanırım.	1	2	3	4	5	6	7
7. Yakın ilişkide bulunduğum kişilerin beni, benim onları önemsemişim kadar önemsemediğinden endişe duyarım.	1	2	3	4	5	6	7

8. İlişkide bulunduğum kişilere yakın olma konusunda çok rahatımdır.	1	2	3	4	5	6	7
9. Sıklıkla, yakın ilişkide bulunduğum kişilerin bana duyduğu hislerin benim onlara duyduğum hisler kadar güçlü olmasını isterim.	1	2	3	4	5	6	7
10. Yakın ilişkide bulunduğum kişilere açılma konusunda kendimi rahat hissetmem.	1	2	3	4	5	6	7
11. Yakın ilişkilerimi kafama çok takarım.	1	2	3	4	5	6	7
12. İlişkide bulunduğum kişilere fazla yakın olmamayı tercih ederim.	1	2	3	4	5	6	7
13. Benden uzakta olduklarında, yakın ilişkide bulunduğum kişilerin başka insanlara ilgi duyabileceği korkusuna kapılırım.	1	2	3	4	5	6	7
14. İlişkide bulunduğum kişiler benimle çok yakın olmak istediğinde rahatsızlık duyarım.	1	2	3	4	5	6	7
15. Yakın ilişkide bulunduğum kişilere duygularımı gösterdiğimde, onların benim için aynı şeyleri hissetmeyeceğinden korkarım.	1	2	3	4	5	6	7
16. İlişkide bulunduğum kişilere kolayca yakınlaşabilirim.	1	2	3	4	5	6	7
17. Yakın ilişkide bulunduğum kişilerin beni terkedeceğinden pek endişe duymam.	1	2	3	4	5	6	7
18. İlişkide bulunduğum kişilerle yakınlaşmak bana zor gelmez.	1	2	3	4	5	6	7
19. Yakın ilişkide bulunduğum kişiler kendimden şüphe etmeme neden olur.	1	2	3	4	5	6	7
20. Genellikle, yakın ilişkide bulunduğum kişilerle sorunlarımı ve kaygılarımı tartışırım.	1	2	3	4	5	6	7
21. Terk edilmekten pek korkmam.	1	2	3	4	5	6	7

22. Zor zamanlarımda, yakın ilişkide bulunduğum kişilerden yardım istemek bana iyi gelir.	1	2	3	4	5	6	7
23. İlişkide bulunduğum kişilerin, bana benim istediğim kadar yakınlaşmak istemediğini düşünürüm.	1	2	3	4	5	6	7
24. Yakın ilişkide bulunduğum kişilere hemen hemen her şeyi anlatırım.	1	2	3	4	5	6	7
25. Yakın ilişkide bulunduğum kişilerin bazen bana olan duygularını sebepsiz yere değiştirdiğini hissedirim.	1	2	3	4	5	6	7
26. Başımdan geçenleri yakın ilişkide bulunduğum kişilerle konuşurum.	1	2	3	4	5	6	7
27. Çok yakın olma arzum bazen ilişkide bulunduğum kişileri korkutup uzaklaştırır.	1	2	3	4	5	6	7
28. İlişkide bulunduğum kişiler benimle çok yakınlaştığında gergin hissedirim.	1	2	3	4	5	6	7
29. İlişkide bulunduğum kişiler beni yakından tanırorsa, “gerçek ben”i sevmeyeceğinden korkarım.	1	2	3	4	5	6	7
30. Yakın ilişkide bulunduğum kişilere güvenip dayanmak konusunda rahatımdır.	1	2	3	4	5	6	7
31. Yakın ilişkide bulunduğum kişilerden ihtiyaç duyduğum şefkat ve desteği görememek beni öfkelenendirir.	1	2	3	4	5	6	7
32. Yakın ilişkide bulunduğum kişilere güvenip dayanmak benim için kolaydır.	1	2	3	4	5	6	7
33. Yakın ilişkide bulunduğum kişilerin beni başka insanlara kıyasla yetersiz görmesinden endişe duyarım.	1	2	3	4	5	6	7
34. Yakın ilişkide bulunduğum kişilere şefkat göstermek benim için kolaydır.	1	2	3	4	5	6	7

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 35. Yakın ilişkide bulunduğum kişiler beni sadece kızgın olduğumda önemser. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. Yakın ilişkide bulunduğum kişiler beni ve ihtiyaçlarımı gerçekten anlar. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



APPENDIX C - RELATIONSHIP QUALITY SCALE

Aşağıda romantik ilişkilerinize yönelik bazı ifadeler verilmiştir. Her ifadeyi dikkatlice okuyunuz ve, yaşadığınız ilişkinizi düşünerek her bir ifadeye ne kadar katıldığınızı 7 puanlık ölçek üzerinde değerlendiriniz. Değerlendirmenizi yaparken, ara değerleri de kullanarak, her bir madde için sizin için en doğru değeri işaretleyiniz.

1: Hiç

7: Çok

1. İlişkinizden ne kadar memnunsunuz ?	1	2	3	4	5	6	7
2. İlişkinize ne kadar bağlısınız?	1	2	3	4	5	6	7
3. Partnerinize ne kadar yakınsınız?	1	2	3	4	5	6	7
4. Partnerinize ne kadar güveniyorsunuz?	1	2	3	4	5	6	7
5. İlişkiniz ne kadar tutkuludur?	1	2	3	4	5	6	7
6. Partnerinizi ne kadar seviyorsunuz?	1	2	3	4	5	6	7

APPENDIX D – INSTRUCTIONS FOR REVERSE CORRELATION IMAGE

CLASSIFICATION TASK

Çalışmanın bu bölümünde, sizden çeşitli yüzleri sınıflandırmanızı isteyeceğiz. Lütfen devam etmeden aşağıdaki bilgileri dikkatle okuyun. Hepimizin zihninde herhangi bir obje ya da kavram düşünmemiz istendiğinde beliren tipik bir görüntü vardır. Sizden bu kısımda istenen, zihninizde beliren tipik bir bebeğin yüzünü birkaç saniye düşünmeniz. Daha sonra bilgisayar ekranında önce bir “+” işareti, sonra da bir çift yüz kısa süreli olarak gösterilecek. Yapmanız gereken, bu yüzlere dikkatlice bakıp ZİHNİNİZDEKİ BEBEK YÜZÜNE (sizden tipik bir bebek yüzü düşünmeniz istendiğinde, zihninizde canlanan görüntüye) en çok benzeyen yüzü seçmek. Kararsızsanız ya da emin değilseniz, cevap verirken içinizden gelen ilk sese kulak verin ve bebek deyince zihninizde canlanan görüntüye en çok benzeyen yüzü belirtin.

Soldaki yüz zihninizdeki bebek yüzüne daha çok benziyorsa “F” tuşuna,
Sağdaki yüz zihninizdeki bebek yüzüne daha çok benziyorsa “J” tuşuna basın.

Bu seçim işlemini farklı farklı yüz çiftleri için pek çok kez yapacaksınız.
Başlamadan sorularınız varsa, lütfen çalışmayı yürüten kişiye haber verin.
Başlamaya hazır olduğunuzdan BOŞLUK tuşuna basın.

Başlamadan sol elinizin işaret parmağını “F” tuşunun,
Sağ elinizin işaret parmağını ise “J” tuşunun üzerinde hazır bulundurun.