## DECISION MAKING UNDER UNCERTAINTY: FACTORS INFLUENCING MATE SELECTION IN A DATING APPLICATION SIMULATION

# A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF INFORMATICS OF THE MIDDLE EAST TECHNICAL UNIVERSITY BY

## AYTEN YEŞİM SEMCHENKO

# IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

IN

## THE DEPARTMENT OF COGNITIVE SCIENCE

OCTOBER 2017

#### DECISION MAKING UNDER UNCERTAINTY: FACTORS INFLUENCING MATE SELECTION IN A DATING APPLICATION SIMULATION

Submitted by AYTEN YEŞİM SEMCHENKO in partial fulfillment of the requirements for the degree of Master of Science in the Department of Cognitive Science, Middle East Technical University by,

Prof. Dr. Deniz Zeyrek Bozşahin Dean, Graduate School of Informatics	
Prof. Dr. Cem Bozșahin Head of Department, Cognitive Science	
Supervisor, Cognitive Science	
Dr. Ceyhan Temürcü Co-Supervisor Cognitive Science	
Examining Committee Members:	
Prof. Dr. Cem Bozșahin Cognitive Science Dept., METU	
Asst. Prof. Dr. Murat Perit Çakır Cognitive Science Dept., METU	
Asst. Prof. Dr. Zeynep Başgöze Psychology Dept., Baskent University	
Prof. Dr. Deniz Zeyrek Bozşahin Cognitive Science Dept., METU	
Asst. Prof. Dr. Umut Özge Cognitive Science Dept., METU	

Date:

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name, Last name : Ayten Yeşim Semchenko

Signature :

#### ABSTRACT

## DECISION MAKING UNDER UNCERTAINTY: FACTORS INFLUENCING MATE SELECTION IN A DATING APPLICATION SIMULATION

Semchenko, Ayten Yeşim MSc., Department of Cognitive Sciences Supervisor: Assist. Prof. Dr. Murat Perit Çakır Co-Supervisor: Dr. Ceyhan Temürcü

September 2017, 173 pages

Human social intentions are heavily influenced by their perceptions of others. In this study, the effect of perceived attractiveness is of particular interest. The purpose of this study is to explore the effect of perceived attractiveness on the likelihood of wanting to have sex and the likelihood of using condom among dating application users. In real dating application environments, there would be many uncontrolled variables (e.g., age, not/having common friends etc.) related to the profiles that the participants will see. To have more experimental control, the dating application simulation, named as *ImeetU*, was developed for this study by using Unity3D. Fake profiles are created with the face photos which were rated in terms of attractiveness, trustworthiness, promiscuity and interest in a long-term (committed) relationships via two pre-studies ( $n_1=64$ ,  $n_2=61$ , respectively). The pre-studies were conducted online while the main study  $(n_3=39)$  was conducted at the Cognitive Science Department, Middle East Technical University, Ankara. The participants were not informed that the profiles that they will see on *ImeetU* are not real. The first finding of the main study was that perceived attractiveness of the matched partner significantly affects the likelihood of wanting to have sex for the participants of both genders. Higher/lower likelihood of wanting to have sex was observed with higher/lower perceived attractiveness of the matched partner. Secondly, for males, perceived attractiveness of the matched partner significantly and inversely affects the likelihood of condom use. Considering females, perceived attractiveness does not significantly affect the likelihood of condom use.

Keywords: Dating application, perceived attractiveness, having sex, condom use

## ÖΖ

#### BELİRSİZLİK DURUMUNDA KARAR VERME: FLÖRT UYGULAMASI SİMULASYONUNDA PARTNER SEÇİMİNİ ETKİLEYEN FAKTÖRLER

Semchenko, Ayten Yeşim Yüksek Lisans, Bilişsel Bilimler Bölümü Tez Yöneticisi: Yrd. Doç. Dr. Murat Perit Çakır Yardımcı Tez Yöneticisi: Dr. Ceyhan Temürcü

#### Eylül 2017, 173 sayfa

İnsanların algıları sosyal eğilimlerini önemli ölçüde etkilemektedir. Bu arastırmada spesifik olarak çekicilik algısının etkileri incelenmektedir. Bu araştırmanın amacı algılanan çekiciliğin, flört uygulaması kullanan kişilerde, cinsel birliktelik yaşamak isteğine ve korunmalı/korunmasız cinsellik eğilimlerine olan etkisini araştırmaktır. Flört uygulamalarında katılımcıların karşılacağı profillerde bir çok kontrol edilemeyen değişken bulunmaktadır (örneğin, yaş, ortak arkadaşların olması ya da olmamaması gibi). Deneysel kontrolü artırabilmek için, bu çalışmada kullanılmak üzere, Unity3D kullanılarak, ImeetU adı verilen bir flört uygulaması simülasyonu geliştirilmiştir. İki öncü calısma  $(n_1=64, n_2=61)$  ile sahte profil üretmede kullanılacak fotoğraflardaki kişiler algılanan çekicilik, güvenilirlik, rastgele cinsel ilişkide bulunma ihtimalleri, uzun dönemli ilişki yaşamayı isteme ihtimalleri açısından değerlendirilmiştir. Öncü çalışmalarda internet üzerinden veri toplanmış, ana çalışma (n<sub>3</sub>=39) ise Bilişsel Bilimler bölümünde (Orta Doğu Teknik Üniversitesi, Ankara) gerçekleştirilmiştir. Deney öncesinde katılımcılara görecekleri profillerin sahte olduğu bilgisi verilmemiştir. Deneyin sonucunda, eşleşilen partnerlerin algılanan çekicilik düzeyinin, hem kadın hem erkek katılımcıların cinsel birliktelik yaşama isteğini önemli ölçüde etkilediği gözlenmiştir. Artan/azalan cinsel birliktelik isteği, eşleşilen partnerin artan/azan algılanan çekiciliği ile birlikte gözlenmiştir. Yanı sıra, erkek kullanıcılar için algılanan çekiciliğin kondom kullanma ihtimalleri ile ters ilişkişi olduğu gözlenmiştir. Kadın kullanıcılar için ise eşleştikleri algılanan çekicilik değerlerinin, kondom kullanma ihtimallerini önemli ölçüde etkilemediği görülmüştür.

Anahtar Sözcükler: Flört uygulaması, algılanan çekicilik, cinsel birliktelik, kondom kullanımı

To My Family

#### ACKNOWLEDGMENTS

My gratitude goes to my supervisor Asst. Prof. Dr. Murat Perit Çakır, as he supported my thesis and as I had a chance to broaden my horizon and extend my knowledge related to decision making in risky situations during his course Thinking, Reasoning, Problem Solving.

Besides my supervisor, I would like to thank Asst. Prof. Dr. David M.G. Lewis from The University of Murdoch (Perth, West Australia) as he guided and supported me throughout this study although I was not officially his student. He spared long hours for this study despite the time difference between Turkey and Australia. His passion for scientific research and his discipline and dedication inspired me greatly as a researcher.

My gratitude also goes to Prof. Dr. Cem Bozşahin as he introduced me to Daniel Dennett and Dennett's great ideas concerning evolution during his course "Philosophy of Cognitive Science".

I would also like to thank my husband, Anton Semchenko, for sponsoring my research and for great help he provided during the development of dating application simulation, *ImeetU*.

Moreover, I would also like to thank my colleague Amin Zabardast and Dr. Tuna Çakar for the many conversations we had about science, statistics and decision making under uncertainty.

Lastly, my gratitude goes out to my mother for her unconditional love.

## **TABLE OF CONTENTS**

Table of Contents	
ABSTRACT	iv
ÖZ	v
DEDICATION	vii
ACKNOWLEDGMENTS	viii
TABLE OF CONTENTS	ix
LIST OF FIGURES	xiv
LIST OF ABBREVIATIONS	xvii
CHAPTERS	
1 INTRODUCTION	1
2 LITERATURE REVIEW	5
2.1 Mating and Evolution	5
2.2 Mate preferences	6
2.3 Universal standards of attractiveness: Healthiness	7
2.4 Heuristics	7
2.5 The Sexually Transmitted Infections (STIs)	8
2.6 Are humans prepared for the STIs?	9
2.7 Perceived attractiveness and unsafe sex intentions	
2.8 The dating apps and STIs	
2.9 The gaps in the literature	11
3 PRE-STUDY 1	
3.1 Participants	
3.2 Materials	
3.3 Procedure	17
3.4 Results	
3.5 Analysis	

4 PRE-STUDY 2	
4.1 Participants	
4.2 Materials	
4.3 Results	
4.4 Analysis	41
5 MAIN STUDY	
5.1 Participants	
5.2 Materials	
5.3 Procedure	60
5.4 Results	61
5.5 Analysis	63
6 DISCUSSION	
6.1 Discussion of the first pre-study	
6.2 Discussion of the second pre-study	
6.3 Discussion of the main study	
6.3.1 Significance	
6.3.2 Limitations	
6.3.3 Applications	90
7 CONCLUSION	91
REFERENCES	
APPENDICES	
APPENDIX A	
A.1 The Data From The Pre-Studies	
APPENDIX B	
B.1 The questionnaires used	
APPENDIX C	147
C.1 Informed consent forms, debriefing forms and the Ethical Committee	e Permission 147
APPENDIX D	159
D.1 The histograms	159
APPENDIX E	

E.1 Descriptive reaction time data tables	
APPENDIX F	
F.1 Collinearity diagnostics tables for the main analysis	

## LIST OF TABLES

Table 1. The Pre-Study. Descriptive Statistics 19
Table 2. The correlation between perceived physical attractiveness and perceived
trustworthiness for the male participants
Table 3. The correlation between perceived physical attractiveness and perceived
trustworthiness for female participants
Table 4. The correlation between perceived physical attractiveness and perceived
trustworthiness for female participants
Table 5. The correlation between self-perceived attractiveness and perceived physical
attractiveness of others (male data)
Table 6. The correlation between self-perceived attractiveness and perceived physical
attractiveness of others (female data)
Table 7. The correlation between self-perceived attractiveness and perceived
attractiveness of others for the female participants
Table 8. The clarity of the questions embedded in ImeetU 36
Table 9. The pre-study 2. Descriptive Statistics 40
Table 10. The Pearson correlation between perceived attractiveness and perceived
promiscuity ratings (male data)
Table 11. The correlation between perceived physical attractiveness and perceived
promiscuity ratings (male data)43
Table 12. The pearson correlation between perceived attractiveness and perceived
promiscuity ratings of the female participants
Table 13. The correlation between perceived attractiveness and perceived promiscuity
ratings of the female participants
Table 14. The pearson correlation between perceived trustworthiness and perceived in a
committed relationship ratings (male data)
Table 15. The pearson correlation between perceived trustworthiness and perceived
interest in a committed relationship ratings (female data)
Table 16. The correlation between perceived trustworthiness and perceived interest in a
committed relationship ratings (female data)
Table 17. Main Study. Descriptive Statistics 63
Table 18. The first generalized mixed model indicating the likelihood of wanting to have
sex (male data)70
Table 19. The second generalized mixed model indicating the likelihood of wanting to
have sex (male data)71
Table 20. The first generalized mixed model indicating the likelihood of wanting to have
sex (female data)72
Table 21. The second generalized mixed model indicating the likelihood of wanting to
have sex (female data)73

Table 22. The first generalized mixed model indicating the likelihood of using condom
(male data)
Table 23. The second generalized mixed model indicating the likelihood of using condom
(male data)
Table 24. The first generalized mixed model indicating the likelihood of using condom
(female data)76
Table 25. The second generalized mixed model indicating the likelihood of using condom
(female data)
Table 26. The descriptives of the profiles whose "About" part was checked
Table 27. The perceived physical attractiveness ratings of the male participants 102
Table 28. The perceived trustworthiness ratings of the male participants105
Table 29. The perceived physical attractiveness ratings of the female participants 108
Table 30. The perceived trustworthiness ratings of the female participants111
Table 31. The perceived promiscuity ratings of the male participants
Table 32. The perceived interest in a committed relationship ratings of the male
participants
Table 33. The perceived promiscuity ratings of the female participants 120
Table 34. The perceived interest in a committed relationship ratings of the female
participants123
Table 35. Male Participants' Reaction Time Data (Seconds)
Table 36. Female participants' reaction time data (Seconds)
Table 37. The Tolerance and VIF values (male data)
Table 38. The Tolerance and VIF values (female data)

## LIST OF FIGURES

<i>Figure</i> 1. Peacock and its plumage
<i>Figure</i> 2. The scatterplot of perceived attractiveness and trustworthiness ratings of male participants
<i>Figure</i> 3. Mean attractiveness ratings given by the male participants to the female photos
<i>Figure</i> 4. Mean trustworthiness ratings given by the male participants to the female photos
<i>Figure</i> 5. The correlation between perceived attractiveness and trustworthiness for female participants
<i>Figure</i> 6. Mean attractiveness ratings given by the female participants to the male photos
<i>Figure</i> 7. Mean trustworthiness ratings given by the female participants to the male photos
<i>Figure</i> 8. The correlation between self-perceived attractiveness and perceived attractiveness of others for males
<i>Figure</i> 9. The correlation between self-perceived attractiveness and perceived attractiveness of others for females
<i>Figure</i> 10. The correlation between perceived attractiveness and perceived promiscuity for males
<i>Figure</i> 11. Mean promiscuity ratings given by the male participants to the female photos
<i>Figure</i> 12. The correlation between perceived attractiveness and perceived promiscuity for females
<i>Figure</i> 13. Mean promiscuity ratings given by the female participants to the male photos
<i>Figure</i> 14. The correlation between perceived trustworthiness and perceived interest in a committed relationship for males
<i>Figure</i> 15. Mean interest in a committed relationship ratings given by the male participants to the female photos
<i>Figure</i> 16. The correlation between perceived trustworthiness and perceived interest in a committed relationship for females
<i>Figure</i> 17. Mean interest in a committed relationship ratings given by the female participants to the male photos
<i>Figure</i> 18. The screen to create a profile
<i>Figure</i> 20. The right arrow key indicated "like" and the left arrow key indicated "dislike" 59

Figure 22. Likelihood of wanting to have sex (male data)64 $Figure 23$ . Likelihood of using condom (male data)65 $Figure 25$ . Likelihood of using condom (female data)67 $Figure 25$ . Likelihood of using condom (female data)67 $Figure 25$ . Likelihood of using condom (female data)67 $Figure 25$ . Likelihood of using condom (female data)68 $Figure 27$ . The Q-Q plot for the female participants' responses indicating the likelihood of using condom68 $Figure 28$ . The Q-Q plot for the male participants' responses indicating the likelihood of using condom69 $Figure 29$ . The Q-Q plot for the female participants' responses indicating the likelihood of using condom69 $Figure 30$ . The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (fmale data)74 $Figure 31$ . The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)74 $Figure 32$ . The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)76 $Figure 34$ . Reaction time data of sending likes for females and males78 $Figure 35$ . Reaction time data of sending passes (not like) for females and males79 $Figure 36$ . The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex85Figure 37. The histogram of the perceived physical attractiveness mean ratings of the male participants59 $Figure 36$ . The histogram of the perceived trustworthiness mean ratings of the male participants59 $Figure 37$ . The histogram of the perceived trustworthin	Figure 21. The screen indicating that other users are being notified about a new user	.60
Figure 23. Likelihood of wanting to have sex (female data)	Figure 22. Likelihood of wanting to have sex (male data)	.64
Figure 24. Likelihood of using condom (male data)66Figure 25. Likelihood of using condom (female data)67Figure 26. The Q-Q plot of the male participants' responses indicating the likelihood of68Figure 27. The Q-Q plot for the female participants' responses indicating the likelihood of68Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of69Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of69Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of69Figure 30. The fitness of the first generalized mixed model indicating the likelihood of72Figure 31. The fitness of the first generalized mixed model indicating the likelihood of74Figure 32. The fitness of the first generalized mixed model indicating the likelihood of74Figure 33. The fitness of the first generalized mixed model indicating the likelihood of76Figure 34. Reaction time data of sending passes (not like) for females and males78Figure 35. Reaction time data of sending passes (not like) for females and males78Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the75Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male75Figure 34. The histogram of the perceived physical attractiveness mean ratings of the male75Figure 35. The diagram indicating the use of who is attractive is healthy heuristic for the75Figure 30. The histogram of the perceived physical attractiveness mean ratings of the male75<	Figure 23. Likelihood of wanting to have sex (female data)	.65
Figure 25. Likelihood of using condom (female data)67Figure 26. The Q-Q plot of the male participants' responses indicating the likelihood of68Figure 27. The Q-Q plot for the female participants' responses indicating the likelihood of68of wanting to have sex68Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of69Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of69Figure 30. The fitness of the first generalized mixed model indicating the likelihood of72Figure 31. The fitness of the first generalized mixed model indicating the likelihood of74Figure 32. The fitness of the first generalized mixed model indicating the likelihood of74Figure 33. The fitness of the first generalized mixed model indicating the likelihood of74Figure 33. The fitness of the first generalized mixed model indicating the likelihood of74Figure 34. Reaction time data of sending likes for females and males78Figure 35. Reaction time data of sending passes (not like) for females and males79Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the75Figure 37. The diagram indicating the use of who is attractive seman ratings of the male75Figure 39. The histogram of the perceived physical attractiveness mean ratings of the male75Figure 30. The histogram of the perceived trustworthiness mean ratings of the male75Figure 30. The histogram of the perceived trustworthiness mean ratings of the fit76Figure 40. The histogram of the perceived trustworthine	Figure 24. Likelihood of using condom (male data)	.66
Figure 26. The Q-Q plot of the male participants' responses indicating the likelihood of wanting to have sex	Figure 25. Likelihood of using condom (female data)	.67
wanting to have sex    68      Figure 27. The Q-Q plot for the female participants' responses indicating the likelihood of wanting to have sex    68      Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of using condom    69      Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom    69      Figure 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)    72      Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    76      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    77      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending pases (not like) for females and males    78      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 37. The diagram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the female participants    159      Figure 40. The histogram of the perceived physi	Figure 26. The Q-Q plot of the male participants' responses indicating the likelihood	l of
<i>Figure</i> 27. The Q-Q plot for the female participants' responses indicating the likelihood of wanting to have sex68Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of using condom69 <i>Figure</i> 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom69 <i>Figure</i> 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)72 <i>Figure</i> 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)74 <i>Figure</i> 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)76 <i>Figure</i> 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)76 <i>Figure</i> 34. Reaction time data of sending passes (not like) for females and males78 <i>Figure</i> 35. Reaction time data of sending passes (not like) for females and males79 <i>Figure</i> 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom87 <i>Figure</i> 39. The histogram of the perceived physical attractiveness mean ratings of the male participants159 <i>Figure</i> 40. The histogram of the perceived trustworthiness mean ratings of the female participants160 <i>Figure</i> 41. The histogram of the perceived trustworthiness mean ratings of the female participants160 <i>Figure</i> 42. The histogram of the perceived trustworthiness mean ratings of the female participants160 <i>Figure</i> 43. The histogram of the perceived trustworthiness mean ratings o	wanting to have sex	.68
of wanting to have sex    68      Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of using condom    69 <i>Figure</i> 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom    69 <i>Figure</i> 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)    72 <i>Figure</i> 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74 <i>Figure</i> 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76 <i>Figure</i> 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    76 <i>Figure</i> 34. Reaction time data of sending passes (not like) for females and males    78 <i>Figure</i> 35. Reaction time data of sending passes (not like) for females and males    79 <i>Figure</i> 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87 <i>Figure</i> 38. The histogram of the perceived trustworthiness mean ratings of the male participants    159 <i>Figure</i> 30. The histogram of the perceived trustworthiness mean ratings of the finale participants    159 <i>Figure</i> 40. The histogram of the perceived trustworthiness mean ratings of the finale participants    160 <i>Figure</i> 41. The histogram of the pe	Figure 27. The Q-Q plot for the female participants' responses indicating the likeliho	bod
Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of using condom	of wanting to have sex	.68
using condom    69      Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom    69      Figure 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)    72      Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    74      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    76      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the finale participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' Piep-PA scores    161	Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood	l of
Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom	using condom	.69
of using condom    69      Figure 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)    72      Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    77      Figure 34. Reaction time data of sending likes for females and males    78      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the field participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the participants' IPIP-PA scores    160      Figure 43. The histogram of the male participants' IPIP-PA scores    160      Figure 43. The histogram of the male participants' IPIP-PA scores    160	Figure 29. The Q-Q plot for the female participants' responses indicating the likeliho	bod
Figure 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data)    72      Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    77      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    160      Figure 42. The histogram of the male participants' perceived physical attractiveness mean ratings of the female participants of the male participa	of using condom	.69
wanting to have sex (male data)    72      Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    76      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the male participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' PIP-PA scores    161	Figure 30. The fitness of the first generalized mixed model indicating the likelihood	l of
Figure 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data)    74      Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    76      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    159      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' PIP-PA scores    161	wanting to have sex (male data)	.72
wanting to have sex (female data)    74 <i>Figure</i> 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)    76 <i>Figure</i> 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    77 <i>Figure</i> 34. Reaction time data of sending likes for females and males    78 <i>Figure</i> 35. Reaction time data of sending passes (not like) for females and males    79 <i>Figure</i> 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87 <i>Figure</i> 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159 <i>Figure</i> 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159 <i>Figure</i> 40. The histogram of the perceived trustworthiness mean ratings of the male participants    160 <i>Figure</i> 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160 <i>Figure</i> 42. The histogram of the male participants' IPIP-PA scores    161 <i>Figure</i> 43. The histogram of the male participants' iprese mean    161 <i>Figure</i> 43. The histogram of the male participants' iprese mean    161	Figure 31. The fitness of the first generalized mixed model indicating the likelihood	l of
Figure 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data)	wanting to have sex (female data)	.74
using condom (male data)    76      Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)    77      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the male participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' Perceived physical attractiveness mean ratings of the female participants    160	Figure 32. The fitness of the first generalized mixed model indicating the likelihood	l of
Figure 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data)	using condom (male data)	.76
using condom (female data)    77      Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the male participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161	Figure 33. The fitness of the first generalized mixed model indicating the likelihood	l of
Figure 34. Reaction time data of sending likes for females and males    78      Figure 35. Reaction time data of sending passes (not like) for females and males    79      Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the genericipants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean ratings of the female participants    161	using condom (female data)	.77
Figure 35. Reaction time data of sending passes (not like) for females and males	Figure 34. Reaction time data of sending likes for females and males	.78
Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean    161	Figure 35. Reaction time data of sending passes (not like) for females and males	.79
likelihood of wanting to have sex    85      Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87 <i>Figure</i> 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159 <i>Figure</i> 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159 <i>Figure</i> 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    160 <i>Figure</i> 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160 <i>Figure</i> 42. The histogram of the male participants' IPIP-PA scores    161 <i>Figure</i> 43. The histogram of the male participants' perceived physical attractiveness mean    161	Figure 36. The diagram indicating the use of who is attractive is healthy heuristic for	the
Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean    161	likelihood of wanting to have sex	.85
likelihood of using condom    87      Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean    161	Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for	the
Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants.    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants.    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants.    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants.    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean    161	likelihood of using condom	.87
participants    159      Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants    159      Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants    160      Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants    160      Figure 42. The histogram of the male participants' IPIP-PA scores    161      Figure 43. The histogram of the male participants' perceived physical attractiveness mean    161	Figure 38. The histogram of the perceived physical attractiveness mean ratings of the m	ale
Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants	participants1	59
participants	Figure 39. The histogram of the perceived trustworthiness mean ratings of the m	ale
Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants	participants1	59
female participants	Figure 40. The histogram of the perceived physical attractiveness mean ratings of	the
<i>Figure</i> 41. The histogram of the perceived trustworthiness mean ratings of the female participants	female participants	60
participants	Figure 41. The histogram of the perceived trustworthiness mean ratings of the fem	ale
<i>Figure</i> 42. The histogram of the male participants' IPIP-PA scores	participants1	60
Figure A3 The histogram of the male participants' perceived physical attractiveness mean	<i>Figure</i> 42. The histogram of the male participants' IPIP-PA scores	61
<i>Tigure</i> 45. The instogram of the male participants before on bitystear attractiveness mean	Figure 43. The histogram of the male participants' perceived physical attractiveness me	ean
ratings of others	ratings of others	61
Figure 44. The histogram of the female participants' IPIP-PA scores (self-perceived	Figure 44. The histogram of the female participants' IPIP-PA scores (self-perceiv	ved
	attractiveness)	62
attractivianas)	auacuveness)	102

## LIST OF ABBREVIATIONS

- **IPIPPA** International Personality Item Tool-Physical Attractiveness
- SOI Socio-sexual Orientation
- ST Short-term
- LT Long-term
- STI Sexually Transmitted Infections
- **APP** Application
- **RT** Reaction Time
- PA Perceived Attractiveness
- PI Perceived Interest In a Committed Relationship
- PT Perceived Trustworthiness
- **PP** Perceived Promiscuity
- SSI Safe-sex Intention

#### CHAPTER 1

#### **INTRODUCTION**

In a modern world with wide availability of internet and communication technologies, dating apps have become more and more common. For instance, a dating app called Tinder has about 50 million users, 10 million of which are active daily (Margalit, 2014). The app was downloaded about 100 million times and users spent on average 35 minutes every day on Tinder (Ad Revenue, 2016), which altogether suggest that a considerable population of people use Tinder and spend time on it every day.

As dating apps became more and more common, certain issues has arisen with its use. For instance, Rhode Island Department of Health (2015) states that the use of social media is a high-risk behavior for sexually transmitted infection contraction. However, the factors determining un/safe sex intentions of dating app users was not experimentally studied before. To fill that gap, in this study, the effect of perceived attractiveness on desire to have sex and on un/safe sex intentions will be investigated through a dating application simulation. In this chapter, the rationale for this study will be elucidated as well as providing background about the issue.

In an effort to explore the relationship between dating app use and actual mating behavior, a survey with 1000 participants (women aged between 18-44) was conducted by the Glamour magazine (Drell, 2017). Accordingly, it was shown that only 32% of the app users (from Tinder, Bumble, Hinge) did not meet anyone in person. Glamour reported that "...49% went on dates, 36% had sex and 36% found a serious relationship, and 12% got married" (Drell, 2017, p.114). Those statistics show that people use dating apps and actually find a mate through them.

However, there might be dangers of using dating apps next to its benefits of finding a mate. According to the number of health institutes, there is an alarming relationship between the use of dating apps and a sudden increase in STIs. For instance, in a press release of the Rhode Island Department for Health (2015), use of social media for casual sexual experiences is named as a high risk behavior. The press release also stated that there is a 79% increase in infectious syphilis and there is 30% increase in the number of gonorrhea cases. Furthermore, almost 33% increase in HIV cases was observed. Relatedly, British Association for Sexual Health and HIV claims that the

incidence of STIs are increasing due to dating app use. Greenhouse stated that "...you are able to turn over partners more quickly with a dating app and the quicker you change partners the more likely you are to get infections. What really worries me is that we are just at a tipping point for HIV" (as cited in Kelsey, 2015). The actual relationship between dating app use and the risk of being infected with STI has not been clearly and robustly established yet in the literature for heterosexual people. However, it was reported that people who searched for a partner via the Internet is more at risk for STIs than people who do not do so (McFarlane, Bull, & Rietmeijer, 2000). Moreover, a qualitative study conducted by Couch, Liamputtong, & Pitts (2012) found that all of their participants (users of the internet for dating) acknowledged that dating online poses variety of dangers including being contracted with STIs. As mentioned in Kelsey (2015), the link between dating app use and the spread of STIs have not been established yet in the literature.

The spread of STIs is essentially tied to condom use intentions and behaviors. For that reason, a study investigating the factors determining condom use intentions while using dating apps was required. As for the factors determining condom use intentions, the evidence indicates the effect of perceived attractiveness would be a strong candidate. That is to say, findings suggest that risks associated with dating app use (in this case risk of being contracted with STI) might be lowered by perceived attractiveness of the potential partner. For instance, it was found that perceived attractiveness was the major factor of the safeness evaluation of potential partners, and sexual history of potential partner was overlooked (Agocha & Cooper, 1999). In line with that, a recent study reported that males' perceived attractiveness of the potential partner was overlooked (Agocha & Cooper, 1999). In line with that, a recent study reported that males' perceived attractiveness of the potential partner was overlooked (Agocha & Cooper, 1999). In line with that, a recent study reported that males' perceived attractiveness of the potential partner was overlooked (Agocha & Cooper, 1999). In line with that, a recent study reported that males' perceived attractiveness of the potential partner was overlooked (Agocha & Cooper, 1999). In line with that, a recent study reported that males' perceived attractiveness of the potential partner was overlooked (Agocha & Cooper, 1999).

Perceived attractiveness has been crucial for humans since together with behaviors of potential partners, they were the only cues to evaluate the healthiness of a partner during evolutionary history (Buss, 1994). Therefore, attractiveness signals healthiness and good quality genes. Relatedly, it was found that attractiveness is significantly and positively correlated with both healthiness and fertility (Furnham, Lavancy, & McClleland, 2001). A strong link between attractiveness and healthiness is reported in another study conducted by Lennon & Kenny (2013), which also reported that women rated more attractive men as more likely to have STIs. However, they were still more willing to have sex with attractive men as compared to unattractive men, and their likelihood of using condom was the same with their likelihood of not using condom. In conclusion, women, though consciously being aware of the risk, were willing to take it if it means having a chance to mate with attractive men.

Concerning risk-awareness, dating app environment connects people while it does not guarantee that its users are STI-free. Moreover, Cochran & Mays (1990) reported that college students tend to lie about their sexual history to be able to convince their partners to have sex with them. In other words, self-report of potential partners cannot be completely trusted. Moreover, a study by Couch, Liamputtong, & Pitts (2012) indicated that users of online dating platforms agree that certain risks (including

contraction of STI) are associated with these environments. Therefore, the dating app setting is perceived as risky and the actual magnitude of the risk associated with a particular potential partner cannot be easily calculated. People tend to employ heuristics while making decisions in the face of risks and uncertainties (Tversky & Kahneman, 1974). Humans are described as tool-users and the tools, as suggested by Gigerenzer (2008), can be considered as a kind of heuristic (e.g., short-cut to aid decision making). When there is too much information or when there is insufficient information (e.g., uncertainty) just as in dating app environments, humans tend to employ heuristics to guide their decisions. In the current thesis, heuristics rooted in the the Sexual Strategies Theory (Buss & Schmitt, 1993) are expected to be used by the dating app users. That is to say, attractiveness is a desired mate trait for humans as explained by the Sexual Strategies Theory (Buss & Schmitt, 1993) and the cost of mating with an unhealthy partner would be too high. As exemplified in Buss (1994), if a female mates with an unhealthy male:

- 1. She and her family can be contracted by the disease that the male has.
- 2. Her mate might fail to provide food, protection and child-care.
- 3. Her mate might die earlier than her which would cause the loss of the resources provided. That would also mean she would have to spend energy again to find a mate.
- 4. Her mate can pass on his not-healthy genes to the offspring.

Males also prefer youth and physical attractiveness in females since these attributes would signal fertility and healthiness. The healthiness of females would imply that males can pass on their genes and can have healthy offsprings. Therefore, people are evolved to be attracted towards healthy partners (Buss, 1994). Moreover, Ford & Beach (1951) found that the signals of being disease-free are universally evaluated as attractive. Given these findings, one can argue that people are evolved to be attracted to use "what is attractive is healthy. In line with those arguments, people are expected to use "what is attractive is healthy" and "who is attractive has higher quality genes" heuristics in uncertain environments (e.g. dating app environments) when making a decision (e.g. decision to have sex and use condom).

The current study aimed to find out the effect of perceived attractiveness on un/safe sex intentions in dating app environments, which facilitate a good medium for people to change partners quickly (Kelsey, 2015) and which have been evaluated as risky by their users (Couch, Liamputtong, & Pitts, 2012). In this study, a dating application simulation was developed and used instead of a real dating application in an effort to mitigate the effects of a number of uncontrolled variables such as age, varying degrees of physical attractiveness and other characteristics of the profiles popping up in the screen next to the fake profiles created by the researcher. However, by using a simulation, it is possible to create an environment with greater experimental control, which provides methodological advantages.

To sum up, the main purpose of the current study is to explore the effect of perceived attractiveness on un/safe sex intentions in a dating app environment. In addition to

this, varying levels of desire to have sex in response to varying perceived attractiveness of the potential partner in a dating app environment will also be investigated. Humans are attracted to healthy potential mates (Buss & Schmitt, 1993) and they are expected to be more eager to mate with them even by taking extra risks (e.g., exposing themselves to STIs by not using condom). This study aims to find out if these tendencies still hold in a dating app environment, which is perceived as a much more risky environment for mating as compared to more familiar social settings. Given the increasing popularity of dating apps, developing a better understanding of the factors that contribute to the mating decisions online is important for both cognitive science of decision making and public health policy development efforts.

#### CHAPTER 2

#### LITERATURE REVIEW

"She warned him (the prince) not to be deceived by appearances, for beauty is found within" (Beauty and The Beast, 1991)

Does perceived attractiveness of the potential partner influence our desire to have sex with that person? Does perceived attractiveness affect the intention to use/not use condom? Are our desires/intentions adapted by evolved psychological mechanisms? Gazzaniga (1998) argues that human brains evolved to enhance reproductive success. Similarly, Simao & Todd (2002) pointed out that as humans are sexual species, evolution should have provided humans with certain psychological adaptations so that humans reproduce efficiently. Exploring those adaptations is required to understand the nature of the human mind.

#### 2.1. Mating and Evolution

About 146 years ago, Charles Darwin proposed the Sexual Selection Theory in an effort to explain the riddles of animal mating. At first, he observed that animals might have certain characteristics which can hinder their survival. For instance, peacocks had characteristics (brilliant plumage, see *Figure* 1) that can lower their chances of survival as they can be spotted and hunted more easily due to their brilliant plumage. Then, he realized that those characteristics causes peacocks to be preferred by peahens. The more brilliant plumage peacocks have, the higher their chances of being copulated. In other words, having brilliant plumage helped peacocks to reproduce. Upon that, Darwin (1871) articulated that certain characteristics evolved due to their reproductive benefits instead of survival benefits. That is to say, evolution favors mating characteristics that provides higher reproductive success. In summary, Darwin (1871) elucidate mating behavior with two key components which are preference for a mate (e.g., peacocks competing with their appearance of plumage for peahens).



Figure 1. Peacock and its plumage

## 2.2 Mate preferences

As Darwin (1871) observed, peacocks are preferred more by peahens if their plumage is more brilliant. Two biologist Hamilton & Zuk (1982) suggested an explanation for that. Their research indicated that when peacocks have more parasites, their plumage becomes duller. Therefore, more brilliant plumage indicates a better health. That is to say, peahens prefer potentially healthy mates and they judge their mates' health status by physical appearance (plumage). As their potential mate looks healthier (posses more brilliant plumage), peahens are more attracted to them and prefers them as a mate over unattractive ones.

More than a century later than the Sexual Selection Theory, Buss & Schmitt (1993) proposed the Sexual Strategies Theory, which aims to explain human mating strategies based on different adaptive problems that human males and females have experienced during their evolutionary history. That is to say, this theory is based on the evolved mating psychology. Related to that Buss (1994, p. 14) claimed: "...our evolved psychology of mating remains. It's the only mating psychology we have, it just gets played out in a modern environment".

Buss & Schmitt (1993) found that just like peahens and peacocks, humans prefers healthy mates over unhealthy ones and they are more attracted to potential healthy mates over unhealthy ones. Accordingly, the Sexual Strategy Theory (1993) suggests that males prefer youth and physical attractiveness in females. The reason being that youth would signal fertility in females. Females' fertility declines around the age of 40 and usually ends at around age of 50. That is why, males are attracted to younger females. Similarly, physical attractiveness would signal being healthy. Therefore, males are attracted to healthy-looking females. The healthiness of females would mean that males can pass on their genes and can have healthy offsprings. Regarding females, although being resourceful and willing to share are among the most important desired characteristics in males, physical attractiveness is crucial as well. Physical attractiveness, as mentioned, indicates health status of the individual in question. For that reason, females tend to prefer physically attractive males. Females would want to secure their genes and would like to have access to high quality genes. Having a healthy male partner (mate) would mean that their offspring will be healthy too. Moreover, he can provide for her and their offspring and he can protect them from dangers (Buss, 1994). Therefore, it is advantageous to prefer a healthy mate and feel attracted to him.

#### 2.3 Universal standards of attractiveness: Healthiness

The Irish novelist Margaret Wolfe Hungerford (1886) contributed the famous phrase "beauty is in the eye of the beholder" in the novel Molly Bown. If that poetic sentence was true, then it would have meant that the standards of beauty can change drastically from culture to culture. However, as Buss (1994, p. 53) argued "…beauty may be in the eyes of the beholder, but those eyes and the minds behind the eyes have been shaped by millions of years of evolution". In other words, the adaptations of the beholder determine the perceptions of beauty and those adaptations are universal. Findings in developmental psychology provide further evidence indicating that the standards of attractiveness might not be learned and free from culture. For instance, Langlois, Roggman, Casey, Ritter, Rieser, Danner & Jenkins (1987) conducted a study with 2 to 3 month-old and 6 to 8 month-old infants, where they found that attractive faces were looked longer compared to unattractive faces by both 2-3 month-old and 6-8 month-old infants. This study suggests that there are culture-free, and innate standards of attractiveness.

In line with the idea of "culture-free" standards of attractiveness, it was reported that there are universal features considered as "attractive". To exemplify, Ford & Beach (1951) reported that the signs of cleanliness and being disease free are universally evaluated as attractive. Moreover, the indicators of youth such as clear skin or smooth skin are also thought to be attractive. On the other hand, pimples or facial disfigurement, sores and lesions are seen as unattractive. In other words, features signaling health and youth are universally judged as "attractive".

#### **2.4 Heuristics**

The family name of Homo sapiens comes from wisdom and rationality (Gigerenzer, 2008). Homo sapiens are described as tool-users. The tools, as suggested by Gigerenzer, can be heuristics (e.g., short-cuts). When there is too much information or when there is insufficient information (e.g., uncertainty), humans use heuristics. Considering risks in the area of human mating, one can never calculate the exact possibility of their partner's being infected with STIs (insufficient information). As was stated in the WHO (2016) report, most STIs have either no symptom or only mild symptoms which might not seen from outside. Therefore, this uncertain situation carries risks. In that case, it can be suggested that "who is attractive is healthy" heuristic operates. Accordingly, it was shown that when women asked to choose

attractive male faces and healthy male faces, their choices were not significantly differed from each other (Johnston, Hagel, Franklin, Fink, & Grammer, 2001). Women found more masculinized faces (e.g., faces with longer, broader and lower jaw) as more attractive and as healthier. Moreover, research examining the link between actual health and attractiveness found that facial male masculinity is an indicator of semen quality. In other words, male fertility might be signaled by facial masculinity (Foo, Simmons, & Rhodes, 2017). Furthermore, Smith et al. (2006) found that late follicular estrogen, femininity, attractiveness, and healthiness ratings are significantly and positively correlated. This finding suggests that female faces posses cues signaling reproductive health. Another study showed a supporting evidence. It was found that perceived attractiveness and perceived healthiness were strongly and positively (r = .53, p <.001) correlated (Furnham, Lavancy, & McClelland, 2001).

Therefore, perceived attractiveness can affect humans' risk judgment concerning the possibility of being infected with sexually transmitted diseases. Attractive potential mates would be evaluated as healthy when the risk associated with them is unknown. However, before establishing that link, information about the sexually transmitted infections will be elucidated in the following section to indicate the possible costs of not being protected.

#### 2.5 The Sexually Transmitted Infections (STIs)

There are more than 30 different bacteria, viruses and parasites which are contracted via sexual contact. 8 of them cause sexually transmitted diseases. Half of those which are syphilis, gonorrhea, chlamydia and trichomaniasis can be cured. The rest of them which are hepatitis B, herpes simplex virus (HSV or herpes), HIV and Human papillomavirus (HPV) are transmitted mostly by sexual contact (e.g., vaginal, oral, and anal). Some of them can be contracted via blood or blood products. Many of them (e.g., chlamydia, gonorrhea, primarily hepatitis B, HIV and syphilis) can be spread from mother to the newborn during pregnancy and birth. It is possible to have STI with no obvious symptom. The common symptoms are vaginal discharge, urethral discharge or burning in men, genital ulcers, and abdominal pain (World Health Organization, 2016).

There are nine key facts documented in the World Health Organization (2016) report regarding the prevalence of STIs in the world:

- 1. Every day, above 1 million people contracted sexually transmitted infections.
- 2. Chlamydia, gonorrhea, syphilis and trichomoniasis are spread to approximately 357 million people every year.
- 3. More than 500 million people are thought to have genital infection with herpes simplex virus (HSV).
- 4. Human papillomavirus (HPV) infections are seen in more than 290 million women.

- 5. Most of STIs causes no symptoms or only mild symptoms which might not be recognized as STI.
- 6. Some STIs, such as HSV type 2 and syphilis can increase HIV acquisition risk.
- 7. About 350000 unwanted birth outcomes including stillbirth (Newman et al., 2012) were caused by over 900000 pregnant women with syphilis infection.
- 8. STI can cause serious reproductive health consequences such as infertility or transmission from mother to child.
- 9. The major obstacle in diminishing the effect of STIs is resulted from drug resistance, especially for gonorrhea.

The key facts stated above indicates the prevalence and costs (e.g., infertility) of STIs and importance of prevention from them. Moreover, that report also highlights the fact that STIs might not give any symptoms seen outside. Therefore, to be safe, it is advised to use condoms as it is one of the most effective protection methods if used properly and consistently (WHO, 2016).

#### 2.6 Are humans prepared for the STIs?

To be able to predict whether humans are evolutionarily prepared for or have an advantage over sexually transmitted infections, WBC (White Blood Cell) counts of the primates were examined. When the immune system is activated for defense, WBC increases (Roitt, Brostoff & Male, 1998). If some primates are having STDs (Sexually Transmitted Diseases), then their WBC were supposed to be higher compared to others (possibly less promiscuous primates). Primates were tested and it was shown that in species where females are promiscuous WBC counts were higher as expected (Nunn, Gittleman, & Antonovics, 2000). Furthermore, in another study, it was indicated that when non-human primates had an illness, they had higher WBC counts compared to healthy ones. Moreover, it was reported that there was a positive correlation between higher WBC counts and promiscuity.

Regarding promiscuity, the testis size was employed as an independent index of mating system (Anderson, Hessel, & Dixson, 2004). The testis size was used as an index of mating system because it was found that the comparative sizes of testes can give information with regard to the mating systems of a primate species. In other words, nature will favor the males with bigger testis if they are not in a single-male breeding system (Harcourt, Harvey, Larson, & Short, 1981). Furthermore, evidence also showed that (after controlling for phylogeny biases) there is a positive correlation between WBC counts and female mating promiscuity (Nunn, 2002). Lastly, a study conducted by Nunn, Gittleman & Antonovics (2000) reported that human WBC counts points to the monogamy as a mating system than promiscuity. Therefore, with comparatively lower WBC counts, it can be suggested that humans are not evolved to fight against STIs. That is to say, humans are not biologically advantaged against STIs.

## 2.7 Perceived attractiveness and unsafe sex intentions

The literature shows that perceived attractiveness might lower risk perception and that people might favor the attractive individuals over unattractive ones even when the risk associated with them is higher or when the risk is unknown. For instance, it was found that men were less inclined to use condom if their potential partners are physically attractive. They evaluated the safeness of the partner mostly based on the physical attractiveness but they underused information related to potential partner's sexual history (Agocha & Cooper, 1999). This finding is in line with the explanations provided in the previous section. That is to say, humans might still be using physical attractiveness as a cue to healthiness.

In a similar fashion, it was found that women were willing to have sex if they judged their potential partner as attractive. The degree of willingness to have either protected or unprotected sex was not different. That is to say, they were almost equally willing to have sex with or without protection with the attractive potential partners (Lennon & Kenny, 2013). Interestingly, women in Lennon & Kenny's study rated the physically attractive men as more likely to have STI and yet they were willing to have protected or unprotected sex with them. The reason underlying these tendencies might be that humans' sexual strategy is not conscious. As Buss (1994, p. 6) points out, "...just as a piano player's sudden awareness of her hands may impede performance, most human sexual strategies are best carried out without the awareness of the actor."

Unconsciously, physical attractiveness might signal health, while the conscious mind is aware of the fact that this is not necessarily the case and in fact because that person is attractive, he can find mates easier and this increases his possibility of being infected. As a result, women might be reporting that those men are likely to be infected and yet they choose to have sex with them protected or unprotected. This explanation is open to discussion and research, however, what remains is that perceived physical attractiveness is a crucial predictor of un/safe-sex intentions for both sexes.

#### 2.8 The dating apps and STIs

According to the number of health institutes there is an alarming relationship between the use of dating apps and a sudden increase in STIs. For instance, in a press release of the Rhode Island Department for Health (2015), use of social media for casual sexual experiences is named as a high risk behavior. The press release also stated that there is a 79% increase in infectious syphilis and there is 30% increase in the number of gonorrhea cases. Furthermore, almost 33% increase in HIV cases was observed. Relatedly, British Association for Sexual Health and HIV claims that the incidence of STIs are increasing due to dating app use. Greenhouse stated that "…you are able to turn over partners more quickly with a dating app and the quicker you change partners the more likely you are to get infections. What really worries me is that we are just at a tipping point for HIV" (as cited in Kelsey, 2015). The actual relationship between dating app use and the risk of being infected with STI has not been clearly and robustly established yet in the literature for heterosexual people. However, it was reported that people who searched for a partner via the Internet is more at risk for STIs than people who do not do so (McFarlane, Bull, & Rietmeijer, 2000). In line with that, a recent survey conducted in 2016 reported that dating app users and people with drinking habits use condom less. Therefore, it was concluded that use of dating apps increases the risk of being infected with STIs (Choi, Wong, Lo, Wong, Chio, & Fong, 2016). However, in order to be able to robustly claim that dating apps contributes to increase of STIs, more research is needed.

#### 2.9 The gaps in the literature

Dating app environments, which allow people to change partners quickly, requires attention as they can potentially facilitate the spread of STIs. Previous studies indicate that being users of dating apps might increase the risk of being infected with STIs (Choi, Wong, Lo, Wong, Chio, & Fong, 2016). However, the factors associated with unsafe sex intentions in online dating have not been researched thoroughly vet. For instance, there is no study examining the effect of perceived attractiveness on un/safe sex intentions among dating app users. Given the perceived risks associated with online dating in the related literature, it is important to understand whether and to what extent factors such as perceived attractiveness influence users' un/safe sex intentions online. Moreover, to the best of our knowledge, no study has employed a dating app simulation so far, which indicates a methodological gap. For instance, a recent study examining the link between condom use and dating app use employed a survey methodology. As compared to conducting surveys limited to retrospective self-reports, acquiring real time data would bring further insights into the factors underlying un/safe sex intentions. Another possible approach could be creating fake profiles on real dating applications. Although using real dating apps improves ecological validity, it is not possible to control the attributes (e.g. age, common friends etc.) of each profile popping up on the participants' screens next to the fake profiles created by the researchers. Without obtaining technical support from the app developers, it is very difficult to generate experiments where participants go through comparable experiences, which will bring challenges for statistical analysis of collected data. In order to ensure more experimental control, dating app simulations are needed where all the profiles seen by the participants can be systematically controlled and manipulated. In short, this thesis study aims to contribute to this line of inquiry by providing a dating app simulation to investigate factors underlying un/safe sex intentions in online dating.

#### 2.10 The current study

The research questions and the hypotheses to be tested will be laid out along with the explanations. Three studies were conducted to test the hypotheses of the study.

*Research Question* 1: Is there a relationship between perceived physical attractiveness and unsafe sex intentions of dating app users?

Our review of related work in the evolutionary psychology literature in the next chapter identified physical attractiveness as a strong cue for a potential partner's health in our evolutionary past (Buss, 1994). Therefore, people might not expect physically attractive individuals to have sexually transmitted diseases (at least at an unconscious level).

Hypothesis 1: Perceived physical attractiveness negatively affects safe-sex intentions of the dating app users.

*Research Question* 2: Is there a relationship between perceived attractiveness and wanting/not wanting to have sex in the dating app setting?

As attractive look signals health, and therefore high quality genes, it is a desired mate trait for both genders (Buss, 1994). Both genders, as explained, wants to secure good genes and have healthy offsprings.

Hypothesis 2: Perceived attractiveness positively affects the likelihood of wanting to have sex for both genders in the dating app setting.

To test the hypotheses, a dating app simulation called *ImeetU* was developed. Fake profiles (57 female and 57 male profiles) were created on this app unbeknown to the users. The photos of the profiles were obtained from two studies (Talamas, Mavor, Axelsson, Sundelin, & Perrett, 2016; Braun, Gruendl, Marberger, & Scherber, 2001). Participants used the dating app simulation (the participants were led to think that it is a real dating app) and fake profiles created by the research team appeared on the screeen as a potential partner. Participants could send likes or dislikes to those profiles. The dating app simulation gave matches with a probability of 60%. Participants were notified within 10 seconds when they received a match. After participants received a match, they replied to the questions about safe-sex intentions regarding their match. The questions were embedded in the dating app simulation and the responses constituted the main data for testing the main hypotheses.

In order to obtain the perceived physical attractiveness, perceived trustworthiness, perceived promiscuity, and perceived interest in a committed relationship ratings of the images used to create the fake profiles, two pre-studies were conducted before the main study with the dating app. In the first pre-study, perceived physical attractiveness and perceived trustworthiness of those images were rated. The following hypotheses were tested based on the ratings of the participants as part of the exploratory analyses.

Hypothesis 3: There is a positive correlation between perceived physical attractiveness and perceived trustworthiness.

Studies indicated that there is positive correlation between perceived physical attractiveness and perceived trustworthiness in line with the idea of "what is beautiful is good" stereotype (Darby & Jeffers, 1988).

Moreover, although there is no hypothesis associated with it, perceived attractiveness ratings given to the images from the first face data set by Turkish participants and the participants recruited via Amazon Mechanical Turk in Talamas, Mavor, Axelsson, Sundelin, & Perrett's (2016) study will be compared. The study in which the first face data set was taken focused on perceived attractiveness just like in the current study. Therefore, attractiveness ratings of the same images obtained from two different samples will be compared to test the consistency of those ratings. From an evolutionary psychology perspective, since attractiveness is associated with healthiness and good genes, we expect to observe a positive correlation among these ratings.

Hypothesis 4: There is a positive correlation between self-perceived attractiveness and perceived physical attractiveness of others for males.

Sim, Saperia, Brown, & Bernieri (2015) conducted a study showing that perceived self attractiveness and perceived physical attractiveness of others were positively correlated among males. We expect to observe a similar relationship in our stimulus image set.

Hypothesis 5: There is a negative correlation between self-perceived attractiveness and perceived physical attractiveness of others for females.

Buss & Schakelford (2008) found that as females become more physically attractive themselves, their standards for a potential partner also increases. That can be explained by the desire to secure the good genes. For that reason, a negative correlation between females' self-attractiveness and their ratings of others' attractiveness is expected.

In the second pre-study, another group of participants were recruited (to avoid rater fatigue) to rate the perceived promiscuity and perceived interest in a committed relationship of the images. The following hypotheses were tested regarding the ratings of the pictures.

Hypothesis 6: Perceived physical attractiveness and perceived promiscuity are positively correlated.

Lucker, Beane & Helmrich (1981) reported that perceived sexiness, perceived masculinity/femininity and perceived likeability are correlated with perceived attractiveness. Furthermore, Tanke (1982) found that attractiveness and factor-analytic traits of sexual/social excitement are correlated. The sexual warmth, sexual arousal and excitement constitutes the sexual/social excitement and positively correlated with perceived attractiveness. In line with those findings, in a study conducted by Pollock (2012), it was shown that perceived attractiveness is correlated with perceived

promiscuity for males. That is to say, if males perceive a female as "attractive", they also perceive that female as "promiscuous".

Hypothesis 7: Perceived trustworthiness and perceived interest in a committed relationship are positively correlated.

Human offspring needs to be cared for a relatively longer time and the females need support during this process. In evolutionary times, they would need a male's protection and resources (Buss, 1994). Therefore, for females, it is expected that trustworthiness will be correlated with the interest in a committed relationship. Concerning the males, paternity certainty is an important issue during evolutionary times. To ensure that, males need to spend some time with females. Moreover, once males assure that the offspring is theirs, offspring's survival will matter (Buss, 1994). To support her/his survival, he has to protect and provide for her/him. In other words, males are also interested in the committed relationships as it has certain advantages. Therefore, for males as well, trustworthiness is expected to be associated with the interest in a committed relationship.

Continuing with the exploratory analysis, the reaction time data for the like and pass decisions made on the profiles will also be analyzed. In particular, the reaction times for like and pass decisions were compared for both gender groups. Moreover, reaction time for matched cases were entered in the hierarchical linear models constructed for the main study as a possible predictor together with perceived promiscuity, interest in a committed relationship, trustworthiness and perceived attractiveness. The models will be used to assess the predictive power of these factors on the likelihood of wanting to have sex and using condom (i.e. as an indicator of safe sex intention).

Lastly, log data indicating whether the participants checked the About part of the profiles will be documented. This behavior indicates whether participants wanted to see more than the photo of the profile. It can indicate either uncertainty (as they might have needed more information to decide than just the photo itself) or an interest as they wanted to know more about the profile in question.
### CHAPTER 3

### **PRE-STUDY 1**

The first aim of this rating study is to find the attractiveness and trustworthiness ratings of the photos to be used in the main study. A different sample of participants who did not participate in the main study rated the photos to avoid any possible biases. The second aim is to evaluate the clarity of the items of the questions embedded in the dating app simulation, *ImeetU*. In addition, exploratory correlational analyses were conducted. The correlation between perceived physical attractiveness and perceived trustworthiness; and the correlation between perceived self-attractiveness and perceived physical attractiveness of others were explored. The ethical committee permission from the Middle East Technical University to conduct this study was taken on 11.11.2016 (see Appendix C, The Ethical Committee Permission).

#### **3.1 Participants**

There were 78 participants 37 of whom are male and 41 of whom are female in this study. Participants were recruited from the social media groups which are used by the METU students, graduates and the people live in Yüzüncüyıl district in Ankara. There was one eligibility criteria to participate to the study. Participants were required to be at least 18 years of age as this study is a preliminary study of the main study which examines the effect of perceived physical attractiveness on safe-sex intentions among online daters in Turkey. Moreover, only the data from heterosexual participants were analyzed because the theoretical framework is based on a heterosexual mating model (After exclusion:  $M_{age} = 27.40$ , SD = 3.82, N = 64). For that reason, the data of one homosexual male and one male who did not want to indicate his sexual orientation were excluded (After exclusion:  $M_{age-male} = 28.45$ , SD = 4.34, N = 33). For the same reason, the data from two lesbian females, 3 bisexual females and 5 females who did not want to indicate their sexual orientation were excluded (After exclusion:  $M_{age-female} = 26.29$ , SD = 2.85, N = 31).

### **3.2 Materials**

Two photo sets were used to form a database of photos for the main study, which were normed by a sample of Turkish participants by rating each image in terms of their attractiveness and trustworthiness.

### The first face photo set

100 face photos from the study conducted by Talamas, Mavor, Axelsson, Sundelin, & Perrett in 2016 were used. The authors sent one extra female photo (Photo 43, Appendix A). In exploratory analyses, that extra photo was used, however, it was not used in the main study (i.e., equal number of photos were used in the main study). All the faces were Caucasian. 50 of the photos were female photos ( $M_{age} = 23.22$ , SD =3.74) and 50 of them were male photos ( $M_{age} = 25.3$ , SD = 4.64). The photos were standardized (e.g., clean shaven, neutral expression, and head posture). They (i.e., the photos) were taken from the commercial database (available at www.3d.sk) which was intended to be used in media and gaming development. Showing a neutral expression was crucial as it was shown that expressions of emotions might affect perceived attractiveness (Tracy & Beall, 2011). Moreover, the lightning conditions and camera set-up were also standardized. The model's hair was pulled back and they had no make-up or jewellery (Talamas, Mavor, Axelsson, Sundelin, & Perrett, 2016). Moreover, by using 188 points, face photos were delineated (Tiddeman, Burt, & Perrett, 2001). Facial features were marked via those points. Then, photos' size and position were aligned in accordance with left and right pupils. The size of the photos was rearranged and cropped (1608 x 2584 pixels). That way, it was ensured that in all photos, equal proportion of hair and neck was seen.

### The second face photo set

14 face photos from the study conducted by Braun, Gruendl, Marberger & Scherber in 2001 were used. 7 of the photos were female photos ( $M_{age} = 23.3$ ) and 7 of the photos were male photos ( $M_{age} = 25.1$ ). Clothing, hairstyle, jewellery, lightning effects and background were standardized. The faces in those photos do not exist in real life. A morphing software (Morpher 3.0, freeware) was used to create those compound faces. The compound photos in this study were perfected in terms of skin textures (i.e., no pimples, or pores etc.). In total, 78 female faces, 7 of whom were models and 33 male faces, 1 of whom was a model were used (Braun, Gruendl, Marberger & Scherber, 2011). It was also reported that those virtual faces were rated as more attractive than the real faces (Braun, Gruendl, Marberger & Scherber, 2011).

During the first study the participants were asked to respond to the following additional items (for details, see Appendix B).

Demographics: Age, gender, height, weight, education, occupation, nationality, sexual orientation, relationship status, duration of the relationship, relationship satisfaction, short/long-term partner search, virginity, and general condom use behavior were asked.

The rating questions: Participants rated attractiveness and trustworthiness of the face photos on a scale 0 (not attractive/trustworthy at all) to 10 (extremely attractive/trustworthy). The male participants rated 58 female photos and female participants rated 57 male photos.

The Ten-Item Personality Inventory: The Five Factor Personality Model was used to develop that 10-item inventory (Gosling, Rentfrow, & Swann, 2003). The participants responded to the items by using a 7-point likert scale (1: Strongly disagree, 7: Strongly agree). The inventory was translated and adapted to Turkish by Atak (2013).

The International Personality Item Tool-Physical Attractiveness (IPIP-PA): The International Personality Item Tool-Physical Attractivenes developed by Goldberg et al. (2006) includes nine 5-point likert scale (1: very inaccurate, 5: very accurate) items. The item pool was translated and adapted to Turkish by Somer, Korkmaz & Tatar (2002). IPIP-PA measures perception of one's own attractiveness. Perceived self-attractiveness can have an effect on perceptions of others' attractiveness. For instance, it was found that there is a positive correlation between males' self-attractiveness ratings and their ratings of others' attractiveness (Sim, Saperia, Brown, & Bernieri, 2015). This finding, however, was reversed for females. That is to say, attractive women were found to be more selective in terms of physical attractiveness of their potential mates (Buss & Shackelford, 2008). Therefore, though it is not the main purpose of this study, the correlation between perceived self-attractiveness and perceived attractiveness of others will be explored.

The revised Socio-sexual Orientation Inventory (SOI-R): The revised Socio-sexual Orientation Inventory inventory includes 9 items measuring sexual behavior strategies. The inventory was developed by Simpson & Gangestad (1991) and was revised by Parkeve & Asendorpf (2008). It was translated and adapted to Turkish (Schmitt, 2005). The participants responded to the first 3 items, which were about the number of partners in different situations, by the 9 options provided, the options were 0, 1, 2, 3, 4, 5-6, 7-9, 10-19, and 20 and more. For the following 3 items, which includes the statements about having sex, the participants responded to the items by using a 9-point likert scale (1: Strongly disagree, 9: Strongly agree). And for the last 3 items, which were about the frequency of fantasies and sexual arousal in different situations, the participants responded to items by using a 9-point likert scale with different labelings (1: Never, and 9: At least once a day).

The two questions embedded in *ImeetU*: There are two questions embedded in the dating application simulation. The first one aims to measure the likelihood of wanting to have sex and the other one aims to measure the likelihood of using condom. In this study, participants rated the clarity of those items on a scale 1 (not clear at all) to 7 (very clear). If they rated any question as "not clear", they were requested to explain the reason why in the following open-ended question.

### **3.3 Procedure**

This study was conducted online. The participants gave their consent to participate by selecting "I voluntarily participate to that study/Bu çalışmaya gönüllü katılmak istiyorum" and clicking on the "Submit" button at the bottom of the Informed Consent form that directed participants to the study. All the questions were arranged as a "request response" type, in other words, participants had a chance to skip the questions that they did not want to respond and could still progress through the study. The order

of the photos in the rating questions was randomized. In the final page of the online survey, the Debriefing Letter, which describes the purpose of the study and provides contact information of the researchers, was presented to the participants. The completion of the survey took about 15 minutes.

### 3.4 Results

The analyses were conducted by using R studio and IBM SPSS v24.0

The male participants' demographic profile: There were 33 male participants ( $M_{age-male} = 28.45$ , SD = 4.34) 16% of whom were bachelor students, 37% were master students, 19% were doctoral students, 22% of whom graduated from bachelor degree, 6% graduated from the doctoral degree (N = 32). 28% were students only, 34% were working only, 31% were both students and working, and 6% were in job search (N = 32). 63% were single, 12% had uncommitted relationships (Relationship satisfaction;  $M_{satisfaction} = 4.5$  (on a scale 1-not satisfactory at all to 7-very satisfactory), SD = 0.57, N = 4; Relationship duration;  $M_{duration} = 3.02$  (months), SD = 2.54, N = 4) and 24% had committed relationships (Relationship satisfaction;  $M_{satisfaction} = 6.12$ , SD = 0.83, N = 8; Relationship duration;  $M_{duration} = 38.5$  (months), SD = 28.11, N = 7). 88% of them were non-virgin, 9% were virgin and 3% of them did not want to indicate virginity status.

The female participant demographic profile: There were 31 female participants ( $M_{age-female} = 26.29$ , SD = 2.85) 17% of whom were bachelor students, 37% were master students, 20% were doctoral students, 13% of whom graduated from bachelor degree, 10% graduated from master degree, and 3% graduated from doctoral degree (N = 30). 35% were students only, 32% were working only, 23% were both studying and working, 10% were in job search (N = 31). 50% of them were single, 10% were in an uncommitted relationship (Relationship satisfaction;  $M_{satisfaction} = 6$ , SD = 1.41, N = 2; Relationship duration; M = 1.12 (months), SD = 1.23, N = 2), and 40% were in a committed relationship (Relationship satisfaction;  $M_{satisfaction} = 6$ , SD = 1.18 N = 12; Relationship duration;  $M_{duration} = 26.5$  (months), SD = 29.46, N = 11). 58% of them were non-virgin, 29% were virgin, and 13% of them did not want to indicate their virginity status.

Descriptive statistics, including the results of the inventories used, can be examined below (see Table 1).

				Men				V	Nome	n	
		n	Min	Max	М	SD	n	Min	Max	М	SD
Age		33	21	39	28.45	4.34	31	22	36	26.29	2.85
Height		33	170	192	178.56	6.14	31	154	177	164.83	5.69
Weight		33	59	130	80.62	15.52	31	42	80	56.41	7.61
ST search*	partner	30	1	7	4.00	1.80	29	1	6	1.62	1.23
LT search*	partner	32	1	7	4.65	2.40	29	1	7	3.44	2.51
General use	condom	29	0	10	6.40	4.03	18	0	10	6.83	3.45
IPIP-PA		33	-7	24	8.96	7.16	31	-1	25	14.12	8.26
Global SC	DI-R	33	1.55	7.44	4.77	1.36	31	1.11	6.44	2.87	1.33
Extravers	ion	33	2	7	4.77	1.54	31	2	7	4.53	1.61
Agreeable	eness	33	2	6	4.69	1.10	31	2.5	7	4.77	1.19
Conscient	tiousness	33	2	7	4.98	1.32	31	1.5	7	4.56	1.34
Emotiona stability	1	33	2	7	4.71	1.17	31	1	6.5	3.91	1.59
Openness experience	to e	33	3	6.5	5.45	1.00	31	2	7	4.77	1.49

# Table 1. The Pre-Study. Descriptive Statistics

\*: ST stands for short-term and LT stands for long-term.

# 3.5 Analysis

For this study, the first aim was to calculate attractiveness and trustworthiness ratings for each photo so that those ratings could be used in the main study. Male participants rated 58 female photos while female participants rated 57 male photos on a scale 0 to 10 (0: not attractive/trustworthy at all, 10: extremely attractive/trustworthy). Since the male and female participants rated different stimuli, their data will be analyzed separately. The perceived physical attractiveness and trustworthiness ratings of the male participants (see Table 27 & Table 28, respectively in Appendix A), and the perceived attractiveness and trustworthiness ratings of the female 29 & Table 30, Appendix A) can be examined.

Firstly, the correlation between perceived physical attractiveness and perceived trustworthiness was calculated. Concerning the correlation between perceived physical attractiveness and perceived trustworthiness ratings, only the mean values of the photos were used. The strength of correlations was determined according to the guide developed by Cohen (1988). In other words, .10 was considered as weak correlation, .10 - .30 as weak to medium correlation; while .30 was considered as medium correlation, .30 - .50 as medium to strong correlation, and .50 and above was evaluated as strong correlation.

Before conducting each correlational analysis, the distribution of the data was examined to decide whether to use parametric or non-parametric tests. The distribution of the ratings was evaluated by Shapiro-Wilk test though Kolmogorov-Smirnov test was also conducted. The Shapiro-Wilk test was preferred because the sample size is relatively low (for the female data n = 31; for the male data n = 33) and the Shapiro-Wilk test has higher power compared to the Kolmogorov-Smirnov Test (Ghasemi & Zahediasl, 2012; Field, 2009). Then the appropriate correlation coefficient between perceived (physical) attractiveness and perceived trustworthiness ratings was computed to test the following hypothesis.

Hypothesis 3: There will be a positive correlation between perceived physical attractiveness and perceived trustworthiness.

Since female and male participants rated separate sets of photos, this hypothesis was tested separately for males and females.

Male Participants

Before conducting the correlational analysis, the distribution of the data was examined.

The Shapiro-Wilk test indicated that the perceived physical attractiveness mean ratings of male participants was normally distributed (D (58) = .97, p = .41). Concerning perceived trustworthiness, Shapiro-Wilk test showed that male participants' mean ratings were normally distributed (D (58) = .97, p = .1).

To visually inspect the distribution of the perceived physical attractiveness and perceived trustworthiness ratings, please see *Figure* 38 and *Figure* 39 respectively in Appendix D.

The male participants' attractiveness and trustworthiness ratings were normally distributed, therefore, Pearson correlation method can be employed (see Table 2).

		Attractiveness	Trustworthiness
Attractiveness	Pearson Correlation	1	.522**
	Sig. (2-tailed)		.000
	Ν	58	58
Trustworthiness	Pearson Correlation	.522**	1
	Sig. (2-tailed)	.000	
	Ν	58	58

Table 2. The correlation between perceived physical attractiveness and perceived trustworthiness for the male participants

\*\*. Correlation is significant at the 0.01 level (2-tailed)

It was found that perceived physical attractiveness and perceived trustworthiness are strongly correlated for the males, r(56) = .52, p < .001 (see *Figure 2* below).



Figure 2. The scatterplot of perceived attractiveness and trustworthiness ratings of male participants

To visually examine the attractiveness and trustworthiness ratings used to calculate the correlation between them, see *Figure* 3 and 4, respectively.



Figure 3. Mean attractiveness ratings given by the male participants to the female photos



Figure 4. Mean trustworthiness ratings given by the male participants to the female photos

## Female Participants

Before conducting the correlational analysis, the distribution of the data was examined.

Shapiro-Wilk test showed that the perceived physical attractiveness mean ratings of the female participants were not normally distributed (D (57) = .84, p <.001). The perceived trustworthiness mean ratings of the female participants indicated a non-normal distribution as well (D (57) = 0.95, p <.05). It should be noted that although due to low sample size, it is safer to use the results of the Shapiro-Wilk test, the Kolmogorov-Smirnov test showed a normal distribution for the trustworthiness data (D (57) = .09, p>.05). To visually inspect the perceived physical attractiveness rating and perceived trustworthiness distribution, please see *Figure* 40 and *Figure* 41, respectively in Appendix D.

It was shown that female ratings of the perceived physical attractiveness data are positively skewed. This could be due to low sample size or it might be related to the finding that suggests perceived self-attractiveness and perceived attractiveness of others is negatively correlated for females. In the following sections (see *Figure* 9), it was observed that as females perceive themselves more attractive, they perceive males as less attractive (though the p value was bigger than .05).

Based on Shapiro-Wilk results, the female participants' mean attractiveness and trustworthiness ratings were not normally distributed. However, correlation between them was still computed with Pearson r (see Table 3). Since the distribution is non-normal, generalizability will be in question. Therefore, non-parametric correlation methods (i.e., Spearman & Kendall) were also employed (see Table 4).

		Attractiveness	Trustworthiness
Attractiveness	Pearson Correlation	1	.81**
	Sig. (2-tailed)		.000
	Ν	57	57
Trustworthiness	Pearson Correlation	.81**	1
	Sig. (2-tailed)	.000	
	Ν	57	57

Table 3. The correlation between perceived physical attractiveness and perceived trustworthiness for female participants

\*\*. Correlation is significant at the 0.01 level (2-tailed)

Pearson r correlation showed that for the female participants, perceived physical attractiveness and perceived trustworthiness are strongly correlated (r (55) = .81, p <.001). However, the data is non-normally distributed. Therefore, this result may not be generalizable. To overcome the generalizability problem, non-parametric methods were also employed (see Table 4). As the sample size is relatively low, interpreting Kendall (i.e., more conservative test) would be safer, though both Spearman rho and Kendall tau coefficients were calculated.

			Attractiveness	Trustworthiness
Kendall's tau_b	Attractiveness	Correlation coefficient	1	.571**
		Sig. (2-tailed)		.000
		Ν	57	57
	Trustworthiness	Correlation coefficient	.571**	1
		Sig. (2-tailed)	.000	
		Ν	57	57
Spearman's rho	Attractiveness	Correlation coefficient	1	.748**
		Sig. (2-tailed)		.000
		Ν	57	57
	Trustworthiness	Correlation coefficient	.748**	1
		Sig. (2-tailed)	.000	
		Ν	57	57

Table 4. The correlation between perceived physical attractiveness and perceived trustworthiness for female participants

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Both Spearman's rho ( $r_s$  (55): .74, p <.001) and Kendall's tau ( $\tau = .57$ , p <.001) indicated a strong correlation. In other words, when the mean values are ranked, it is found that perceived physical attractiveness and perceived trustworthiness are largely correlated for females. To visualize the correlation between perceived attractiveness and trustworthiness, see *Figure* 5 below.



Figure 5. The correlation between perceived attractiveness and trustworthiness for female participants

To visually examine the attractiveness and trustworthiness ratings used to calculate the correlation between them, see *Figure* 6 and 7 respectively.



Figure 6. Mean attractiveness ratings given by the female participants to the male photos



Figure 7. Mean trustworthiness ratings given by the female participants to the male photos

Continuing with the exploratory analysis, perceived attractiveness ratings given by Turkish and participants recruited via Amazon Mechanical Turk compared. The mean age for the second sample was 38.11, with the standard deviation of 10.41. There were 69 female and 71 male participants. In total, 140 participants rated all photos. However, in the Turkish sample, female participants rated male photos and male participants rated female photos but not both.

Considering male photos rated by females, Shapiro-Wilk test indicated that Turkish participants' ratings were non-normally distributed (D (50) = .929, p<.05). The ratings from the other study were normally distributed (D (50) = .968, p >.05). Non-parametric test (Wilcoxon) was preferred for the comparison. There was a significant difference between those two samples (z = -7.13, p <.01). Turkish sample gave lower ratings compared to the sample from Amazon Mechanical Turk.

Concerning female photos rated by males, the ratings given by Turkish sample were normally distributed (D (50) = .985, p>.05). The ratings given by the sample from the other study were non-normally distributed (D (50) = .949, p <.05). Therefore, Wilcoxon test was preferred for comparison. It showed that there is a significant difference between those two samples. Turkish sample gave lower ratings compared to the sample from Amazon Mechanical Turk (z = -2.53, p<.05).

Hypothesis 4, which states that there will be a positive correlation between selfperceived attractiveness and perceived physical attractiveness of others for males was also tested.

The correlation between self-perceived attractiveness and perceived physical attractiveness of others was calculated. Self-perceived attractiveness was measured via IPIP-PA scores, and perceived physical attractiveness of others was calculated by the mean attractiveness ratings given by each participant

The correlation between self-perceived attractiveness and perceived attractiveness of others (for males)

Self-perceived attractiveness was calculated by using IPIP-PA scores. Perceived attractiveness of others was calculated via participants' ratings of perceived physical attractiveness. For each participant, the mean rating given to photos was calculated. Before conducting the correlational analysis, the data distribution is examined to decide whether to use parametric or non-parametric tests. Due to the low sample size, Shapiro-Wilk test was preferred when interpreting the normality though Kolmogorov-Smirnov test was also conducted.

The distribution of male participants' IPIP-PA scores was tested to test normality. Shapiro-Wilk test indicated that the male participants' self-perceived attractiveness scores were normally distributed (D (33) = .93, p = .89). To visually inspect the frequency distribution, please see *Figure* 42 in Appendix D.

The distribution of perceived physical attractiveness of others (i.e., mean perceived physical attractiveness ratings given by each participant) was explored. For the perceived physical attractiveness of others mean data from the male participants, normal distribution was reported (D (33) = .96, p = .43).

To visually inspect the frequency distribution, please see Figure 43 in Appendix D.

The data is normally distributed, therefore, Pearson correlation was used (see Table 5).

		Self-perceived Attractiveness	Perceived Attractiveness of Others
Self-perceived Attractiveness	Pearson Correlation	1	.250
	Sig. (2-tailed)		.160
	Ν	33	33
Perceived Attractiveness of Others	Pearson Correlation	.250	1
	Sig. (2-tailed)	.160	
	Ν	33	33

Table 5. The correlation between self-perceived attractiveness and perceived physical attractiveness of others (male data)

A small to medium correlation was found between between self-perceived attractiveness and perceived attractiveness of others for males (r (31) = .25, p >.05). However, since the p value is higher than .05, generalizability is in question.

To visualize the correlation between self-perceived attractiveness and perceived attractiveness of others, please see *Figure* 8 below.



*Figure* 8. The correlation between self-perceived attractiveness and perceived attractiveness of others for males

Hypothesis 5 which claims that there will be a negative correlation between selfperceived attractiveness and perceived physical attractiveness of others for females was tested.

The correlation between self-perceived attractiveness and perceived attractiveness of others (for females)

Before conducting the correlational analysis, the data distribution is examined to decide whether to use parametric or non-parametric tests. Due to the low sample size, Shapiro-Wilk test was preferred when interpreting the normality though Kolmogorov-Smirnov test was also conducted.

Concerning the distribution of female participants' perceived self-attractiveness scores, Shapiro-Wilk test indicated a non-normal distribution (W = .93, p = .04). However, it should be noted that Kolmogorov-Smirnov test indicated a normal distribution (D (31) = .14, p>.05). To visually inspect the frequency of distribution, please see *Figure* 44 in Appendix D.

The distribution of the female participants' perceived attractiveness of others' ratings were tested. Shapiro-Wilk test indicated that the mean value for the female participants' perceived attractiveness of others' ratings is not normally distributed (W = .92, p = .02). However, it should be noted that the Kolmogorov-Smirnov test showed a normal distribution (D (31) = .13, p>.05). To visually inspect the frequency of distribution, please see *Figure* 45 in Appendix D.

It was shown that female participants' perceived attractiveness of others ratings are positively skewed (see *Figure* 45 in Appendix D), while in the previous sections (*Figure* 44 in Appendix D), it was observed that female self-perceived attractiveness scores were negatively skewed. In other words, as females perceive themselves more attractive, they perceive males as less attractive.

The perceived attractiveness of others ratings of the female participants is nonnormally distributed; therefore, Pearson r cannot be generalized. However, it will still be computed (see Table 6).

		Self-perceived attractiveness	Perceived Attractiveness of Others
Self-perceived attractiveness	Pearson Correlation	1	30
	Sig. (2-tailed)		.09
	Ν	31	31
Perceived Attractiveness of Others	Pearson Correlation	30	1
	Sig. (2-tailed)	.09	
	Ν	31	31

Table 6. The correlation between self-perceived attractiveness and perceived physical attractiveness of others (female data)

It indicated a medium negative correlation between self-perceived attractiveness and perceived physical attractiveness of others for the female participants (r (29) = -.30, p >.05). However, this result is not generalizable. To overcome this problem, non-parametric methods, (i.e., Spearman &Kendall) were also employed to calculate the correlation (see Table 7). As the sample size is relatively low, interpreting Kendall

(i.e., more conservative test) would be safer, though both Spearman and Kendall will be calculated.

Table 7. The correlation between self-perceived attractiveness and perceived attractiveness of others for the female participants

			Self-perceived Attractiveness	Perceived Attractiveness of Others
Kendall's tau_b	Self-perceived Attractiveness	Correlation coefficient	1	219
		Sig. (2-tailed)		.091
		Ν	31	31
	Perceived Attractiveness of Others	Correlation coefficient	219	1
		Sig. (2-tailed)	.091	
		Ν	31	31
Spearman's rho	Self-perceived Attractiveness	Correlation coefficient	1	306
		Sig. (2-tailed)		.094
		Ν	31	31
	Perceived Attractiveness of Others	Correlation coefficient	306	1
		Sig. (2-tailed)	.094	
		Ν	31	31

2-tailed analyses were conducted.

Kendall's tau indicated a negative small to medium correlation between self-perceived attractiveness and perceived attractiveness of others for females; however, since the p value was higher than .05 ( $\tau = .21$ , p > .05), generalizability was in question.

Spearman's rho showed a negative medium correlation between self-perceived attractiveness and perceived attractiveness of others for females; however, since the p value was higher than .05 ( $r_s = .-30$ , p >.05), generalizability was in question.

To visualize the correlation between self-perceived attractiveness and perceived attractiveness of others, please see *Figure* 9 below.



*Figure* 9. The correlation between self-perceived attractiveness and perceived attractiveness of others for females

Another aim of this study was to evaluate the clarity of the questions embedded in the dating app simulation, ImeetU (see Table 8).

Items	n	Μ	S.D.
1.Eşleştiğiniz kişi ile yüz yüze buluştuğunuzu hayal ediniz. Lütfen eşleştiğiniz kişi ile cinsel birliktelik yaşamayı ne kadar istediğinizi değerlendiriniz.	39	6.82	.60
2.Eşleştiğiniz kişi ile cinsel birliktelik yaşamaya karar verdiğinizi hayal ediniz. Lütfen, kondom kullanma ihtimalinizi değerlendiriniz.	43	6.81	.66

Table 8. The clarity of the questions embedded in ImeetU

As can be seen from the Table 8, the items were clear/understandable.

### **CHAPTER 4**

#### **PRE-STUDY 2**

The main aim of this study was to find the perceived promiscuity and perceived interest in a committed relationship ratings of the photos to be used in the main study. Different set of participants from the main study rated the photos to avoid any possible effect of knowing what is measured and from the first rating study as well to avoid rater fatigue. In addition, exploratory correlational analyses were conducted. First, the correlation between perceived attractiveness and perceived promiscuity was calculated. Then, the correlation between perceived trustworthiness and perceived interest in a committed relationship were computed. Although the data came from the two different sets of participants, the demographics of the participants were similar enough to conduct that correlational analysis.

#### **4.1 Participants**

There were 74 participants 39 of whom are male and 35 of whom are female in this study. Participants were recruited from the social media groups which are used by the METU students, graduates and the people live in Yüzüncüyıl district in Ankara. There was one eligibility criteria to participate to the study. Participants were required to be at least 18 years of age as this study is a preliminary study of the main study which examines the effect of perceived physical attractiveness on safe-sex intentions among online daters in Turkey. Moreover, only the data from heterosexual participants were analyzed because the theoretical framework is based on a heterosexual mating model (After exclusion:  $M_{age} = 25.85$ , SD = 5.05, N = 61). For that reason, the data of 1 bisexual male, 1 pansexual male, 1 asexual male and 1 male who did not want to indicate his orientation were excluded (After exclusion:  $M_{age-male} = 26.79$ , SD = 5.17, N = 31). For the same reason, the data from 2 lesbian females, 5 bisexual females and 2 females who did not want to indicate their orientation were excluded (After exclusion:  $M_{age-female} = 24.1$ , SD = 4.40, N = 30).

## 4.2 Materials

The photo sets that were used for the perceived promiscuity and perceived interest in a committed relationship ratings:

The same photo-sets used in the first study were used. It was important to show the neutral faces for the current ratings as well. The reason why is that facial expressions can affect perceived trustworthiness. For instance, it was reported that increased smiling intensity is correlated with increased perceived trustworthiness for female photos (Schmidt, Levenstein, & Ambador, 2012). Furthermore, it was shown that smiling male faces were associated with a potential to indicate committed relationship partnership (Okubo, Ishikawa, Kobayashi, Laeng, & Tommasi, 2015).

The scales that were used

Demographics: Age, gender, height, weight, education, occupation, nationality, sexual orientation, relationship status, duration of the relationship, relationship satisfaction, short/long-term partner search status, virginity, and general condom use behavior were asked.

The rating questions: Participants rated perceived promiscuity and perceived interest in a committed relationship of the people whose face photos are shown on a scale 0 (not promiscuous at all/not interested in a committed relationship at all) to 10 (extremely promiscuous/extremely interested in a committed relationship). The male participants rated 58 female face photos and the female participants rated 57 male face photos.

The same inventories which were 10-Item Personality Inventory, International Personality Item Tool-Physical Attractiveness (IPIP-PA), and The revised Socio-sexual Orientation Inventory (SOI-R) were used in this study.

The procedure was the same with the first study.

# 4.3 Results

The analyses were computed by using R Studio and SPSS v24.0.

The male participants' demographic profile: There were 31 male participants ( $M_{age-male} = 27.48$ , SD = 5.17) 30% of whom were bachelor students, 20% were master students, 20% were doctoral students, 10% of whom graduated from bachelor degree, 3% were graduated from master degree, 17% graduated from the doctoral degree (N = 30). 35% were students only, 30% were working only, 35% were both students and working (N = 31). 42% were single, 16% had uncommitted relationships (Relationship satisfaction;  $M_{satisfaction} = 3.6$ , SD = 1.81, N = 5; Relationship duration;  $M_{duration} = 5.5$  (months), SD = 2.38, N = 4) and 42% had committed relationships (Relationship satisfaction;  $M_{satisfaction} = 5.76$ , SD = 1.16, N = 13; Relationship duration;  $M_{duration} = 38.38$  (months), SD = 27.47, N = 13). 90% of them were non-virgin, 7% were virgin and 3% of them did not want to indicate virginity status.

The female participant demographic profile: There were 30 female participants ( $M_{age-female} = 24.16$ , SD = 4.40) 47% of whom were bachelor students, 7% were master students, 10% were doctoral students, 13% of whom graduated from bachelor degree, 3% graduated from master degree, and 20% graduated from doctoral degree (N = 30).

60% were students only, 10% were working only, 23% were both studying and working, 7% were in job search (N = 30). 60% of them were single, 3% were in an uncommitted relationship (Relationship satisfaction;  $M_{satisfaction} = 6$ , N = 1; Relationship duration; M = 1.5 (months, N = 1), and 37% were in a committed relationship (Relationship satisfaction;  $M_{satisfaction} = 6.09$ , SD = 0.83, N = 11; Relationship duration;  $M_{duration} = 48.45$  (months), SD = 35.27, N = 10). 60% of them were non-virgin, and 40% were virgin.

The descriptive statistics, including the inventories used, can be examined below (see Table 9).

Table 9.	The pre	e-study 2.	Descriptive	Statistics
----------	---------	------------	-------------	------------

			Men					Wom	en	
	n	Min	Max	М	SD	n	Min	Max	М	SD
Age	30	18	37	27.48	5.17	30	19	33	24.16	4.40
Height	31	168	188	177.70	4.74	30	155	175	163.7	5.07
Weight	31	53	97	73.96	11.37	30	45	80	58.03	8.14
ST partner search*	27	1	7	3.07	2.07	29	1	5	1.72	1.33
LT partner search*	26	1	7	3.19	2.26	27	1	7	3.96	2.27
General condom	27	1	10	6.75	3.39	20	0	10	6.05	3.25
IPIP-PA	31	-6	24	12.09	7.34	30	-9	27	10.1	10.26
Global SOI-R	31	1.78	8.11	4.64	1.52	30	1	6.33	2.85	1.46
Extraversion	31	2	7	4.88	1.48	30	1	7	4.5	1.88
Agreeableness	31	3	7	4.59	1.07	30	3	7	5	1.12
Conscientiousness	31	1	7	5.03	1.46	30	2	7	4.66	1.41
Emotional stability	31	1.5	7	4.69	1.41	30	1	6	3.48	1.34
Openness to experience	31	3	7	5.53	1.26	30	2.5	7	5.11	1.27

\*: ST stands for short-term and LT stands for long-term.

### 4.4 Analysis

For this study, the aim was to calculate promiscuity and interest in a committed relationship ratings for each photo so that those ratings could be used in the main study. Male participants rated 58 female photos while female participants rated 57 female photos on a scale 0 to 10 (0: not attractive/trustworthy at all, 10: extremely attractive/trustworthy). Since the male and female participants rated different stimuli, their data will be analyzed separately. The perceived promiscuity ratings (see Table 31 & Table 32, respectively), and the perceived interest in a committed relationship ratings of the male and female participants (see Table 33 & Table 34, respectively) can be examined in Appendix A.

Firstly, the correlation between perceived attractiveness and perceived promiscuity was calculated. Before conducting any correlational analysis, the distribution of the data was examined to decide whether to use parametric or non-parametric tests. The distribution of the ratings was evaluated by Shapiro-Wilk test though Kolmogorov-Smirnov test was also conducted. Shapiro-Wilk test was preferred because the sample size is relatively low (for the female data n = 30; for the male data n = 31) and Shapiro-Wilk test has higher power compared to Kolmogorov-Smirnov Test (Ghasemi & Zahediasl, 2012; Field, 2009).

Hypothesis 6 which states that perceived physical attractiveness and perceived promiscuity will be positively correlated was tested.

The correlation between perceived physical attractiveness and perceived promiscuity for the male participants:

The distribution for the perceived physical attractiveness was normal. The perceived promiscuity ratings of the male participants were non-normally distributed (D (58) = .94, p<.01). To visually inspect the distribution, please see *Figure* 46 in Appendix D. *Figure* 46 indicates a positively skewed distribution. That is to say, most ratings were higher than the mean. It could be explained by the low sample size.

Although perceived promiscuity ratings were non-normally distributed, the Pearson correlation method was employed. However, since the data is not normally distributed, the result cannot be generalized. It was found that perceived physical attractiveness and perceived promiscuity ratings were largely correlated, r (56) = .69, p<.001 (see Table 10).

		Perceived Attractiveness	Perceived Promiscuity
Perceived Attractiveness	Pearson Correlation	1	.69**
	Sig. (2-tailed)		.000
	Ν	58	58
Perceived Promiscuity	Pearson Correlation	.69**	1
	Sig. (2-tailed)		.000
	Ν	58	58

Table 10. The Pearson correlation between perceived attractiveness and perceived promiscuity ratings (male data)

Correlation is significant at the .01 level (2-tailed)

To overcome the generalizability problem, non-parametric tests (i.e., Spearman & Kendall) were employed (see Table 11). As the sample size is relatively low, interpreting Kendall (i.e., more conservative test) would be safer, though both Spearman and Kendall will be calculated.

			Perceived Attractiveness	Perceived Promiscuity
Kendall's tau_b	Perceived Attractiveness	Correlation coefficient	1	.54**
		Sig. (2-tailed)		.000
		Ν	58	58
	Perceived Promiscuity	Correlation coefficient	.54**	1
		Sig. (2-tailed)		.000
		Ν	58	58
Spearman's rho	Perceived Attractiveness	Correlation coefficient	1	.73**
		Sig. (2-tailed)		.000
		Ν	58	58
	Perceived Promiscuity	Correlation coefficient	.73**	1
		Sig. (2-tailed)		.000
		Ν	58	58

Table 11. The correlation between perceived physical attractiveness and perceived promiscuity ratings (male data)

\*\*Correlation is significant at the .01 level (2-tailed)

Both Spearman's rho ( $r_s = .73$ , p<.001) and Kendall's tau ( $\tau = .54$ , p<.001) indicated a strong correlation between perceived attractiveness and perceived promiscuity ratings for the male participants. To visually inspect the correlation, please see *Figure* 10.



Figure 10. The correlation between perceived attractiveness and perceived promiscuity for males

To visually examine the promiscuity ratings which was used to calculate the correlation between perceived attractiveness and promiscuity, see *Figure* 11.



*Figure* 11. Mean promiscuity ratings given by the male participants to the female photos

The correlation between perceived physical attractiveness and perceived promiscuity for the female participants:

The perceived physical attractiveness ratings of the female participants were nonnormally distributed.

The Shapiro-Wilk test indicated a normal distribution for promiscuity ratings (D (57) = .97, p>.05). To visually inspect the distribution, please see *Figure* 47 in Appendix D. Pearson correlation method will be employed despite the non-normal distribution of the perceived physical attractiveness ratings (Table 12). However, generalizability will be in question.

		Perceived Attractiveness	Perceived Promiscuity
Perceived Attractiveness	Pearson Correlation	1	.55**
	Sig. (2-tailed)		.000
	Ν	57	57
Perceived Promiscuity	Pearson Correlation	.55**	1
	Sig. (2-tailed)		.000
	Ν	57	57

Table 12. The pearson correlation between perceived attractiveness and perceived promiscuity ratings of the female participants

\*\*Correlation is significant at the .01 level (2-tailed)

Pearson correlation indicated a strong correlation between perceived attractiveness and perceived promiscuity ratings of the female participants (r (55) = .55, p<.001). To overcome the generalizability problem, non-parametric methods (i.e., Spearman & Kendall) will be employed (see Table 13). However, due to low sample size, interpreting the results of Kendall would be safer though both Spearman and Kendall will be calculated.

			Perceived Attractiveness	Perceived Promiscuity
Kendall's tau_b	Perceived Attractiveness	Correlation coefficient	1	.44**
		Sig. (2-tailed)		.000
		Ν	57	57
	Perceived Promiscuity	Correlation coefficient	.44**	1
		Sig. (2-tailed)		.000
		Ν	57	57
Spearman's rho	Perceived Attractiveness	Correlation coefficient	1	.60**
		Sig. (2-tailed)		.000
		Ν	57	57
	Perceived Promiscuity	Correlation coefficient	.60**	1
		Sig. (2-tailed)		.000
		Ν	57	57

Table 13. The correlation between perceived attractiveness and perceived promiscuity ratings of the female participants

\*\*Correlation is significant at the .01 level (2-tailed)

Kendall's tau indicated a medium to large correlation between perceived attractiveness and perceived promiscuity for females ( $\tau = .44$ , p<.001), while Spearman showed a strong correlation between those two variables ( $r_s = .60$ , p<.001). To visually inspect the correlation, please see *Figure* 12.



Figure 12. The correlation between perceived attractiveness and perceived promiscuity for females.

To visually examine the promiscuity ratings which was used to calculate the correlation between perceived attractiveness and promiscuity, see *Figure* 13.



Figure 13. Mean promiscuity ratings given by the female participants to the male photos

Hypothesis 7 which states that perceived trustworthiness and perceived interest in a committed relationship will be positively correlated was tested.

The correlation between perceived trustworthiness and perceived interest in a committed relationship ratings (male data):

The distribution of the perceived trustworthiness ratings of the male participants were normal (D (58) = .97, p>.05).

The distribution of perceived interest in a committed relationship data is normal (D(58) = .97, p>.05). To visually inspect the distribution, please see *Figure* 48 in Appendix D.

Since the distribution of both variables are normal, Pearson correlation method can be employed (see Table 14).

		Perceived Trustworthiness	Perceived Interest In A Committed Relationship
Perceived Trustworthiness	Pearson Correlation	1	.70**
	Sig. (2-tailed)		.000
	Ν	58	58
Perceived Interest In A Committed Relationship	Pearson Correlation	.70**	1
	Sig. (2-tailed)	.000	
	Ν	58	58

Table 14. The pearson correlation between perceived trustworthiness and perceived in a committed relationship ratings (male data)

\*\*Correlation is significant at the .01 level (2-tailed)

It was shown that perceived trustworthiness and perceived interest in a committed relationship are strongly correlated for males (r (56) = .70, p<.001). To visualize the correlation between perceived trustworthiness and perceived interest in a committed relationships, please see *Figure* 14 below.


*Figure* 14. The correlation between perceived trustworthiness and perceived interest in a committed relationship for males

To visually examine the interest in a committed relationship ratings which was used to calculate the correlation between perceived trustworthiness and interest in a committed relationship, see *Figure* 15.



*Figure* 15. Mean interest in a committed relationship ratings given by the male participants to the female photos

The correlation between perceived trustworthiness and perceived interest in a committed relationship ratings of the female participants:

Perceived trustworthiness ratings were non-normally distributed for females. Concerning, perceived interest in a committed relationship ratings, it was shown that the distribution is normal (W = .98, p>.05). To visually inspect the distribution, please see *Figure* 49 in Appendix D.

Though perceived trustworthiness ratings were non-normally distributed, Pearson correlation will be employed (Table 15). Due to non-normal distribution, however, the p-value might not be accurate, therefore, the results cannot be generalized.

		Perceived Trustworthiness	Perceived Interest In A Committed Relationship
Perceived Trustworthiness	Pearson Correlation	1	.74**
	Sig. (2-tailed)		.000
	Ν	57	57
Perceived Interest In A Committed Relationship	Pearson Correlation	.74**	1
	Sig. (2-tailed)	.000	
	Ν	57	57

Table 15. The pearson correlation between perceived trustworthiness and perceived interest in a committed relationship ratings (female data)

\*\*Correlation is significant at the .01 level (2-tailed)

It was indicated that perceived trustworthiness and perceived interest in a committed relationship are strongly correlated (r (55) = .74, p<.001).

However, since generalizability is in question, non-parametric correlational methods (i.e., Spearman & Kendall) will be employed (see Table 16). Due to low sample size, interpreting the results of the Kendall would be safer though both Spearman and Kendall methods will be used to conduct the analysis.

			Perceived Trustworthiness	Perceived Interest In A Committed Relationship
Kendall's tau_b	Perceived Trustworthiness	Correlation coefficient	1	.55**
		Sig. (2-tailed)		.000
		Ν	57	57
	Perceived Interest In A Committed Relationship	Correlation coefficient	.55**	1
		Sig. (2-tailed)	.000	
		Ν	57	57
Spearman's rho	Perceived Trustworthiness	Correlation coefficient	1	.74**
		Sig. (2-tailed)		.000
		Ν	57	57
	Perceived Interest In A Committed Relationship	Correlation coefficient	.74**	1
		Sig. (2-tailed)	.000	
		Ν	57	57

Table 16. The correlation between perceived trustworthiness and perceived interest in a committed relationship rating (female data)

\*\*Correlation is significant at the .01 level (2-tailed)

Both Kendall's tau and Spearman's rho indicated a strong correlation between perceived trustworthiness and perceived interest in a committed relationship ( $\tau = .55$ , p<.001; r<sub>s</sub> =.74, p<.001, respectively). To visualize the correlation between perceived

trustworthiness and perceived interest in a committed relationship, please see *Figure* 16 below.



*Figure* 16. The correlation between perceived trustworthiness and perceived interest in a committed relationship for females

To visually examine the interest in a committed relationship ratings which was used to calculate the correlation between perceived trustworthiness and interest in a committed relationship, see *Figure* 17.



*Figure* 17. Mean interest in a committed relationship ratings given by the female participants to the male photos

### **CHAPTER 5**

#### **MAIN STUDY**

#### **5.1 Participants**

There were 54 participants 26 of whom are male and 29 of whom are female in this study. Participants were recruited from the social media groups which are used by the METU students, graduates and the people live in Yüzüncüyil district in Ankara. There was one eligibility criteria to participate to the study. Participants were required to be at least 18 years of age ( $M_{age} = 24.41$ , SD = 3.33, N = 39) as this study examines the effect of perceived attractiveness on safe-sex intentions among online daters in Turkey. Moreover, only the data from heterosexual participants were analyzed because the theoretical framework is based on a heterosexual mating model. For that reason, the data of one homosexual male was excluded. For the same reason, the data from 4 bisexual females were excluded. Also, by chance factor, two male participants did not get a match (as there was a 60% possibility of getting match every time a like was sent) and therefore, there was no safe-sex intention data coming from them. Furthermore, since this study examines safe-sex intentions, i.e., condom use intentions, the data from the participants who were virgins were excluded. 3 males who are virgins and 1 male who did not want to respond to virginity question ( $M_{age}$ )  $_{male} = 25.22, SD = 3.85, N = 18$ ) and 3 virgin females and 1 female who did not want to respond to that question were excluded ( $M_{age-female} = 23.71$ , SD = 2.72, N = 21).

### **5.2 Materials**

The face data sets: The face photos from the two data sets described in the first study were used to create the fake profiles in the dating app simulation called *ImeetU*.

ImeetU: A dating app simulation, called ImeetU, was developed by using Unity3D.

With that program, it was possible to create a profile with a name and photo (see *Figure* 18) and send likes or dislikes to other profiles (*Figure* 19).



Figure 18. The screen to create a profile



Figure 19. The screen where a participant can send a like or a dislike<sup>1</sup>

The participants were able to go back to see the previous profile by clicking on the "back arrow" in the left part of the screen and by clicking on the icon on the the upper left, participants were able to exit the program. The icon, on the right part, represented participants' own profile. There is an "About" part below the photo which was left empty for all the fake profiles. However, in order to see whether participants would search for more information about the profile or not, the "about" part was placed.

Sending likes or dislikes was done via keyboard use, the right arrow key indicated like and the left arrow key indicated dislike (*Figure* 20).

<sup>1</sup> The original photos cannot be shown due to copyrights. This photo was not used in the study and it is shown here only to exemplify.



Figure 20. The right arrow key indicated "like" and the left arrow key indicated "dislike"

The reason why the keyboard was used to send "likes" and "dislikes" was to reduce the possibility of having an erroneous response time data. For each like sent, the program matches those two profiles with the probability of 60%. To make the setting more realistic, the program notifies users within 10 seconds that they got a match. The questions measuring safe-sex intentions were embedded in the program and they were presented after each match that participants received. The questions could be responded via mouse use.

Reaction time data: Reaction time data was collected while participants send likes or dislikes to the profiles they saw. All the participants were right-handed (see Appendix E).

The scales that were used: The Ten-Item Personality Inventory, The International Personality Item Tool-Physical Attractiveness and The Revised Socio-sexual Orientation Inventory were used just as the pre-studies. Additionally, questions embedded in *ImeetU*, STI/HIV-Pre-test and The Marlowe-Crowne Social Desirability Scale were used.

The questions embedded in *ImeetU:* Two questions measuring the likelihood of wanting to have sex and the likelihood of using condom were used.

STI/HIV Pre-test: This test has been used in Canada (Alberta Health and Wellness and the Calgary Health Region) to determine the level of knowledge that students have about sexually transmitted infections and how they are spread. Siyez & Siyez (2009) translated and adapted this test to Turkish and Turkish culture. There are 36 items in the Turkish version, originally there were 40 items, and the participants responded to the items by choosing between the options: true, false or I do not know. The reason why this test was used in this research was that in order to measure safe-sex intentions accurately, it was necessary to acknowledge the level of knowledge of the participants' about safe-sex. To indicate the potential importance of knowledge in safe-sex intentions, it was suggested that safe-sex intentions among Turkish youth might be increased via culturally tailored, HIV-peer education interventions (Bulduk & Erdoğan, 2012).

The Marlowe-Crowne Social Desirability Scale: The scale was originally developed by Gosling, Rentfrow, &Swann in 2003 to measure the social desirability. It has 33

items; however, for this research the shorter version with 7 items prepared by Ural & Özbirecikli (2006) was used. The participants responded to the items by using a 6-point likert scale (1: Strongly disagree, 6: Strongly agree). This scale was used in this research because sex, especially pre-marital sex, is a taboo in Turkey. This taboo exists for females even more strongly. Therefore, there was a need to measure social desirability in this research.

# **5.3 Procedure**

In each session, there was only one participant. The participants came to the lab, read the Informed Consent and signed it. After that, their face photo with a white background was taken. Before the photo shoot, the participants were instructed to remove their jewelleries if they had any. Moreover, they were instructed to give a neutral pose. Following that they were informed that they can use their real name or that they can use a nickname to create a profile on the dating app simulation, *ImeetU*. Then, the researcher informed the participants about how to use *ImeetU*. The participants were told that there are other users and when they log in, the other users are being notified that a new user was logged in. When they started the program, the screen shown below was appeared explaining that other users are being notified about a new user (*Figure* 21).



Figure 21. The screen indicating that other users are being notified about a new user

This screen stayed for about 3 minutes. Before the participant create his/her own profile, the researcher left the lab. and informed the participant that she will be waiting in front of the room and that if s/he has any question, s/he can ask. Following that, the participants created their own profile by uploading their photo and entering their name.

They were informed that they can write something about themselves in the "about" section, however, it is not mandatory. Then, they started to see the fake profiles, which they think were real. The profiles were shown in a random order. The participants sent likes or dislikes to those profiles by using the keyboard. For every like which was sent, there was a 60% chance that the program will give them a match. The notification for the match was given within 10 seconds to make the setting more realistic. Following the matched notification, the questions embedded in the program appeared on the screen. The participants responded to them via mouse use. For each question, there was an option ("I do not want to respond to that question") for not answering. After the dating app simulation session, the participants notified the researcher that the first part is over. Then, the researcher opened up the survey link which includes demographic questions, The 10-Item personality inventory, The International Personality Item Tool-Physical Attractiveness, The Revised Socio-sexual Orientation Inventory, STI/HIV Pre-test, and The Marlowe-Crowne Social Desirability Scale. The first page of the survey link included the Informed Consent. After opening the survey link, the researcher left the lab. The participants showed their consent to participate by clicking on a "I voluntarily participate to that study/Bu calismaya gönüllü katılmak istiyorum" and "Submit" button at the bottom of the Informed Consent that directed participants to the study. All the questions were arranged as a "request response" type, in other words, participants had a chance to skip the questions that they did not want to respond and could still progress through the study. In the final page of the online survey, the Debriefing Letter, which describes the purpose of the study, explains the deception about the profiles and provides contact information of the researchers, was presented to the participants. Upon completion of the survey, the participants notified the researcher that the study was over. The researcher gave debriefing and responded to the questions if there were any. The participants were given 10 Turkish Liras to compensate their time. The completion of this study took about 25 minutes.

### **5.4 Results**

The analyses were conducted by using R studio and SPSS.

The male participants' demographic profile: There were 18 male participants ( $M_{age-male} = 25.22$ , SD = 3.85) 44% of whom were bachelor students, 44% were master students, 6% were doctoral graduate, and 6% of whom graduated from master degree (N = 18). 72% were students only, 6% is working only, 16% were both students and working, and 6% were in job search (N = 18). 55% were single, 16% had uncommitted relationships (Relationship satisfaction;  $M_{satisfaction} = 4.5$  (on a scale 1-not satisfactory at all to 7-very satisfactory), SD = 0.70, N = 2; Relationship duration;  $M_{duration} = 8.5$  (months), SD = 7.77, N = 2) and 29% had committed relationships (Relationship satisfaction;  $M_{satisfaction} = 5.6$ , SD = 1.14, N = 5; Relationship duration;  $M_{duration} = 8.75$  (months), SD = 6.13, N = 4).

The female participant demographic profile: There were 21 female participants ( $M_{age-female} = 23.71$ , SD = 2.72) 61% of whom were bachelor students, 24% were master students, 10% were doctoral students, 5% of whom graduated from bachelor degree,

10% graduated from master degree, and 3% graduated from doctoral degree (N = 21). 75% were students only, 5% were working only, 20% were both studying and working, 10% were in job search (N = 20). 28% of them were single, 24% were in an uncommitted relationship (Relationship satisfaction;  $M_{satisfaction} = 4.75$ , SD = 2.06, N =4; Relationship duration; M = 2.37 (months), SD = 1.25, N = 4), and 48% were in a committed relationship (Relationship satisfaction;  $M_{satisfaction} = 6.5$ , SD = 0.52, N = 10; Relationship duration;  $M_{duration} = 34.5$  (months), SD = 30.98, N = 10). Descriptive statistics, including the results of the inventories used, can be examined below (see Table 17).

## Table 17. Main Study. Descriptive Statistics

			Me	n		Women				
	n	Min	Max	М	SD	n	Min	Max	М	SD
Age	18	20	35	25.22	3.85	21	20	29	23.71	2.72
Height	18	165	200	176.8 3	8.54	21	158	183	166	6.13
Weight	18	60	108	81.94	12.44	21	45	70	58.3	6.57
ST partner search*	18	1	7	3.82	2.24	21	2	7	2.47	2.13
LT partner search*	18	1	6	3.47	1.90	21	1	7	3.14	2.51
General condom use	18	0	10	6.55	3.68	21	1	10	5.82	3.15
IPIP-PA	18	-5	17	7.88	6.96	21	-5	24	12	7.80
Global SOI-R	18	2	6	4.26	0.98	21	1.56	6.11	3.54	1.51
STI/HIV-Pre-test**	18	19	31	25.94	3.29	21	19	30	26.71	2.70
Social Desirability Bias	18	20	39	29.22	5.31	21	6	39	26.04	7.87
Extraversion	18	2	7	5.16	1.27	21	1	7	4.85	1.82
Agreeableness	18	2	6.5	4.30	1.25	21	2	7	5.14	1.27
Conscientiousness	18	3	6.5	4.69	1.12	21	1.5	7	4.54	1.47
Emotional stability	18	1.5	6	4.44	1.09	21	1.5	6.5	3.76	1.39
Openness to experience	18	2.5	7	5.36	1.17	21	2	7	5.47	1.36

\*: ST stands for short-term and LT stands for long-term.

\*\*: STI/HIV-Pre-test refers to the test measuring the knowledge about how one can contract sexually transmitted infections.

## 5.5 Analysis

For each participant, his/her mean response value for each question were computed. Then, that mean value was subtracted from each response for each of his/her matches. Then, those difference scores against attractiveness, fitting (and plotting) a regression line for each participant were plotted. In the plot, each color/icon combination represent different participant.

Question 1: The likelihood of wanting to have sex

The plot for male participants' responses is depicted below (Figure 22).



*Figure* 22. Likelihood of wanting to have sex (male data)



The plot for female participants' responses for the first question is indicated below (*Figure* 23).

*Figure* 23. Likelihood of wanting to have sex (female data)

Then, 1) the mean value of the coefficients (i.e., slopes) of the regression lines (the mean of the individual regression values), 2) the standard deviation of those slopes were computed, and 1-sample t-tests were conducted to see whether the coefficients differ from zero or not.

First, the distribution of the data was checked as t-test has a normality assumption. Both male (D (15) = .91, p>.05) and female participants' (D (19) = .94, p>.05) data were normally distributed as Shapiro-Wilk test showed. Therefore, for the first question, t-test can be computed. As one can notice, degrees of freedom is less than it should be. That is because some participants only got one match and they only have one data point, and no slope for that matter.

To visualize the distribution, *Figure* 30 (male data) and *Figure* 31 (female data) can be examined in Appendix D.

Considering male participants' data, t-test indicated that the coefficients were significantly different from zero (M= 0.30, SD = 0.55, t (14) = 2.16, p <.05 (two-tailed)). For female participants, t-test showed that the coefficients were significantly different from zero (M = 0.19, SD = 0.30, t(18) = 2.84, p <.05 (two-tailed)). The results

showed that perceived attractiveness positively affects the likelihood of wanting to have sex for both genders during dating app simulation use.

The same procedure was applied to analyze the responses of Question 2.

Question 2: The likelihood of using condom

The plot of male participants' data can be examined below (Figure 24).



Figure 24. Likelihood of using condom (male data)



The plot of female participants' data can be examined below (Figure 25).

Figure 25. Likelihood of using condom (female data)

First, the distribution of the data was checked as t-test has a normality assumption. Both male (D (15) = .81, p<.01) and female participants' (D (19) = .64, p<.01) data were non-normally distributed as Shapiro-Wilk test showed. Therefore, for the second question, non-parametric test will be used.

To visualize the distribution, see *Figure* 32 (for male data) and *Figure* 33 (for female data) in Appendix D.

Since the data was non-normally distributed, One-Sample Wilcoxon Signed Rank Test was computed. For males, the median of the coefficients was significantly different than zero (z = -1.68, p < .05, one-tailed). In other words, perceived attractiveness significantly and negatively affect the likelihood of condom use for males. For females, however, perceived attractiveness did not have a significant effect on condom use (z = -.338, p > .05).

The main findings with Generalized Linear Mixed Model analysis:

For the main analysis, hierarchical linear mixed model analysis could have been conducted. However, the assumption of normality was violated. For the likelihood of

wanting to have sex, when the effect of perceived attractiveness was treated as the fixed effect and subjects are treated as the random effect, the distribution of the residuals for male data was non-normal (D (106) = .886, p <.01). As Shapiro-Wilk test indicated, it was non-normal for females as well (D (100) = .123, p <.01). To visualize the deviation from the normality, see *Figure* 26 (male data) and *Figure* 27 (female data).



*Figure* 26. The Q-Q plot of the male participants' responses indicating the likelihood of wanting to have sex



*Figure* 27. The Q-Q plot for the female participants' responses indicating the likelihood of wanting to have sex

For the likelihood of using condom, when the effect of perceived attractiveness was treated as the fixed effect and subjects are treated as the random effect, the residuals were non-normally distributed for both male and female participants' data (D (106) = .853, p<.01; D (100) = .393, p<.01, respectively). To see the distribution of residuals in those models, see *Figure* 28 for males and *Figure* 29 for females.



Figure 28. The Q-Q plot for the male participants' responses indicating the likelihood of using condom



Figure 29. The Q-Q plot for the female participants' responses indicating the likelihood of using condom

Generalized linear mixed model (GLMM) analysis is robust against the violation of normality and is advised to be used models with random effect (Bolker, Brooks, Clark, Geange, Poulsen, & Stevens, 2009). Therefore, it was preferred for the replication of this analysis which was conducted via slope analysis at first. Moreover, by using GLMM analysis, the effect of other attributes (i.e., perceived promiscuity, trustworthiness, interest in a committed relationship) and the effect of reaction time can be tested along with the effect of perceived attractiveness. The results were the consistent with the slope analysis. For males, the likelihood of wanting to have sex is significantly and positively affected by perceived attractiveness (p < .05). The random effect (intercept) was also significant, indicating that subjects significantly differ from each other (p < .01). To examine the model, see Table 18 below.

Table 18. The first generalized mixed model indicating the likelihood of wanting to have sex (male data)

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval	Confidence
					Lower	Upper
Intercept	3.793	1.147	3.307	.001	1.519	6.068
PA	0.231	0.093	2.484	.015	0.047	0.416

Following that, another model in which the effect of perceived attractiveness, trustworthiness, promiscuity, interest in a committed relationship and reaction time on likelihood of wanting to have sex was tested. There was no multicollinearity among predictors, therefore, all can be put in one equation (see Table 37, Appendix F).

For this second model, the random effect (intercept) was not significant, indicating that subjects did not significantly differ from each other (p>.05). The effect of attractiveness was significant and positive (p <.05), however, the other predictors did not have a significant effect (see Table 19).

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval	Confidence
					Lower	Upper
Intercept	4.000	3.365	1.189	.237	-2.675	10.675
PA	0.261	0.101	2.590	.011	0.061	0.462
РТ	-0.054	0.079	-0.667	.500	-0.211	0.104
РР	0.011	0.054	0.198	.843	-0.096	0.117
PI	0.005	0.047	0.108	.914	-0.089	0.099
RT	-0.069	0.052	-1.335	.185	-0.171	0.034

Table 19. The second generalized mixed model indicating the likelihood of wanting to have sex (male data)

When compared with the first model, it was observed that -2Loglikelihood values increased (df (4) = -91.085, p<.01), therefore, the first model fits better than this second model. To visually examine the fitness of the second model, see *Figure* 30 below.



*Figure* 30. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (male data). \*SSI1 (Safe Sex Intention Question 1): It stands for "the likelihood of wanting to have sex"

Concerning females, the likelihood of wanting to have sex is significantly and positively affected by perceived attractiveness (p < .01). The random effect (intercept) was significant (p < .05). In other words, subjects differ from each other significantly (see Table 20).

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval Lower	Confidence Upper
Intercept	3.386	1.329	2.547	.012	0.748	6.024
РА	0.247	0.076	3.233	.002	0.095	0.398

Table 20. The first generalized mixed model indicating the likelihood of wanting to have sex (female data)

Before testing the second model, it was shown that there was a multicollinearity between perceived attractiveness and trustworthiness (see Table 38, Appendix F).

Due to multicollinearity, except trustworthiness, other variables were placed in the second model. The effect of attractiveness was significant and positive (p < .01). The random effect was significant (p < .05). The effect of promiscuity, interest in a relationship, and reaction time were insignificant (p > .05). To examine the second model in detail, see Table 21 below.

95% Model Coefficient Std. t Confidence Sig. Term Error Interval Lower Upper .012 6.858 Intercept 3.864 1.508 2.562 0.870 PA 0.322 0.090 .001 3.560 0.142 0.502 PP -0.103 0.164 -0.533 .595 -0.488 0.281 PI -0.081 0.146 -0.552 .582 -0.370 0.209 RT 0.033 0.097 0.344 .731 -0.159 0.226

Table 21. The second generalized mixed model indicating the likelihood of wanting to have sex (female data)

Compared to the first model including only attractiveness, -2Loglikelihood value was increased (df (3) = -6.015, p>.05). Although that increase was not significant, it might indicate that the first model was fit better. To examine the fitness of the first model visually, please see *Figure* 31 below.



*Figure* 31. The fitness of the first generalized mixed model indicating the likelihood of wanting to have sex (female data). \*SSI1F (Safe Sex Question 1): It stands for "the likelihood of wanting to have sex" for female participants

For males, the likelihood of using condom is significantly and negatively affected by perceived attractiveness (p < .05). The random effect (intercept) was not significant (p>.05), indicating that subjects did not significantly differ from each other (see Table 22).

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval Lower	Confidence Upper
Intercept	6.300	26.259	0.240	.811	-45.773	58.373
РА	-0.133	0.053	-2.505	.014	-0.238	-0.028

Table 22. The first generalized mixed model indicating the likelihood of using condom (male data)

As a second model, all attributes (attractiveness, trustworthiness, promiscuity, interest in a committed relationship) and reaction time were placed in the model (see Table 23). The effect of perceived attractiveness was negative and significant (p<.05) and the random effect were significant (p<.01). The effect of other variables was insignificant (p>.05).

Table 23. The second generalized mixed model indicating the likelihood of using condom (male data)

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval	Confidence
		2			Upper	Lower
Intercept	6.226	0.696	8.941	.000	4.845	7.608
PA	-0.132	0.057	-2.323	.022	-0.245	-0.019
PT	-0.004	0.044	-0.089	.929	-0.092	0.084
РР	0.009	0.030	0.306	.761	-0.050	0.069
PI	-0.014	0.027	-0.521	.603	-0.066	0.039
RT	0.045	0.029	1.559	.122	-0.012	0.103

Compared to the first model including only attractiveness, -2Loglikelihod value was increased (df (4) = -17.574, p <.01). Therefore, the first model fits better. To visually examine the fitness of the first model, see *Figure* 32 below.



*Figure* 32. The fitness of the first generalized mixed model indicating the likelihood of using condom (male data). \*SSI2 (Safe Sex Question 2): It stands for "the likelihood of using condom"

For females, none of the attributes could significantly affect the likelihood of condom use (see Table 24). The random effect was significant (p < .01) and the attractiveness did not have a significant effect (p > .05).

Model Term	Coefficient	Std. Error	t	Sig.	95% Interval	Confidence
					Lower	Upper
Intercept	6.750	1.296	5.206	.000	4.177	9.323
PA	-0.024	0.049	-0.492	.624	-0.121	0.073

Table 24. The first generalized mixed model indicating the likelihood of using condom (female data)

When other variables (promiscuity, interest in a committed relationship, and reaction time) were added to the model (see Table 25), the random effect was still significant (p < .01) and none of the variables had a significant effect (p > .05).

Model	Coefficient	Std. Error	t	Sig.	95%	Confidence
Term					Interval	
					Lower	Upper
Intercept	7.042	1.178	5.980	.000	4.704	9.380
-						
PA	0.023	0.068	0.331	.741	-0.113	0.158
PP	-0.043	0.146	-0.298	.767	-0.333	0.246
Ы	-0.088	0 1 1 0	-0 804	424	-0 307	0 1 3 0
	0.000	0.110	0.001		0.207	0.120
RT	0.002	0.073	0.033	974	-0 143	0 148
111	0.002	0.075	0.055		0.1 +5	0.110

Table 25. The second generalized mixed model indicating the likelihood of using condom (female data)

However, in the second model, -2Loglikelihood was increased (df (3) = 57.477, p<.01), therefore, the first model was a better model. To visually examine the fitness of the first model, see Figure 33 below.



*Figure* 33. The fitness of the first generalized mixed model indicating the likelihood of using condom (female data). \*SSI2 (Safe Sex Question 2): It stands for "the likelihood of using condom" for the female participants

Reaction Time Data: Participants' reaction time data to the profiles on *ImeetU* were collected. To examine descriptive statistics, please see Appendix E (Table 35 for male participants & Table 36 for female participants).

Analysis of descriptive statistics were indicated that reaction time data for both females and males were non-normal and there were outliers. To examine the data and outliers visually, please see *Figure* 34 for "like" and *Figure* 35 for "not like".



Figure 34. Reaction time data of sending likes for females and males



Figure 35. Reaction time data of sending passes (not like) for females and males

Due to this non-normal distribution with outliers, median values for each participant were used while conducting analyses. For both males and females, it was found that while "giving likes", reaction time was significantly longer (z = -3,33, p < .01; z = -3.98, p < .01, respectively). The comparison between male and female reaction times when giving "likes" indicated that there was no significant difference (z = -.95, p > .05). Concerning giving "not likes (passes)", there was a marginal difference (p = .06)between males and females (z = .-1.88, p > .05), indicating that females were faster. In terms of the number of likes and passes given, males and females did not significantly differ (z = -1.32, p > .05; z = -1.13, p > .05, respectively). Wilcoxon test was preferred for that analysis as the distribution was non-normal for both genders. For males, Shapiro-Wilk test indicated that the distribution of likes and not likes: D (18) = .88, p<.05 were not normal. Concerning females, the distribution of likes, D (21) = .86, and of not likes: p < .01; D(21) = .87, p < .05 were not normal. However, interpretation should be carefully done regarding the comparisons between males and females. The reason being that different stimuli were shown to males and females, therefore, an exact comparison could not be done.

About-part Check: In the fake profiles, there was an "About" part. It was left empty, however, the data of whether participants checked the About part or not were collected. 5 male and 5 female participants checked the About part of one profile. 1 female participant checked the About part of the two profiles. The reaction time to the profiles whose About part was checked was given along with the mean reaction time of the participant in question. Moreover, the attributes given to the images of those profiles were provided below (see Table 26).

Participants' gender	Reaction Time	Mean Reaction Time	Attract.	Promiscuity	Interest in a committed relationship	Trustwor.	Like/Not Like
Male	19.154	4.78	4.87	4.77	6.45	4.80	Like
Male	11.102	3.12	6.75	5.80	7.63	6.31	Like
Male	22.438	3.41	5.21	5.76	5.60	4.90	Not Like
Male	13.936	2.95	6.81	3.23	6.73	5.84	Like
Male	12.936	1.54	6.81	3.23	6.73	5.84	Not Like
Female	19.837	1.20	2.12	4.93	5.72	3.61	Not Like
Female	18.670	4.42	5.40	5.64	7.96	5.63	Like
Female	10.685	1.54	1.06	3.62	6.10	2.77	Not Like
Female	21.071	3.73	2.25	5.83	5.70	3.48	Like
Female*	20.254	2.29	.54	4.42	6.06	2.12	Not Like
Female*	8.502	2.29	3.64	5.48	5.96	3.67	Not Like

Table 26. The descriptives of the profiles whose "About" part was checked

Note: Participants with "\*" are the same participants.

Note 2 :"Attract". stands for attractiveness, and "Trustwor." stands for trustworthiness.

Concerning reaction times (of males), maximum values of reaction times were the profiles whose About parts were checked. Among female participants, 4 of the profiles whose About parts were checked are the ones with the highest reaction times.

## **CHAPTER 6**

## DISCUSSION

### 6.1 Discussion of the first pre-study

There were two aims to conduct this study. The first aim was to find the attractiveness and trustworthiness ratings of the photos which will be used in the main study. This was done successfully. The second aim was to evaluate clarity of the questions (related to likelihood of wanting to have sex and of using condom) to be used in the main study. The evaluations indicated that the items were understandable.

Along with those aims, exploratory correlational analyses were conducted. The results were in line with the previous findings in the literature. Firstly, the correlation between perceived physical attractiveness and perceived trustworthiness was examined. According to the "what is beautiful is good" hypothesis, attractive people are typically attributed positive qualities (Dion, Berscheid, & Walster, 1972). For instance, it was found that more attractive hypothetical defendants were evaluated as more trustworthy compared to their less attractive counterparts (Darby & Jeffers, 1998). In this current study, in line with the previous findings, it was observed that perceived physical attractiveness and perceived trustworthiness are positively and strongly correlated for both sexes.

Relatedly, Dion, Berscheid & Walster (1972) reported that physically attractive individuals are thought to have socially desirable personality traits compared to their unattractive counterparts, and they are expected to have better lives. Dion et al. named this judgment as "what is beautiful is good stereotype". Several follow up studies replicated Dion et al.'s findings, indicating that the stereotype is robust. For instance, Darby & Jeffers (1988) conducted an experiment including a hypothetical court trial where there were attractive and unattractive defendants. It was found that participants rated the more attractive defendants as more trustworthy, likeable and happy. This judgment also influenced their behaviors, as attractive defendants were convicted less and the punishment they got was less severe. Similarly, a meta-analytic review by Ritts, Patterson & Tubbs (1992) showed that teachers tended to evaluate the physically attractive students as more intelligent and having more academic potential in addition to having various social skills. In line with those findings, in this current study, it was reported that physical attractiveness and perceived trustworthiness are positively and strongly correlated for both sexes.

Continuing with exploratory analyses, the current study's sample and the sample from the study in which the first face data set was compared (Talamas, Mavor, Axelsson, Sundelin, & Perrett, 2016). There was a significant difference between those two samples in terms of attractiveness ratings. The Turkish sample gave lower ratings to both male and female photos (z = 7.13, p < .01; z = -2.53, p < .05, respectively). However, the mean age of those two samples were (The current study's sample:  $M_{age}$ = 27.40, SD = 3.82, N = 64; the sample of Talamas, Mavor, Axelsson, Sundelin, & Perrett's (2016) study:  $M_{age} = 38.11$ , SD = 10.41, N = 140) different. That could have affected their attractiveness ratings. Moreover, in this current study, female participants rated the male photos and male participants rated the female photos. However, in Talamas, Mavor, Axelsson, Sundelin, & Perrett's (2016) study, all participants rated all the images. That could have affected their ratings as well. For instance, it was shown that younger and attractive targets were evaluated as "equal" in terms of social desirability. However, older male judges perceived older attractive targets as less socially desirable compared to younger ones (Perlini, Bertolissi, & Lind, 1999). This study (Perlini, Bertolissi, & Lind, 1999) shows the effect of age of the judges on evaluations. Moreover, as only males perceived younger ones as more socially desirable not females, the effect of gender of judges is also shown. As stated, two samples from two studies were different age wise and while in this study, males were judges for only female photos and the other way around, in another study, all judges evaluated all photos in terms of attractiveness. It is thought that the difference between those two ratings given by two samples can be explained via different sample characteristics. Older judges (in Talamas, Mavor, Axelsson, Sundelin, & Perrett, 2016) gave higher attractiveness ratings compared to younger judges in this current study to the photos whose average ages were comparatively younger than the older judges (Female photos:  $M_{age} = 23.22$ , SD = 3.74; Male photos:  $M_{age} = 25.3$ , SD = 4.64).

Thirdly, the correlation between perceived self-attractiveness and perceived physical attractiveness of others was examined. Buss & Schakelford (2008) found that as females' own attractiveness increase (which was measured by observer ratings), their standards for potential partners also increase to secure their genes. To explain further, the underlying reason for this relationship could stem from the fact that necessary parental investment duration is, by nature, longer for females (Trivers, 1972) as there is a 9-month gestation period. That is to say, females can have only one offspring in a period of 9 months when they are impregnated. Therefore, they act more picky compared to males (Buss, 1994). However, not all females can be picky in terms of physical attractiveness of the potential partner. Only females who are high in attractiveness of a potential partner.

Before connecting the findings of Buss & Schakelford (2008)'s study to the current findings, the difference between those two studies should be noted. In Buss & Schakelford (2008)'s study, observer-rated data of physical attractiveness were used while in this current study perceived self-attractiveness data were used. Despite that difference, the results were in line with Buss & Schakelford (2008)'s study. It was found that the correlation between perceived self-attractiveness and perceived physical

attractiveness of others among the female participants was negative, and small to medium in strength, although as the p value was greater than .05, generalizability was in question. The reason why this finding is in line with Buss & Schakelford (2008)'s study despite the difference between those studies might be explained by the personality factor "agreeableness". It was reported that females high in agreeableness can judge their mate-value more accurately (Back, Penke, Schmukle, & Asendorph, 2011). In this current study, agreeableness scores of females were rather high (see Table 1), therefore, it is possible that they judged their attractiveness value accurate enough to produce a similar result with a study using observer-rated attractiveness data.

Concerning males, however, the literature shows that perceived self-attractiveness and perceived attractiveness of others are positively correlated (Sim, Saperia, Brown, & Bernieri, 2015). In other words, as males find themselves more attractive, they find others more attractive as well. This finding can show an innate mating strategy to increase reproductive success. That is to say, finding others more attractive would result in an increase in the potential number of mates especially if the male is in question is attractive. For males, having a higher number of potential mates would mean having more reproductive success as their necessary parental investment is only passing their sex cells to females (Buss, 1994; Trivers, 1972). In line with the literature, in this current study, it was shown that the male participants' perceived self-attractiveness and perceived physical attractiveness of others were positively (small to medium) correlated though it should be noted that the p value was greater than .05, which puts generalizability in question.

In this study, using two different face data sets were claimed to be necessary as it was shown that morphed images were rated as more attractive than real images (Braun, Gruendl, Marberger & Scherber, 2001). In line with that finding, the highest attractiveness ratings (6.81 for female photos; 6.96 for male photos) were given to the photos from the second face data set which was consisted of morphed images.

The limitation of this study might be that the two different photo databases were used to form a stimulus set. However, it was justified by the fact that photos considered as "very attractive" was required for the main study. Previously, it was shown that morphed photos were rated as more attractive than the real photos (Braun, Gruendl, Marberger, & Scherber, 2011). For that reason, morphed photos in the second face data set were required. Furthermore, in both face data sets, the expressions were neutral and no jewellery was used. Therefore, slight differences come only from lightning and the focus.

In summary, perceived attractiveness and perceived trustworthiness ratings of the photos which will be used in the main study were collected from a sample of Turkish participants. Moreover, exploratory correlational analyses were conducted. Those analyses yielded results which were in line with the previous literature. It was found that perceived physical attractiveness and perceived trustworthiness are significantly and positively correlated for both sexes. Furthermore, perceived self-attractiveness

and perceived physical attractiveness of others are negatively correlated for females (p>.05); while for males, the correlation is positive (p>.05). Lastly, it was shown that the participants of the current study gave lower attractiveness rates to the images compared to the sample in Talamas, Mavor, Axelsson, Sundelin, & Perrett's (2016) study. The possible reason for that tried to be explained via the demographics of the samples.

## 6.2 Discussion of the second pre-study

The purpose of this study was to obtain the perceived promiscuity and perceived interest in a committed relationship ratings for each photo to be used in the main study. This was achieved successfully. Furthermore, exploratory correlations were calculated between perceived physical attractiveness (from the first study) and perceived promiscuity; and between perceived trustworthiness (from the first study) and perceived interest in a committed relationship. First, the correlation between perceived attractiveness and perceived promiscuity was analyzed. The results were in line with the previous literature. It was found that perceived physical attractiveness and perceived promiscuity were strongly correlated for males; and for females, the correlation was medium to strong. In 1972, Dion, Berscheid, and Walster reported an effect named as the "Halo Effect". Accordingly, attractive people were attributed to socially desirable personality traits. Later, in 1981, Lucker, Beane, and Helmreich found the three specific attributes that are usually associated with attractiveness, which are; perceived sexiness, perceived masculinity/femininity/ and likeability. Furthermore, in 1982, Tanke reported that attractiveness and factor-analytic trait of Sexual/Social Excitement are largely correlated. The sub-components of that trait are perceived sexual warmth, sexual arousal and excitement. In other words, literature shows that mate selection and sexual attraction related traits are positively correlated with attractiveness. In line with those results, a recent study conducted by Pollock (2012) reported that perceived attractiveness and perceived promiscuity are largely correlated for males. In this current study, findings in the literature were replicated as significant correlation between perceived attractiveness and perceived promiscuity were reported for both sexes.

The second exploratory correlation was analyzed between perceived trustworthiness and perceived interest in a committed relationship. It was found that perceived trustworthiness and perceived interest in a committed relationship was strongly correlated for both sexes. In human's evolutionary past, females who mated with an unreliable males had to raise their offspring without being supported in terms of resources and protection by their mates (Buss, 1994). Therefore, for females, perceived trustworthiness and interest in a committed relationship must have been evolved to correlate. In fact, being in a committed relationship was also important for males due to paternity uncertainty. Males who did not commit for a female for at least some time risked their paternity (Buss, 1994). For instance, an insect kind, Plecia nearctica (lovebug) keeps copulating up to three days to ensure paternity (Thornhill & Alcock, 1983). The solution for the paternity uncertainty problem for humans is to have a committed relationship. Therefore, for males as well, perceived trustworthiness and perceived interest in a committed relationship must have been evolved to correlate. In line with evolutionary logic, our current study showed that a large correlation exists between perceived trustworthiness and perceived interest in a committed relationship.

#### Limitation

The limitation of that study is the same with the first rating study as the same face data sets were used.

### Conclusion

In summary, perceived promiscuity and perceived interest in a committed relationship ratings of the photos which will be used in the main study were collected. Moreover, exploratory correlational analyses were conducted. Those analyses yielded results which were in line with the previous literature. It was found that perceived physical attractiveness and perceived promiscuity, and perceived trustworthiness and perceived interest in a committed relationship are significantly and positively correlated for both sexes.

### 6.3 Discussion of the main study

The aim of this study was to explore the effect of perceived attractiveness on likelihood of wanting to have sex and using condom among online daters via a dating app simulation. As predicted, it was found that perceived attractiveness causes an increase in the likelihood of wanting to have sex for both males and females (t (14) = 2.16, p <.05; t (18) = 2.84, p <.05, respectively). This finding is both in line with evolutionary explanations and the previous findings in the literature (see Figure 36).



*Figure* 36. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of wanting to have sex

Concerning evolutionary explanations, it was suggested that attractiveness is used as a cue for fertility and healthiness. In line with that explanation, certain findings were listed from the literature in the introduction part. For instance, it was shown that as attractiveness of the potential partner increases, the likelihood of wanting to have sex increases for both males and females (Eleftheriou, Bullock, Graham, Stone, & Ingham, 2016; Lennon & Kenny, 2013, respectively).

The second hypothesis of this study was that perceived attractiveness will negatively affect the likelihood of using condom. The idea behind this prediction was that attractiveness would signal health and people would not feel vulnerable against being contracted with STIs. Even with a small sample (slopes were used for analysis and though there were 18 participants, there were 15 slopes as 3 participant got only one match), the effect was significant for males (z=-1.68, p<.05, one-tailed). Our hierarchical linear model also identified attractiveness as the only significant predictor of likelihood of using a condom for the males. A recent study conducted in 2016 with only male participants also reported a finding in line with that result. Males wanted to use condoms less when the potential partner is judged to be more attractive (Eleftheriou, Bullock, Graham, Stone, & Ingham, 2016). For females, however, no such effect was found in this current study (z = -.338, p > .05). The hierarchical model also corroborated with the outcome of the slope analysis. One reason could be the sample size  $(n = 19 \text{ for slopes as } 2 \text{ participants got only one match i.e., there was no$ slope representing them). The other reason could be that females prefer to be more cautious compared to males. It could be due to the fact that females are more prone to be infected compared to males. Center for Disease Control and Prevention (2011) published a fact sheet explaining that bacteria or virus penetration to vagina is easier compared to penetration to penis. In other words, females are more susceptible to STIs. Therefore, having unprotected sex might be more costly for females than males and for that reason females might intend to act more cautious despite the assumption that attractive men are probably healthy too. However, further research is needed to ensure that comparison/explanation.

The main focus of this research was to explore the effect of perceived attractiveness on un/safe sex intentions of dating app users. After the warning issued by the Rhode Island Health Department (2015) and studies indicating that dating online can increase the prevalence of STIs (McFarlane, Bull, & Rietmeijer, 2000; Couch, Liamputtong, & Pitts, 2012; Chan & Ghose, 2013), this area became a fertile research topic. For instance, in 2013, it was shown that using Craig's list (advertisement page) for dating is responsible from the 15.9 % of HIV increase in the United States (Couch et al., 2013). This finding is crucial since it provides evidence for the effect of internet use in the spread of STIs. However, using Craig's list for dating purposes does not explain the effect of dating app use on the spread of STIs, since dating apps works differently than personal advertisement pages. This has motivated studies that focus on dating app environments.

In a recent study focusing on dating apps, it was reported that dating app users use condom less (Choi, Wong, Lo, Wong, Chio, & Fong, 2016). Choi et al. employed the survey methodology to arrive at this conclusion. The dating app simulation developed as part of this thesis study provides further opportunities for investigating possible factors contributing to this outcome as compared to a survey instrument. During debriefing our participants reported that they found the setup belieavable and they actually thought that they were using a real dating application. Therefore, the participants were expecting a certain outcome, which makes the dating app simulation methodologically stronger as compared to a survey instrument including responses to
hypothetical dating situations. Furthermore, studying the effect of perceived attractiveness on un/safe sex intentions along with the desire to have sex is a recent topic in the literature. For instance, in 2016, it was reported that perceived attractiveness is a significant predictor of desire to have sex and it is inversely related with the willing to use condom (Eleftheriou, Bullock, Graham, Stone, & Ingham, 2016). However, Eleftheriou et al.'s study focuses only on male participants. In the current study, both females and males were tested. Moreover, Eleftheriou et al. employed a survey instrument to collect data. When people do not expect a real consequence, their responses to survey items might change; therefore, collecting data with an application simulation rather than using a survey would be advantageous. Similarly, in 2013, Lennon & Kenny conducted a study and reported that women rated attractive men as more likely to have STIs. However, they were willing to have sex with them and their willingness were almost the same in conditions with condom and without condom. Lennon & Kenny's important findings indicated that for women having sex with and without a condom was almost the same if attractive men were their potential partners. However, the participants of that study included only females; therefore, our study is more comprehensive gender wise.

In this study, it was observed that when it comes to desire to have sex, humans use the evolutionary heuristic, "who is attractive is healthy". That is to say, people want to copulate with the attractive ones (Buss, 1994) just like peahens preferring peacocks with more brilliant plumage (Darwin, 1871). Secondly, it was shown that males do not want to use condoms with attractive females. This finding is in line with the heuristic that attractive individuals are perceived as healthy individuals (see *Figure* 37 below).



Figure 37. The diagram indicating the use of who is attractive is healthy heuristic for the likelihood of using condom

Therefore, it was observed that (except for females in terms of willingness to use condom) the evolutionary heuristic, "attractive ones are the healthy ones" holds true while using dating apps. Males' decisions to use protection (condoms) and both male's and female's desire to have sex were indicated to be in line with evolutionary psychological adaptations (or heuristics) in this study. To put it another way, rational decision making does not occur in this context; rather heuristics (evolutionary psychological adaptations) are used when deciding on having sex (for both sexes) or using condom (for males).

Exploratory analyses were also carried out in this study. While participants use the dating app simulation, their reaction time the profiles were collected. It was found that

when both males and females pass (not like) a profile, they were significantly faster compared to when they liked the profile (z = -3.33, p < .01, z = -3.98, p < .01, respectively). This might be related to the face data sets being used in this study. The mean attractiveness value for female photos was 3.72 (on a scale to 0 to 10) and the maximum attractiveness value given was 6.81 (Min: 1.15, SD: 1.25). For male photos, the mean attractiveness value was 2.02 and the maximum attractiveness value given was 6.96 (Min: 0.32, SD: 1.52). The reaction time differences can be explained via the attractiveness ratings. To unattractive profiles, participants might have given passes without thinking much. There were 6 female and 1 male photos with the ratings around 5, and 3 female and 2 male photos with the rating around 6. The fact that there was not any profile above the attractiveness rate of 7 might explain the reason why people took longer time while deciding on giving likes. Moreover, there was an asymmetry between giving likes and passes (not like). There were only few likes given by both sexes (the mean of the likes given by males: 10.94, and by females: 8.42). Males and females did not differ in terms of reaction time while giving likes (z = -.95, p > .05). Concerning the reaction time of giving passes, there was a marginal difference (z =.188, p = .06). Females decided faster compared to males. The number of likes and passes given did not significantly differ between males and females (z = -1.32, p > .05; z = -1.13, p>.05, respectively). However, the comparison between males and females should be interpreted with caution. The reason being that they saw different stimuli (profiles) and therefore, an exact comparison is not possible.

Lastly, the data indicating whether the About parts of the profiles were checked or not was collected. The About parts of the profiles were left empty. Yet, 5 male (out of 18) and 5 female (out of 21) participants, checked the About parts of one profile. Concerning males, 2 profiles' created with the first face data set and and 2 profiles' created with the second face data set About part were checked. One profile (created with the second face data set) was checked by 2 males. Concerning females, 1 profile's (created by using a photo from the second face data set) and 4 profiles' (created by using photos from the first face data set) About part were checked. The second face data set is created with the morphed images (Braun, Gruendl, Marberger & Scherber, 2001) and the first face data set was created with real photos (Talamas, Mavor, Axelsson, Sundelin, & Perrett, 2016). From this limited number of data, it is observed that profiles created with both face data sets, were checked by the participants. Therefore, it is possible that in terms of evoking interest or uncertainty, there might not be any difference between these two face data sets.

# 6.3.1 Significance

The dating app simulation developed as part of this thesis can be considered as a methodological contribution for future studies focusing on decision making processes mediated by dating apps. As explained earlier, the developed simulation increases the control of key factors during the experiment. Moreover, future work can build on this environment to explore additional factors contributing to mating decisions online. For instance, the About part of the profiles were left empty in this study, however, it can be systematically manipulated in future studies. For example, a study focusing on the effect of personality on unsafe sex intentions in online dating, can use the About part

of the fake profiles to present sentences indicating one type of personality, such as sensation- seeking and test the responses towards (receiving like/passes) those profiles. It was already found that high sensation seeker individuals perceive their potential partners as less risky (Henderson, Hennesy, & Barrett, 2005). However, with such a study, the preference or avoidance towards, sensation seeking individuals in online dating can be documented. Moreover, the effect of socioeconomic status of the person can be explained in the About part, therefore, the effect of economic status on receiving likes in dating apps can be explored. It was suggested that females value resources in males (Buss, 1994). The strength of that effect or whether that effect is true for females only in online dating can be studied through a dating app simulation.

Secondly, to the best of our knowledge, this thesis is the first study exploring the effect of perceived attractiveness on the likelihood of condom use in online dating environments including both genders. So far, studies either focused on males (Eleftheriou, Bullock, Graham, Stone, & Ingham, 2016) or females only (Lennon & Kenny, 2013).

### 6.3.2 Limitations

The weakness of this study comes from the fact that real-life mating behaviors in real dating app settings were not directly investigated. If that study could have been conducted by using a real dating application (in partnership with the dating app company), then the participants could have met with their matched partners and their actual intention and behavior of using condom could have been studied. However, to do that, one has to rely on a self-report of the participants. To avoid reliance on self-reports, a dating app simulation may be preferable even at the cost of a reduction in ecological validity. Lastly, collaborating with a dating app company might not be possible due to ethical and privacy concerns. Sharing any information without the knowledge of the user can create legal problems and if they notify their users, then the ecological validity would be reduced just as it did in this current thesis.

Moreover, this thesis assumed that the participants (users of the dating app simulation) perceived it as a risky environment. This assumption is based on a study indicating that online daters perceive it as a risky environment and the risks include the contraction of STIs (Couch, Liamputtong, & Pitts, 2012). Asking the participants whether they found the dating apps as a risky environment or not could have affected their responses indicating their likelihood of condom use. Similarly, if it was asked after the participants responded to the question related to condom use, their response towards the riskiness of the dating app environment might have changed. The reason why comes from the fact that people do not like to have inconsistency between their behaviors and opinions as explained in the Cognitive Dissonance Theory (Festinger, 1957). In other words, if they claimed that the environment is risky, they would not have liked to give lower ratings for their likelihood of condom use, they and if they gave lower ratings for the likelihood of condom use, they would not have liked to state that the environment is indeed risky. In short, although it is best to ask asking whether dating apps are risky or not, it is associated with certain costs explained above.

# 6.3.3 Applications

This study indicated that perceived attractiveness inversely predicts the intention to use condom among male dating app users. Therefore, it is important to take some measure against it. One might argue that this finding was not significant for females, therefore, the situation might not be very alarming. However, it should be noted that although using condom is a decision made by both genders, males might have an important share in this decision as male condoms are more common than female condoms. For instance, in a study conducted in Aydın Obstetrics and Pediatry Hospital, Turkey, it was shown that female condoms are not preferred much among women (Aksu, Balkaya, Özsoy, & Demirsoy, 2015). Moreover, it was also reported that during counselling, female condoms are not suggested (Aksu, Balkaya, Özsoy, & Demirsoy, 2015). In areas where female-initiated barrier method is not common, male intention to use condom might be more important. Therefore, males should be encouraged to use condom even if their partner is attractive. Moreover, female condoms should be encouraged more, as females were shown to be more cautious in this study. That way, it might be possible to prevent the spread of STIs at least to some extent.

Furthermore, in sexual education materials, the explanation about how perceived attractiveness can change our decision making concerning condom use and the reason why it should not change our decision making can be added.

Moreover, dating apps might encourage people using condom by emphasizing the fact that partner's attractiveness might not mean that they are STI-free as most STIs are symptom-free (WHO, 2016) or they might encourage information share about STI status.

Concerning the second suggestion, recently there is an attempt to encourage people to share STI information. In 2017, STI-verified dating app called NeatClub has been released in app stores (Burns, 2017). The founder Ashka Shah (2017) described their motivation as follows; "We want people with life-long STIs to feel comfortable coming forward with their status, and to know that an awesome sex life is possible. We don't want to judge anyone and recent "slut shaming" culture ignores that it just takes one person to get an STI" (as cited in Burns, 2017).

The users of NeatClub are supposed to be tested once in every four months. Accordingly, in every four months, STI status of the user will be updated. The collaborations with testing facilities for arrangement of lab-to-app pipeline has started. However, it is also acknowledged that the app cannot guarantee 100% STI-free partners. Apps like NeatClub might be tried in Turkey as well. The reason being that perceived attractiveness affects condom use inversely for males and encouraging people to share their STI status and encouraging them being tested every 4 months can be preventive of the spread of STIs to some extent.

## CHAPTER 7

### **CONCLUSION**

In summary, in this study, the effect of perceived attractiveness on the desire to have sex and on intention to use condom was tested in a dating app setting. Moreover, a new methodological tool (i.e., use of dating app simulation) which increases experimental control was introduced. The findings indicated that perceived attractiveness significantly and positively affect the desire to have sex while using dating apps for both genders. Secondly, it was found that perceived attractiveness inversely affects the intention to use condom for male dating app users. Therefore, attractiveness remains to be a strong factor over un/safe sex intentions even in a risky setting such as dating app environment. The findings were shown to be in line with the evolutionary psychological adaptations, which manifest themselves as heuristics. That is to say, when the situation is uncertain and included risk, males tended to take risks and use condom less if their partners are attractive. This might be explained by the use of "who is attractive is healthy" heuristic. Another finding of this study which shows that perceived attractiveness positively affects the desire to have sex for both genders can be explained by the use of "who is attractive is healthy" heuristic as well. Moreover, the findings pointed out a possible contribution regarding a risk factor associated with the spread of STIs through dating app use, as males' intention to use condoms lower with perceived attractiveness of the profiles. Related to that, there can be certain practical application areas (e.g., using findings in the sexual education material, or dating apps encouraging condom use even with attractive partners) for the findings of this study which was detailed in the Application part above. Concerning the academic contribution of the study, apart from catering to the gap in the literature explained in the Introduction part (i.e., investigation of the possibly risky environmentdating apps with a controlled experiment), the future studies are suggested to use dating app simulations to systematically explore factors contributing to the decision making processes of people in these new forms of mating environments.

#### REFERENCES

- Agocha, B. V. & Cooper, L.M. (1999). Risk perceptions and safer-sex intentions: Does a partner's physical attractiveness undermine the use of risk-relevant information? *Personality and Psychology Bulletin, 25*(6), 751-765.
- Anderson, M.J., Hessel, J.K., & Dixson, A.F. (2004). Primate mating systems and the evolution of immune response. *Journal of Reproductive Immunology*, *61*, 31-38.
- Atak, H. (2013). On-maddeli kişilik ölçeği'nin Türk Kültürü'ne uyarlanması. Nöropsikiyatri Arşivi Dergisi, 50, 312-319.
- Aksu, H., Balkaya, N.A., Özsoy, S., & Demirsoy, G. (2015). Yaygın kullanılmayan aile

planlaması yöntemlerine ilişkin kadınların bilgi ve görüşleri, Kashed, 2(1), 59-71.

- Ay, P. & Karabey, S. (2006). Is there a "Hidden HIV/AIDS Epidemic" in Turkey? The gap between the numbers and the facts. *Marmara Medical Journal*, 19(2), 90-97.
- Back, M.D., Penke, L., Schmukle, S.C., Sachse, K., Borkenau, P., & Asendorpf, J.B. (2014). Why mate choices are not as reciprocal as we assume: The role of personality, flirting, and physical attractiveness. *European Journal of Personality*, 25(2), 120-132.
- Bodenhausen, G.V., Wyer, R.S. (1985). Effects of stereotypes in decision making and information processing strategies. *Journal of Personality and Social Psychology*, 48(2), 267-282.
- Bolker, B.M., Brooks, M.E., Clark, C.J., Geange, S.W., Poulsen, J.R., Stevens, M.H.H., & White, J-S.S. (2009). Generalized linear mixed models: A practical guide for ecology and evolution. *Trends in Ecology & Evolution*, 24 (3), 127-135.
- Bulduk, S. & Erdogan, S. (2012). The effects of peer education on reduction of the HIV/Sexually transmitted infection risk behaviors among Turkish university students. *Journal of The Association of Nurses in AIDS Care, 23*(3), 233-243.
- Burns, J. (21 May, 2017)."STD-Verified" Dating App Is Startup Culture Via Nutshell: Frank, Unchecked, Inevitable. Retrieved July 8, 2017, from https://www.forbes.com/sites/janetwburns/2017/05/21/std-verified-dating-app-isstartup-culture-via-nutshell-frank-unchecked-and-inevitable/#1a8399b1feb1
- Braun, C., Gruendl, M., Marberger, C., & Scherber, C. (2001). *Beautycheck-Ursachen* und folgen von attraktivitaet report.

- Buss, D.M. & Schmitt, D.P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100(2), 204-232.
- Buss, D.M. (1994). *The evolution of desire: Strategies of human mating*. Revised and expanded edition. Basic Books.
- Buss, D.M. & Schakelford, T.K. (2008). Attractive women want it all.: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology*, 6(1), 134-146.
- CDC Fact Sheet. 10 Ways STDs Impact Women Differently from Men. (2011). Retrieved July 8, 2017, from https://www.cdc.gov/std/health-disparities/stds-women-042011.pdf
- Chan, J., & Ghose, A. (2013). Internet's dirty secret: Assessing the impact of online intermediaries on HIV transmission. *MIS Quarterly, 38* (4), 955-976.
- Choi, E.P., Wong, J.Y., Lo, H.H., Wong, W., Chio, J.H., & Fong, D.Y. (2016). The association between smartphone dating applications and college students' casual sex encounters and condom use. *Sexual & Reproductive Healthcare*, *9*, 38-41.
- Civic, DCochran, S.D., & Mays, V.M. (1990). Sex, lies and HIV. The New England Journal of Medicine, 322, 774-775.
- Cochran, S.D. & Maysi, V.M. (1990). Sex, lies and HIV. The New England Journal of Medicine, 322, 774-775.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. 2<sup>nd</sup> Edition. Hillsdale New Jersey: Erlbaum.
- Cooper, M.L., Agocha, V.B., & Powers, A.M. (1999). Motivations for condom use: Do pregnancy prevention goals undermine disease prevention among heterosexual young adults? *Health Psychology*, 18(5), 464-474.
- Couch, D., Liamputtong, P., & Pitts, M. (2012). What are the real and perceived dangers of online dating? Perspectives from online daters. *Health, Risk & Society, 14* (7-8), 697-714.
- Darwin, C.R. (1871). *The descent of man and selection in relation to sex*. London: John Murray.
- Darby, B. & Jeffers, D. (1988). The effects of the defendant and juror attractiveness on simulated courtroom trial decisions. *Social Behavior and Personality*, *16*, 39-50.
- Dion, K., Berscheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology*, 24(3), 285-290.

Drell, C. (2017). Sex, Super Likes, Five Years of Tinder, Glamor, 113-116.

- Eleftheriou, A., Bullock, S., Graham, C.A., Stone, N., & Ingham, R. (2016). Does attractiveness influence condom use intentions in heterosexual men? An experimental study. *BMJ Open*, *6*(6).
- Erenel, A. & Gölbaşı, Z. (2010). Unprotected sexual intercourse and unplanned pregnancy experience of Turkish university students. *Sexuality and Disability*, 29(1), 75-80.
- Festinger, L. (1957). A theory of cognitive dissonance. Evanston, IL: Row & Peterson.
- Field, A. (2009). Discovering statistics using IBM SPSS statistics. 4<sup>th</sup> Edition. SAGE Publications.Ghasemi, A. & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. International Journal of Endocrinology Metabolism, 10(2), 486-489.
- Foo, Y.Z., Simmons, L.W., & Rhodes, G. (2017). Predictors of facial attractiveness and health in humans. Scientific Reports, 7, doi: 10.1038/Srep39731.
- Ford, C.S., & Beach, F.A. (1951). Patterns of sexual behavior. New York: Harper & Raw.
- Furnham, A., Lavancy, M., & McClelland, A. (2001). Waist to hip ratio and facial attractiveness: A pilot study. *Personality and Individual Differences*, 30, 491-502.
- Gazzaniga, M.S. (1998). The mind's past. University of California Press.
- Ghasemi, A. & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology Metabolism*, 10(2), 486-489.
- Gigerenzer, G. (2008). *Rationality for mortals. How people cope with uncertainity*. Oxford University Press.
- Goksel, I. (2006). *Turkey: Virginity and masculinity*. In A Jones (Ed.). *Men of the global south*: a reader, (pp. 55-58). New York; NY: Zed Books.
- Goldberg, L.R., Johnson, J.A., Eber, H.W., Hogan, R., Ashton, M.C., Cloninger, C.R., & Gough, H.G. (2006). The international personality item pool and the future of public-domain personality measures. *Journal of Research In Personality*, 40, 84-96.
- Gosling, S.D., Rentfrow, P.J., & Swann Jr., W.B. (2003). A very brief measure of the Big-Five Personality Domains. *Journal of Research In Personality*, *37*(6), 504-528.
  Harcourt, A.H., Harvey, P.H., Larson, S.G., & Short, R.V. (1981). Testis weight, body weight and breeding system in primates. *Nature*, *293*, 55-57.

- Hamilton, W.D., & Zuk, M. (1982). Heritable true fitness and bright birds: a role for parasites? *Science*, 218 (4570), 384-387.
- Harcourt, A.H., Harvey, P.H., Larson, S.G., & Short, R.V. (1981). Testis weight, bodyweight and breeding systems in primates. *Nature*, 293, 55-57.
- Henderson, V., Hennesy, D., & Barrett, D.W. (2005). When risky is attractive: Sensationseeking and romantic partner selection. *Personality and Individual Differences*, 38, 311-325.
- HIV pozitif bireylere özel çöpçatanlık uygulaması. (2015). Retrieved from July 8, 2017, from http://t24.com.tr/haber/hiv-pozitif-bireylere-ozelcopcatanlikuygulamasi,320809
- Hungerford, M.W. (1886). Moly Bown. A New Edition. Smith, Elder & Co. (London).
- Keller, M.L. (1993). Why don't young adults protect themselves against sexual transmission of HIV? Possible answers to a complex question. *AIDS Education and Prevention*, 5(3), 220-233.
- Kelsey, R. (2015). Dating apps incerasing rates of sexually transmitted infections, say doctors. Retrieved on July 8, 2017, from http://www.bbc.co.uk/newsbeat/article/34008736/dating-apps-increasing-rates-of-sexually-transmitted-infections-say-doctors
- Johnston, V.S., Hagel, R., Franklin, M., Fink, B., & Grammer, R. (2001). Male facial attractiveness. Evidence for hormone-mediated adaptive design. *Evolution and Human Behavior*, 22, 251-267.
- Langlois, J.H., Roggman, L.A., & Reiser-Danner, L.A. (1990). Infants' differential social responses to attractive and unattractive faces. *Developmental Psychology*, 26, 153-159.
- Lennon, C.A. & Renny, D.A. (2013). The role of men's physical attractiveness in women's perceptions of sexual risk. Danger or allure? *Journal of Health Psychology*, 18(9), 1166-1176.
- Lucker, G.W., Beane, W.E., & Helmrich, R.L. (1981). The strength of the halo effect on physical attractiveness research. *The Journal of Psychology*, 107(1), 69-75.
- Margalit, L. (2014, 27 September). Tinder and evolutionary psychology. Retrieved on June 9, 2017 from https://techcrunch.com/2014/09/27/tinder-and-evolutionary-psychology/?ncid=rss.
- Maybin, S. (2016, 12 February). The dating game. Which dating apps are winning the hearts of the world? Retrieved July 8, 2017, from

http://www.bbc.co.uk/news/resources/idt-2e3f0042-75f6-4bd1-b4fe-9056540c65f8

- McFarlane, M., Bull, S.S., & Rietmeijer, C.A. (2000). The internet as a newly emerging risk environment for sexually transmitted diseases. *JAMA*, 284(4), 443-446.
- Nunn, C.L., Gittleman, J.L., & Antonovics, J. (2000). Promiscuity and the primate immune system. *Science*, 290, 1168-1170.
- Nunn, C.L. (2002). A comparative study of leukocyte counts and disease risk in primates. *Evolution*, *56*(1), 177-190.
- Okubo, M., Ishikawa, R., Kobayashi, A., Laeng, B., & Tommasi, L. (2015). Cool guys and warm husbands: The effects of smiling on male facial attractiveness for shortand long-term relationships. *Evolutionary Psychology*, 13(3), https://doi.org/10.1177/14747049/5600567.
- Penke, L. & Asendorpf, J.B. (2008). Beyond global sociosexual orientations. A more differentiated look at sociosexuality and its effects on courtship and romantic relationships. *Journal of Personality and Social Psychology*, 95(5), 1113-1135.
- Perlini, A.H., Bertolissi, S., & Lind, D.L. (1999). The effects of women's age and physical appearance on evaluations of attractiveness and social desirability. *The Journal of Social Psychology*, 139 (3), 343-354.
- Pollock, J. (2012). The halo effect: The influence of attractiveness on perceived promiscuity. *The University of Minnesota Undergraduate Journal of Psychology*, 7, 34-37.
- Positive Singles Review: An Inside look. (2 April, 2017). Retrieved July 8, 2017, from http://justherpes.com/dating/positive-singles-review-our-herpes-dating-sites-list/
- Press Releases. Health Releases New Data on Infections Syphilis, Gonorrhea, and HIV (2015). Retrieved July 8, 2017, from http://www.ri.gov/press/view/24889
- Ritts, V., Patterson, M.L., & Tubbs M.E. (1992). Expectations, impressions, and judgments of physically attractive students: A review. *Review of Educational Research*, 62(4), 413-426.
- Roitt, I.M., Stoff, J.B., & Male, D.K. (1998). *Immunology*. Gower Medical Publishing, London.
- Schmidt, K., Levenstein, R., & Ambadar, Z. (2012). Intensity of smiling and attractiveness as facial signals of trustworthiness in women. *Perceptual and Motor Skills*, 114(3), 964-978.

- Schmitt, D.P. (2005). Sociosexuality from Argentina to Zimbabwe: A 48-nation study of sex, culture, and strategies of human mating. *Behavioral and Brain Sciences*, 28(2), 247-275.Smith, S., McIntosh, W., & Bazzini, D. (1999). Are the beautiful good in Holywood? An investigation of the beauty-and-goodness stereotype on film. *Basic and Applied Social Psychology*, 21, 69-80.
- Sexually Transmitted Infections (STIs) In World Health Organization (WHO) Retrieved 2017, from http://www.who.int/mediacentre/factsheets/fs110/en/
- Sim, S.Y., Saperia, J., Brown, J.A., & Bernieri, F.J. (2015). Judging attractiveness: Biases due to raters' own attractiveness and intelligence. *Cogent Psychology*, 2(1), 996316. https: //doi.org/ 10.1080/23311908.2014.996316.
- Simao, J. & Todd, P.M. (2002). Modelling mate choice in monogamous mating systems with courtship. *International Society for Adaptive Behavior, 10*, https://doi.org/10.1.1.594.9006.
- Simon, H.A. (1990). Invariants of human behavior. *Annual Review of Psychology*, *41*, 1-19.
- Simpson, J.A. & Gangestad, S.W. (1991). Individual differences in sociosexuality: Evidence for convergent and discriminant validity. *Journal of Personality and Social Psychology*, 60(6), 870-883.
- Siyez, D.M. & Siyez, E. (2009). Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklara ilişkin bilgi düzeylerinin incelenmesi. *Türk Üroloji Dergisi, 35*(1), 49-55.
- Smith, M.J.L. et al. (2006). Facial appearance is a cue to oestrogen levels in women. *Proceedings of The Royal Society B: Biological Sciences, 273*(1583), 135-140.
- Smith, C. (2017). 45 Impressive Tinder Statistics (March 2017). Retrieved July 8, 2017, from http://expandedramblings.com/index.php/tinder-statistics/
- Somer, O., Korkmaz, M., & Tatar, A. (2002). Beş Faktör Kişilik Envanteri'nin geliştirilmesi-I: Ölçek ve alt ölçeklerin oluşturulması. *Türk Psikoloji Dergisi*, 17(49), 21-33.
- Tanke, E.D. (1982). Dimensions of the physical attractiveness stereotype: A factor/analytic study. *Journal of Psychology: Interdisciplinary and Applied, 110*, 63-73.
- Talamas, S.N., Mavor, K.J., Axelsson, F., Sundelin, T., & Perrett, D.I. (2016). Eye-lid openness, and mouth curvature influence perceived intelligence beyond attractiveness. *Journal of Experimental Psychology: General, 145*(5), 603-620.

- Tiddeman, B.P., Burt, D.M., & Perrett, D.I. (2001). Prototyping and transforming facial textures for perception research. *Computer Graphics and Applications, 21* (5), 42-50.
- Tinder forecasts rise in paid subscribers, ad revenue (2014). Retrieved on June 9, 2017, from http://adage.com/article/digital/tinder-forecasts-rise-paid-subscribers-ad-revenue/304300/.
- Thompson, S.C., Anderson, K., Freedman, D., & Swan, j. (1996). Illusions of safety in a risky world: A study of college students' condom use. *Journal of Applied Social Psychology*, 26(3), 189-210.
- Thornhill, R. & Alcock, J. (1983). *The evolution of insect mating systems*. Harvard University Press.
- Tracy, J.L. & Beall, A.T. (2011). Happy guys finish last: The impact of emotion expressions on sexual attraction. *Emotion*, 11 (6), 1379-1387.
- Trivers, R. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), Sexual selection and the descent of man (pp.136-179). New York: Aldine de Gruyter. Williams, S.S., Kimble, D.L., Covell, N.H., Weiss, L.H., Newton, K.J., & Fisher, J.D. et al. (1992). College students use implicit personality theory instead of safer sex. Journal of Applied Social Psychology, 22, 921-933.
- Trousdale, G., & Wise, K. (1991). Beauty and The Beast. United States.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science, 185*(4157), 1124-1131.
- Ural, T. & Ozbirecikli, M. (2006). Is ethical judgment influenced by social desirability in responding? An analyse on Turkish accountants. *Çukurova Universitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(1), 393-410.
- Williams, S.S., Kimble, D.L., Covell, N.H., Weiss, L.H., Newton, K.J. & Fisher, J.D. et al. (1992). College students use implicit theory instead of safer sex. *Journal of Applied Social Psychology*, 22, 921-933.
- Yardım, N. & Vardar, C. (2008). Türkiye'de Sağlık Bakanlığı kayıtlarına göre 2000-2005 yılları HIV/AIDS durumu, *Türkiye Klinikleri, 28*, 544-547.

APPENDICES

APPENDIX A

The Data From The Pre-Studies

Photos	n	Mean	Median	Standard deviation
Photo1	32	4.87	5	1.82
Photo2	33	4.06	4	2.56
Photo3	33	4.12	4	1.96
Photo4	33	5.63	6	2.63
Photo5	33	2.84	3	2.10
Photo6	33	4.06	4	2.31
Photo7	33	4.06	4	2.48
Photo8	33	3.33	4	1.83
Photo9	33	5.12	5	2.02
Photo10	33	2.66	3	1.91
Photo11	33	4.36	5	2.42
Photo12	32	2.31	2	2.08
Photo13	33	3	3	2.17
Photo14	33	2.45	2	1.76
Photo15	33	2.15	2	2.20
Photo16	33	3.18	4	2.02
Photo17	32	3.59	3	2.25
Photo18	33	4.39	4	1.86
Photo19	33	2.9	3	2.09
Photo20	33	2.54	3	1.76
Photo21	33	3.24	3	2.00
Photo22	33	4.42	4	2.38

Table 27. The perceived physical attractiveness ratings of the male participants

Photo23	33	4.57	5	2.17
Photo24	33	3.36	3	1.81
Photo25	33	4.03	4	2.56
Photo26	33	5.12	5	2.38
Photo27	33	4.72	5	2.13
Photo28	33	5.21	5	2.53
Photo29	33	2.96	3	2.14
Photo30	33	4.18	4	2.59
Photo31	33	4.42	4	2.20
Photo32	33	2.63	2	2.32
Photo33	33	3.18	3	2.17
Photo34	33	3.48	3	1.73
Photo35	33	3.96	4	2.59
Photo36	33	3.96	3	2.49
Photo37	33	4.21	4	1.99

Photo38	33	1.93	2	1.74
Photo39	33	3.6	4	2.17
Photo40	33	2.24	2	1.85
Photo41	33	2.03	2	1.89
Photo42	32	3.84	4	2.06
Photo43	33	1.15	1	1.48
Photo44	33	4.06	4	2.26
Photo45	33	3.24	3	2.46
Photo46	33	4.57	5	2.16
Photo47	33	5.78	6	1.98
Photo48	33	3.93	4	2.34
Photo49	33	2.57	2	2.43
Photo50	33	4.06	4	2.43
Photo51	33	1.3	1	1.82
Photo52*	33	6.81	7	1.55
Photo53*	33	6.75	7	1.80
Photo54*	33	6.39	7	1.86
Photo55*	33	5.21	6	1.88
Photo56*	32	2.5	2.5	2.15
Photo57*	32	2.43	2	2.16
Photo58*	32	2.62	2	2.19

Photos	n	Mean	Median	Standard deviation
Photo1	31	4.8	5	1.70
Photo2	32	2.93	3	1.74
Photo3	32	4.78	5	1.92
Photo4	32	4.65	5	2.00
Photo5	32	4.43	5	2.35
Photo6	32	4.15	4	1.81
Photo7	32	5.09	5	1.82
Photo8	32	4.03	4	2.07
Photo9	32	5.68	6	1.73
Photo10	32	4.75	5	2.18
Photo11	32	3.78	4	2.04
Photo12	31	3.74	4	2.04
Photo13	32	3.93	4	1.93
Photo14	32	4.43	4	2.40
Photo15	32	4.03	4	2.13
Photo16	32	4.87	5	2.21
Photo17	31	3.96	4	2.18
Photo18	32	4.31	5	1.46
Photo19	32	2.31	2	1.59
Photo20	32	3.53	4	1.84
Photo21	32	5.37	5.5	2.43

Table 28. The perceived trustworthiness ratings of the male participants

Photo22	32	5.28	5.5	2.33
Photo23	32	5.06	5	1.89
Photo24	32	4.25	5	1.81
Photo25	32	4.43	5	2.21
Photo26	32	4.62	5	2.02
Photo27	32	5.18	5	1.76
Photo28	32	4.9	5	2.10
Photo29	32	4.68	5	1.99
Photo30	32	4.65	5	2.23
Photo31	32	4.4	4	2.16
Photo32	32	5	5	2.19
Photo33	32	4.03	4	1.69
Photo34	32	5.56	5.5	2.46
Photo35	32	4.56	4.5	1.99
Photo36	32	4.5	5	2.15
Photo37	32	4.84	5	1.86

Photo38	32	4.93	5	2.32
Photo39	32	5	5	2.04
Photo40	32	4.21	4	2.16
Photo41	32	4.18	4	2.68
Photo42	31	4.31	5	1.72
Photo43	32	2.87	1.5	2.66
Photo44	32	3.18	3	1.76
Photo45	32	4.9	5	2.53
Photo46	32	4.9	5	2.20
Photo47	32	4.75	5	1.62
Photo48	32	4.06	4	1.98
Photo49	32	4.71	5	2.46
Photo50	32	4.21	5	1.89
Photo51	32	3.93	4.5	2.31
Photo52*	32	5.84	6	1.76
Photo53*	32	6.31	7	1.46
Photo54*	32	6.06	6	1.68
Photo55*	32	5.75	6	1.98
Photo56*	32	4.75	5	2.28
Photo57*	32	4.81	5	2.44
Photo58*	32	4.93	5	2.36

Photos	n	Mean	Median	Standard deviation
Photo1	31	1.16	0	1.89
Photo2	31	1.93	1	2.55
Photo3	31	1.45	0	2.15
Photo4	31	1.19	0	1.90
Photo5	31	1.25	0	1.66
Photo6	31	2.19	1	2.72
Photo7	31	1.54	1	2.04
Photo8	31	2.25	1	2.56
Photo9	31	3.45	3	2.68
Photo10	31	1.45	0	2.73
Photo11	31	1.19	0	2.00
Photo12	31	1.06	0	1.80
Photo13	31	1.8	1	2.16
Photo14	31	1.03	0	1.66
Photo15	31	2.74	2	2.56
Photo16	30	2.3	1	2.36
Photo17	30	0.32	0	0.96
Photo18	31	1.64	1	2.36
Photo19	31	0.74	0	1.67
Photo20	31	1.32	0	2.10
Photo21	31	1.16	0	2.06

Table 29. The perceived physical attractiveness ratings of the female participants

Photo22	31	1.41	1	2.01
Photo23	30	3.33	3.5	2.84
Photo24	31	2.7	2	2.49
Photo25	31	1.06	0	1.98
Photo26	31	0.38	0	0.98
Photo27	31	0.35	0	0.98
Photo28	31	2.19	1	2.60
Photo29	31	4.19	4	2.73
Photo30	31	4.54	6	2.95
Photo31	31	3.64	3	3.22
Photo32	31	0.67	0	1.19
Photo33	30	0.9	0	1.72
Photo34	31	1.48	0	1.91
Photo35	31	0.48	0	1.36
Photo36	31	2.12	1	2.75
Photo37	31	0.54	0	1.17

Photo38	31	2.83	2	2.93
Photo39	31	0.77	0	1.66
Photo40	31	1.83	1	2.33
Photo41	31	1.22	0	2.06
Photo42	31	1.93	1	2.44
Photo43	30	1.16	0	1.78
Photo44	31	0.74	0	1.38
Photo45	30	2.3	1	2.90
Photo46	30	0.73	0	1.65
Photo47	30	2.2	0.5	3.13
Photo48	31	0.41	0	1.02
Photo49	31	2.38	2	2.52
Photo50	31	1.74	1	2.09
Photo51*	31	6.51	7	2.60
Photo52*	31	6	7	2.39
Photo53*	31	6.96	8	2.27
Photo54*	31	1	1	1.39
Photo55*	30	2.6	2	2.44
Photo56*	30	3.56	4.5	2.38
Photo57*	30	5.4	6	2.91

Photos	n	Mean	Median	Standard deviation
Photo1	31	3.03	3	2.31
Photo2	31	4.19	4	3.08
Photo3	31	4.03	5	2.38
Photo4	31	3.38	4	2.34
Photo5	31	2.51	2	2.39
Photo6	31	3.12	3	2.43
Photo7	31	3	4	2.44
Photo8	31	3.48	4	2.64
Photo9	31	4.12	4	2.44
Photo10	31	2.74	2	2.75
Photo11	31	2.51	3	1.98
Photo12	31	1.77	1	1.78
Photo13	31	2.96	3	2.45
Photo14	31	2.74	3	2.19
Photo15	31	3.93	4	2.58
Photo16	30	2.76	3	2.59
Photo17	30	1.7	1	2.00
Photo18	31	4.09	5	2.50
Photo19	31	2.16	1	2.26
Photo20	31	2.16	2	2.14
Photo21	31	3.16	4	2.03

Table 30. The perceived trustworthiness ratings of the female participants

Photo22	31	2.32	2	1.95
Photo23	30	3.83	4	2.60
Photo24	31	3.29	4	2.58
Photo25	31	2.77	3	2.57
Photo26	31	1.58	0	1.96
Photo27	31	0.93	0	1.54
Photo28	31	2.87	3	2.29
Photo29	31	4.83	5	2.13
Photo30	31	4.41	5	2.27
Photo31	31	3.67	4	1.97
Photo32	31	2.03	2	2.04
Photo33	30	2.7	3	2.07
Photo34	31	3.09	4	2.30
Photo35	31	2.29	3	2.06
Photo36	31	3.61	4	2.92
Photo37	31	2.12	2	2.30

Photo38	31	2.51	2	2.47
Photo39	31	1.67	0	2.21
Photo40	31	3.74	4	2.58
Photo41	31	2.74	3	2.62
Photo42	31	2.29	1	2.55
Photo43	30	2.83	3	2.33
Photo44	31	1.96	1	2.50
Photo45	30	3.56	4	2.87
Photo46	30	3.53	4	2.28
Photo47	30	2.33	3	2.08
Photo48	31	1.29	0	1.81
Photo49	31	2.58	3	1.87
Photo50	31	4.19	5	2.31
Photo51*	31	6.51	7	2.27
Photo52*	31	5.16	5	1.89
Photo53*	31	6.06	6	1.82
Photo54*	31	3.8	4	2.57
Photo55*	30	5.63	6	2.23
Photo56*	30	5.76	6	1.92
Photo57*	30	5.63	6	2.09

Photos	n	Mean	Median	Standard deviation
Photo1	31	4.77	5	1.70
Photo2	30	6.66	7	2.75
Photo3	30	4.6	5	2.79
Photo4	30	6.6	8	2.87
Photo5	30	3.66	4	2.49
Photo6	30	5.33	5.5	2.89
Photo7	29	4.63	5	3.18
Photo8	30	4.56	5	2.56
Photo9	29	4.83	5	2.95
Photo10	29	3.6	3	2.08
Photo11	31	4.87	5	2.90
Photo12	30	3.53	4	2.38
Photo13	30	3.46	3	2.86
Photo14	30	3.83	3	2.45
Photo15	30	3.56	3	2.34
Photo16	29	3.96	4	2.61
Photo17	29	6	7	2.84
Photo18	30	5.93	7	2.91
Photo19	30	5.16	5.5	3.31
Photo20	30	3.43	3	2.71
Photo21	30	4.03	3	2.44
Photo22	30	3.83	3.5	2.52

Table 31. The perceived promiscuity ratings of the male participants

Photo23	30	5.73	6	2.67
Photo24	30	5.23	5.5	2.95
Photo25	30	5.1	5	2.55
Photo26	30	6.3	7	2.45
Photo27	29	6.13	7	2.70
Photo28	30	5.76	6	2.45
Photo29	30	4.9	5	2.42
Photo30	30	5.86	6	2.47
Photo31	31	6.12	7	2.65
Photo32	30	4.13	4	2.67
Photo33	30	4.03	4	2.35
Photo34	31	3.87	4	2.80
Photo35	31	5.03	5	2.52
Photo36	31	6.87	8	2.94
Photo37	30	4.77	5	2.48

Photo38	30	4.63	4.5	3.05
Photo39	30	3.7	3	2.69
Photo40	30	4.7	5	2.95
Photo41	31	4	3.5	2.75
Photo42	30	3.29	2	2.93
Photo43	29	4.56	4.5	3.13
Photo44	30	3.72	3	2.71
Photo45	29	4.46	4.5	2.59
Photo46	30	3.58	3	2.68
Photo47	30	5.13	5	2.35
Photo48	30	6.53	7	2.48
Photo49	29	6.2	7	2.69
Photo50	31	3.72	4	2.65
Photo51	30	5.38	5	2.69
Photo52*	30	3.23	3	3.51
Photo53*	30	5.8	7	3.25
Photo54*	31	5.03	5	3.18
Photo55*	29	5.83	7	2.77
Photo56*	29	4.13	3	3.16
Photo57*	29	3.62	2	3.27
Photo58*	29	3.89	3	3.33

Photos	n	Mean	Median	Standard deviation
Photo1	31	6.45	7	2.26
Photo2	30	4.66	4.5	2.65
Photo3	30	6.83	7.5	2.21
Photo4	30	4.46	5	2.81
Photo5	30	6.1	7	3.02
Photo6	30	6.66	7	2.70
Photo7	29	6.51	7	2.66
Photo8	30	5.76	6	2.40
Photo9	29	6.86	7	2.01
Photo10	29	6.65	8	2.37
Photo11	31	6.06	7	2.69
Photo12	30	5.9	7	2.85
Photo13	30	5.73	7	3.01
Photo14	30	5.66	6	3.03
Photo15	30	5.86	7	3.09
Photo16	29	5.96	7	2.83
Photo17	29	4.96	5	2.58
Photo18	30	5.56	5.5	2.75
Photo19	30	3.9	3.5	2.88
Photo20	30	5.93	7	2.93
Photo21	30	7.03	8	2.60
Photo22	30	6.5	7	2.35

Table 32. The perceived interest in a committed relationship ratings of the male participants

Photo23	30	5.53	6	2.27
Photo24	30	4.93	5.5	2.81
Photo25	30	6.06	7	2.47
Photo26	30	5.4	5	2.71
Photo27	29	6.48	7	2.55
Photo28	30	5.6	6	2.42
Photo29	30	5.73	6.5	2.88
Photo30	30	6.13	7	2.22
Photo31	31	4.8	5	2.53
Photo32	30	6.23	7	2.56
Photo33	30	6.03	6.5	2.39
Photo34	31	6.74	7	2.39
Photo35	31	5.54	6	2.46
Photo36	31	5.48	5	3.13
Photo37	30	6.45	7	2.17

Photo38	30	6.4	7	2.62
Photo39	31	6.93	8	2.60
Photo40	30	6	7	2.95
Photo41	31	6.06	7	3.20
Photo42	30	5.38	5	2.77
Photo43	29	6	7	3.45
Photo44	30	5.65	7	2.86
Photo45	29	5.56	6	2.31
Photo46	30	6.89	7	2.29
Photo47	30	6.36	6.5	2.27
Photo48	30	5.73	6	2.25
Photo49	29	5.5	6	2.84
Photo50	31	6.68	8	2.44
Photo51	30	5.35	5	3.25
Photo52*	30	6.73	8	1.95
Photo53*	30	7.63	8	1.47
Photo54*	31	8.2	8	1.49
Photo55*	29	8.03	8	2.04
Photo56*	29	7.51	8	2.80
Photo57*	29	6.1	7	3.06
Photo58*	29	5.51	7	3.15

Photos	n	Mean	Median	Standard deviation
Photo1	29	4.07	3.5	2.62
Photo2	29	4.65	5	2.05
Photo3	29	4.58	4	2.58
Photo4	29	3.72	4	2.31
Photo5	30	4.66	4.5	2.59
Photo6	28	5.96	6	1.87
Photo7	29	4.31	4	2.64
Photo8	30	5.83	5.5	2.57
Photo9	29	6.13	7	2.81
Photo10	29	5.37	5	2.80
Photo11	30	4.7	4.5	2.85
Photo12	29	5.58	6	2.77
Photo13	29	3.2	3	2.16
Photo14	29	4.68	5	2.70
Photo15	30	4.1	4	2.04
Photo16	28	6.17	7	2.29
Photo17	28	4.57	4	3.13
Photo18	30	4.6	5	2.31
Photo19	28	5.07	5	2.63
Photo20	29	5.37	5	2.79
Photo21	30	4.3	4	2.56
Photo22	28	4.92	5	2.85

Table 33. The perceived promiscuity ratings of the female participants

Photo23	29	5	5	2.72
Photo24	28	5.53	6	2.20
Photo25	29	3.62	3	2.24
Photo26	29	4.93	5	3.46
Photo27	30	4.8	5	3.63
Photo28	28	5.92	6	2.34
Photo29	30	6.36	7	2.23
Photo30	29	6.17	6	2.13
Photo31	29	5.48	5	2.38
Photo32	29	4.03	4	3.04
Photo33	28	3.6	3.5	2.21
Photo34	30	4.8	4.5	2.32
Photo35	29	3.41	3	2.38
Photo36	29	4.93	5	2.53
Photo37	28	4.42	4	2.87

Photo38	29	6.34	7	2.99
Photo39	29	4.51	4	2.99
Photo40	28	5.1	5	2.36
Photo41	29	4.31	4	2.67
Photo42	29	5.72	6	3.05
Photo43	28	4.64	4.5	2.58
Photo44	29	4.51	5	2.83
Photo45	28	5.6	6	2.40
Photo46	29	2.89	3	2.02
Photo47	29	6	6	2.50
Photo48	30	4.16	4	3.53
Photo49	29	6	6	2.47
Photo50	28	4.71	5	2.53
Photo51*	28	5.46	5	2.91
Photo52*	29	6.58	7	2.22
Photo53*	29	5.96	7	2.77
Photo54*	28	3.53	4	2.00
Photo55*	28	3.5	3	2.31
Photo56*	28	3.82	3	2.70
Photo57*	28	5.64	5	2.46
Photos	n	Mean	Median	Standard deviation
---------	----	------	--------	--------------------
Photo1	28	6.06	6.5	2.12
Photo2	29	6.41	6	2.29
Photo3	29	7.1	8	2.39
Photo4	29	6.62	7	2.22
Photo5	30	5.9	6.5	2.35
Photo6	28	5.17	5	2.03
Photo7	29	5.79	6	2.22
Photo8	30	5.7	6	2.66
Photo9	29	5.79	6	2.32
Photo10	29	4.68	5	2.63
Photo11	30	5.8	6	2.68
Photo12	29	4.41	5	2.35
Photo13	29	6.72	7	1.94
Photo14	29	6.31	7	2.50
Photo15	30	6.1	6	2.18
Photo16	28	4.89	5	2.67
Photo17	28	5.57	7	3.58
Photo18	30	6.13	7	2.17
Photo19	28	5.67	6	2.72
Photo20	29	5.06	5	2.73
Photo21	30	5.96	6	2.57
Photo22	28	5.57	6	2.47

Table 34. The perceived interest in a committed relationship ratings of the female participants

Photo23	29	6.65	7	2.46
Photo24	28	5.32	5	2.46
Photo25	29	6.1	7	2.71
Photo26	29	3.82	4	3.10
Photo27	30	3.96	3	3.56
Photo28	28	5.64	6	2.21
Photo29	30	6.5	7	2.06
Photo30	29	5.96	6	2.16
Photo31	29	5.96	6	2.16
Photo32	29	5.24	6	2.72
Photo33	28	6.71	7	2.44
Photo34	30	5.53	5	2.40
Photo35	29	6.48	7	2.51
Photo36	29	5.72	6	2.41
Photo37	28	6.06	6.5	2.83

Photo38	29	5.6	6	2.52
Photo39	29	4.79	5	2.65
Photo40	28	4.86	5	2.39
Photo41	29	5.89	6.5	1.90
Photo42	29	5.06	5	2.80
Photo43	28	4.68	5	2.27
Photo44	29	6.32	7	2.70
Photo45	28	4.44	5	2.50
Photo46	29	5.75	5.5	2.64
Photo47	29	6.55	7	2.70
Photo48	30	4.37	4	3.11
Photo49	29	3.93	4	2.28
Photo50*	28	5.1	5	1.84
Photo51*	28	7.14	7.5	2.42
Photo52*	29	6.89	7	2.15
Photo53*	29	5.93	6	2.33
Photo54*	28	6.65	7	1.74
Photo55*	28	7.17	7	1.18
Photo56*	28	8.07	8	1.77
Photo57*	28	7.96	8	1.90

Note. The photos with \* are from the second photo set while the rest are from the first photo set

# APPENDIX B

The questionnaires used

Demograhic Questions

Lütfen aşağıdaki soruları içtenlikle yanıtlayınız.

1. Yaş:

2. Cinsiyet

O Kadın

O Erkek

O Diğer (Lütfen belirtiniz)

O Bu soruyu yanıtlamayı tercih etmiyorum

3. Boy (cm):

4. Kilo (kg):

5. Eğitim:

O Lisans-Öğrenci (Lütfen hangi okulda öğrenim gördüğünüzü belirtiniz)

O Yüksek lisans-Öğrenci (Lütfen hangi okulda öğrenim gördüğünüzü belirtiniz)

O Doktora-Öğrenci (Lütfen hangi okulda öğrenim gördüğünüzü belirtiniz)

O Lisans-Mezun (Lütfen hangi okulda öğrenmiş görmüş olduğunuzu belirtiniz)

O Yüksek lisans-Mezun (Lütfen hangi okulda öğrenmiş görmüş olduğunuzu belirtiniz)

O Doktora-Mezun (Lütfen hangi okulda öğrenmiş görmüş olduğunuzu belirtiniz)

O Diğer (Lütfen belirtiniz)

6. Meslek:

O Öğrenci

O Çalışıyor

O Hem öğrenci hem çalışıyor

O Diğer (Lütfen belirtiniz)

7. Hangi ülkedensiniz? / Nerelisiniz?

O Türkiye

O Diğer (Lütfen belirtiniz)

O Bu soruyu yanıtlamayı tercih etmiyorum

8. Cinsel yönelim:

O Heteroseksüel
-----------------

O Homoseksüel

O Biseksüel

O Diğer (Lütfen belirtiniz)

O Bu soruyu yanıtlamayı tercih etmiyorum

9. İlişki durumu:

O Bekar

O Bağlanılmamış ilişki içinde (Örn. flört)

O Bağlanılmış ilişki içinde (Örn. ciddi ilişki içinde, evli)

O Diğer (Lütfen belirtiniz)

O Bu soruyu yanıtlamayı tercih etmiyorum

10. Eğer şu anda bir ilişkiniz varsa, ne kadar süredir bu ilişki sürmekte?

11. Eğer şu anda bir ilişkiniz varsa, ilişki doyumunuzu 1 ile 7 arasında değişen ölçek üzerinde değerlendiriniz. (1: Hiç tatmin edici değil, 4: Ne tatmin edici ne değil, 7: Oldukça tatmin edici) (Eğer ilişkiniz yok ise ölçeği 4'te bırakınız)

12. Kısa süreli bir ilişki için partner arıyorum (Örn., tek gecelik ilişki, sıradan cinsel ilişki gibi) (1: Kesinlikle katılmıyorum, 4: Ne katılıyorum ne katılmıyorum, 7: Kesinlikle katılıyorum)

13. Şu anda uzun dönemli bir ilişki için partner arıyorum (Örn., bağlanılmış romantik ilişki, eş gibi) (1: Kesinlikle katılmıyorum, 4: Ne katılıyorum ne katılmıyorum, 7: Kesinlikle katılıyorum)

14. Hiç cinsel birliktelik yaşadınız mı?

O Evet

O Hayır

O Bu soruyu yanıtlamayı tercih etmiyorum

15. Lütfen eğer bir önceki sorunun yanıtı evet ise bu soruyu yanıtlayınız. Geçmiş cinsel birlikteliklerinizi hatırlayınız. Lütfen hangi sıklıkta korunmalı ilişki (kondom kullanılan ilişki) yaşadığınızı belirtiniz. (0: Hiç, 10: Her zaman)

Ten-Item Personality Inventory

Aşağıda sizi tanımlayan ya da tanımlamayan birçok kişilik özelliği bulunmaktadır.Lütfen her bir ifadenin sizi tanımlama düzeyini göz önüne alarak, o ifadeye ne kadarkatılıp katılmadığınız belirtiniz. İfadelerden bazıları diğerlerine göre daha çok uysa bile,her bir ifadeye ne kadar katılıp katılmadığınızı belirtiniz.Kendimi ...... olarak görürüm

1: Kesinlikle katılmıyorum, 2: Katılmıyorum, 3: Pek katılmıyorum, 4: Ne katılıyorum ne katılmıyorum, 5: Biraz katılıyorum, 6: Katılıyorum, 7: Kesinlikle katılıyorum

- 1. Dışadönük, İstekli
- 2. Eleştirel, Kavgacı
- 3. Güvenilir, Öz disiplinli
- 4. Kaygılı, Kolaylıkla hayal kırıklığına uğrayan
- 5. Yeni deneyimlere açık, Karmaşık
- 6. Çekingen, Sessiz
- 7. Sempatik, Sıcak
- 8. Dağınık, Dikkatsiz
- 9. Sakin, Duygusal olarak dengeli
- 10. Geleneksel, Yaratıcı olmayan

The International Personality Item Tool- Physical Attractiveness (IPIP-PA)

Aşağıda, insanların davranışlarını tanımlayan kalıplar bulunmaktadır. Lütfen her birifadenin sizi ne kadar doğru tanımladığını göstermek için aşağıdaki ölçeğikullanınız. Kendinizi gelecekte olmayı arzu ettiğiniz şekilde değil, genelde olduğunuzşekilde tanımlayınız. Aynı cinsiyette ve yaklaşık olarak aynı yaşta olduğunuz insanlarkarşısında kendinizi nasıl görüyorsanız, kendinizi o şekilde dürüstçe tanımlayınız. Cevaplarınız kesin bir gizlilik içinde tutulacağı için kendinizi dürüstçe tanımlayabilirsiniz. Lütfen her ifadeyi dikkatlice okuyunuz ve ölçeği kullanarak cevaplayınız. (1: Beni kesinlikle tanımlamıyor, 2: Beni pek tanımlamıyor, 3: Beni ne tanımlamıyor ne tanımlıyor, 4:Beni biraz tanımlıyor, 5:Beni kesinlikle tanımlıyor)

- Başkaları tarafından çekici bulunurum
- Karşı cinsin dikkatini çekerim.
- Hoşa giden bir fiziğim var.
- Vücuduma bakmayı severim.
- Aynada kendime bakmayı severim.
- Vücudumla gösteriş yapmayı severim.
- Kendimi çekici bulmuyorum.
- Aynada kendime bakmayı sevmiyorum.
- Vücuduma bakmayı sevmiyorum

The revised Socio-sexual Orientation Inventory (SOI-R)

Lütfen aşağıdaki soruları içtenlikle cevaplayınız.

1. Son 12 ay içinde kaç farklı partner ile cinsel ilişki yaşadınız?

- **O** 0
- **O**<sub>1</sub>
- **O**<sub>2</sub>
- **O**<sub>3</sub>
- **O** 4
- 0 5-6
- 0 7-9

**O** 10-19

O 20'den fazla

2. Sadece bir defa cinsel ilişki yaşadığınız kaç farklı partneriniz oldu?

0
1
2
3
4
5-6
7-9
10-19
20'den fazla

3. Uzun süreli bir bağlılık ilişkisi düşünmeden cinsel ilişki yaşadığınız kaç farklı partneriniz oldu?

Ο 0
O 1
<b>O</b> <sub>2</sub>
<b>O</b> <sub>3</sub>
<b>O</b> 4
<b>O</b> 5-6
0 7-9
<b>O</b> 10-19
O 20'den fazla

Lütfen aşağıdaki soruları içtenlikle yanıtlayınız.

	1:Kesinlikle katılmıyorum (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9:Kesinlikle katılıyorum (9)
Aşk olmadan cinsel ilişki yaşayabilirim.	0	0	0	0	0	0	0	0	0
Kendimi, farklı partnerler ile gelişigüzel cinsel ilişki yaşamaktan dolayı rahat hisseden ve bundan keyif alan biri olarak hayal edebilirim.	0	0	0	0	0	0	0	0	0
Uzun süreli ciddi bir ilişki yaşayacağımızdan emin olana kadar birisiyle cinsel ilişki yaşamak istemem.	0	0	0	0	0	0	0	0	0

Lütfen aşağıdaki soruları içtenlikle cevaplayınız.

(1: Hiç, 2: Nadiren, 3: Yaklaşık her iki ya da üç ayda bir kez, 4: Yaklaşık ayda bir kez, 5: Yaklaşık her iki haftada bir kez, 6: Yaklaşık haftada bir kez, 7: Haftada bir çok kez, 8: Neredeyse her gün, Günde en az bir kez)

- Bağlılık taşıyan romantik bir ilişki içinde olmadığınız biri ile seks yapma fantezilerini hangi sıklıkla kurarsınız?
- Bağlılık taşıyan romantik bir ilişki içinde olmadığınız biriyle iletişim kurduğunuzda ne sıklıkla cinsel uyarılma yaşarsınız?
- Günlük hayatınızda hangi sıklıkta, yeni tanıştığınız biri ile cinsel ilişki kurma hakkında anlık fanteziler kurarsınız?

STI/HIV Pre-test

Lütfen aşağıdaki ifadelerin doğru olduğunu düşünüyorsanız "Doğru" seçeneğini, yanlış olduğunu düşünüyorsanız "Yanlış" seçeneğini ve eğer ifadelerin doğru ya da yanlış olduğunu bilmediğinizi dşünüyorsanız "Bilmiyorum" seçeneğini işaretleyiniz.

	Doğru (1)	Yanlış (2)	Bilmiyorum (3)
Kapı kolundan, klozetten veya musluktan cinsel yolla bulaşan bir hastalığa veya HIV/AIDS'e yakalanabilirsin.	0	$\bigcirc$	0
İstatistikler cinsel yolla bulaşan hastalıklara yakalanan kişilerin büyük çoğunluğunun genç veya genç yetişkin olduğunu göstermektedir.	0	0	$\bigcirc$
Sadece frengi ve bel soğukluğu en ciddi cinsel yolla bulaşan hastalıklar arasında yer almaktadır.	0	0	$\bigcirc$
Cinsel yolla bulaşan hastalıkların belirtileri her zaman fark edilmeyebilir.	0	$\bigcirc$	$\bigcirc$
Cinsel yolla bulaşan hastalıkların belirtisi ortadan kalktığında bir doktora gitmenize gerek yoktur.	0	0	$\bigcirc$

Belli bir zaman içerisinde yalnız bir cinsel yolla bulaşan hastalığa yakalanabilirsiniz.

Cinsel yolla bulaşan hastalıklara yakalanma riskini azaltabilmek için yapabileceğiniz birşeyler vardır.

Cinsel yolla bulaşan bir hastalığın tedavi edilebilmesi için 18 yaş ve üzerinde olmanız gerekir.

Bir kez cinsel yolla bulaşan bir hastalığa yakalandıysan aynı hastalığa tekrar yakalanmazsın.

İlk kez cinsel ilişkide bulunduğunda cinsel yolla bulaşan bir hastalığa yakalanmazsın.

Eğer cinsel yolla bulaşan bir hastalığın tedavisini görüyorsanız cinsel ilişkide bulunduğunuz kişilerin isimlerini bildirmemiz gerekir.

$\bigcirc$	$\bigcirc$	0
$\bigcirc$	0	$\bigcirc$
$\bigcirc$	0	0
$\bigcirc$	$\bigcirc$	0
$\bigcirc$	$\bigcirc$	0
0	$\bigcirc$	$\bigcirc$

Cinsel yolla bulaşan bir hastalığı tedavi ettirmeniz için ebeveynlerinizin iznine ihtiyacınız yoktur.

Her zaman bir kişinin genital organına bakarak onun cinsel yolla bulaşan bir hastalığa sahip olup olmadığını söyleyebiliriz.

Cinsel yolla bulaşan hastalıkların tedavi edilmemesi kısırlığa neden olabilir.

Temiz ve titiz insanlar cinsel yolla bulaşan bir hastalığa yakalanmazlar.

Cinsel perhizi tercih eden insanlar cinsel yolla bulaşan hastalıklara kesin olarak yakalanmazlar.

Cinsel yolla bulaşan hastalıkların bazıları kolaylıkla tedavi edilebilir.

$\bigcirc$	0	0
$\bigcirc$	$\bigcirc$	$\bigcirc$
$\bigcirc$	$\bigcirc$	0
$\bigcirc$	$\bigcirc$	0
$\bigcirc$	0	0
0	$\bigcirc$	0

Cinsel yolla bulaşan hastalıkların hepsi tedavi edilip iyileştirilebilir.	0	0	0
Prezervatif (kondom) cinsel yolla bulaşan hastalıklardan korunmada etkiliği yüksek bir yöntemdir.	0	0	0
Sadece cinsel yaşamı aktif olan yetişkinler cinsel yolla bulaşan hastalıklara yakalanabilirler.	0	$\bigcirc$	0
Sadece eşcinsel erkekler HIV/AIDS'e yakalanır.	0	$\bigcirc$	0
Cinsel yolla bulaşan hastalıklar bebeğin görme engelli doğmasına neden olabilir.	0	$\bigcirc$	0
AIDS'li bir kişiye dokunarak HIV/AIDS hastalığına yakalanabilirsiniz.	0	$\bigcirc$	0
Herhangi bir kimse cinsel yolla bulaşan bir hastalığa yakalanabilir.	0	$\bigcirc$	$\bigcirc$

Cinsel açıdan tek partneri olan bir kişinin cinsel yolla bulaşan hastalığa yakalanma riski daha azdır.

Eğer birden fazla partneriniz varsa cinsel yolla bulaşan bir hastalığa yakalanma riskiniz artar.

Başka birisinin iğnesini kullanırsanız cinsel yolla bulaşan bir hastalığa yakalanabilirsiniz.

Dövme ya da piercing yaptırmak her zaman güvenlidir.

Cinsel yolla bulaşan hastalıklar sadece cinsel ilişki yolu ile geçer.

Herpes virüsü uçuklara neden olur.

Cinsel ilişkinin erken yaşlarda başlaması genital siğiller riskini arttırırken birden fazla partnerin olması kadınlarda serviks kanseri riskini artırmaktadır.

$\bigcirc$	$\bigcirc$	$\bigcirc$
$\bigcirc$	$\bigcirc$	0
0	$\bigcirc$	$\bigcirc$
0	$\bigcirc$	0
$\bigcirc$	$\bigcirc$	$\bigcirc$
0	$\bigcirc$	0
0	$\bigcirc$	0

Genital akıntılar kadınlar için normal bir durumdur.

Doğum kontrol hapları cinsel yolla bulaşan hastalıklara karşı koruyucu etkiye sahiptir.

Eğer partnerinizi tanıyorsanız cinsel yolla bulaşan bir hastalığa asla yakalanmazsınız.

Cinsel yaşamı aktif olan kadınlar düzenli olarak doktora gitmeli ve simir testi yaptırmalıdır.

Eğer cinsel yolla bulaşan hastalığa bir bakteri neden olduysa bu hastalık tedavi edilemez.

$\bigcirc$	$\bigcirc$	$\bigcirc$
0	$\bigcirc$	0
$\bigcirc$	$\bigcirc$	$\bigcirc$
$\bigcirc$	$\bigcirc$	0
$\bigcirc$	$\bigcirc$	$\bigcirc$

The Marlowe-Crowne Social Desirability Scale

Lütfen aşağıdaki ifadeleri size en uygun gelen şekilde 1 ile 6 arasında değişen ölçeği kullanarak değerlendiriniz.

	1:Kesinlikle katılmıyorum (1)	2 (2)	3 (3)	4 (4)	5 (5)	6:Kesinlikle katılıyorum (6)
Asla birinden çok fazla nefret etmem.	0	0	0	0	0	0
Daima giyimime özen gösteririm.	0	0	0	0	0	0
Kiminle konuştuğumun hiç önemi yoktur, daima iyi bir dinleyiciyimdir.	0	0	0	0	0	0
Hata yaptığımda daima itiraf etmek isterim.	0	0	0	0	0	0
Başkalarına verdiğim öğütleri kendimde uygulamaya çalışırım.	0	0	0	0	0	0
Hatalarımdan dolayı başka birinin cezalandırılmasına seyirci kalmayı asla düşünmedim.	0	0	0	0	0	0
Diğer insanlar benimkinden çok farklı fikirler ileri sürdüğünde hiç canım sıkılmaz.	0	0	0	0	0	0

## APPENDIX C

Informed consent forms, debriefing forms and the Ethical Committee Permission

Informed Consent- Main Study

Araştırmaya Gönüllü Katılım Formu

Bu çalışma ODTÜ Bilişsel Bilimler yüksek lisans öğrencisi Uzm. Sosyal Psikolog Ayten Yeşim Semchenko tarafından, Bilişsel Bilimler öğretim üyesi Yard.Doç.Dr. Murat Perit Çakır danışmanlığında yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanılmıştır.

Çalışmanın Amacı Nedir? Bu çalışmanın amacı, internet üzerinden gerçekleşen flörtlerdeki güvenli cinsellik eğilimlerini belirleyen faktörleri araştırmaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz? Araştırma süresi yaklaşık yarım saattir. Bu araştırma için hazırladığımız flört uygulaması katılımcılar tarafından kullanılacaktır. Katılımcıların uygulamada profil oluşturabilmeleri için, herhangi bir takı kullanılmadan (örn. küpe), makyajsız ve önden çekilmiş yüz fotoğraflarını getirmeleri gerekmektedir. Burada amaç, makyaj ve takı kullanımı ile algılanan fiziksel çekicilik oranını değiştirmemektir. Bu fotoğraflar, tarafımızca hiçbir yere kaydedilmeyecektir. Bu uygulamanın yanı sıra katılımcılardan, demografik testi (yaş, eğitim durumu gibi sorular içeren), romantik ilişki doyumu ile ilgili soruları, kişilik özelliklerini belirtmeleri gereken testi (örn. dışadönüklük, sakinlik vb özelliklerin sorulduğu test), ve sonrasında 1991 yılında geliştirilen ve 2008 yılında yenilenen, Türkçe dahil 25 dile çevirilen, cinsel davranış stratejilerini ve duygusal bağlılık olmadan cinsel ilişkiye girme eğilimlerindeki kişiler arası farkı tespit etmeyi amaçlayan envanteri doldurmaları beklenilmektedir.

Katılımınızla ilgili bilmeniz gerekenler: Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Araştırmaya katılanlardan toplanan veriler tamamen gizli tutulacak, veriler ve kimlik bilgileri herhangi bir şekilde

eşleştirilmeyecektir. Katılımcıların isimleri bağımsız bir listede toplanacaktır. Toplanan verilere sadece araştırmacılar ulaşabilecektir. Bu araştırmanın sonuçları bilimsel ve profesyonel yayınlarda veya eğitim amaçlı kullanılabilir, fakat katılımcıların kimliği gizli tutulacaktır.

Çalışma içerisinde yanıtlamak istemediğiniz sorular olursa, bu soruları yanıtlamayıp çalışmamıza devam edebilir veya çalışmayı yarıda kesip sonlandırabilirsiniz. Yanı sıra, herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakıp sonlandırmakta serbestsiniz. Böyle bir durumda araştırmanın olduğu linkten çıkıp, araştırmacıya durumu bildirmeniz yeterli olacaktır.

Araştırma ile ilgili daha fazla bilgi almak isterseniz:

Çalışma sonunda, son sayfada göreceğiniz Katılım Sonrası Bilgilendirme Formu'nda bu araştırma ile ilgili daha detaylı bilgi verilecektir. Bu çalışmaya destek olduğunuz için şimdiden çok teşekkür ederiz. Çalışma hakkında merak ettiklerinizi sormak isterseniz yener.yesim@metu.edu.tr adresinden araştırmacı Uzm. Sosyal Psikolog Ayten Yeşim Semchenko'ya veya perit@metu.edu.tr adresinden danışman Yard.Doç.Dr. Murat Perit Çakır'a ulaşabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyisim

Tarih ---/----

İmza

Debriefing Form- Main study

Katılım Sonrası Bilgilendirme

Bu araştırma Bilişsel Bilimler yüksek lisans öğrencisi, Uzm. Sosyal Psikolog Ayten Yesim Yener tarafından, Bilissel Bilimler öğretim üyesi Yard. Doc.Dr. Murat Perit Cakır danışmanlığında yürütülmektedir. Çalışmanın amacı, internet üzerinden gerçekleşen flörtlerde güvenli cinsellik eğilimlerini belirleyen faktörleri araştırmaktır. Literatüre paralel olarak, algılanan fiziksel çekicilik ve güvenirliğin ve kondom kullanma tutumunun, internet üzerinden gerçekleşen flörtlerdeki güvenli cinsellik eğilimini belirlediği düşünülmektedir. Deney sırasında katılımcılar, bu çalışma için hazırlanan flört uvgulamasını kullanmışlardır. Bu uvgulamada karşılaştıkları profiller gerçek değildir. Ancak uygulamanın katılımcıya gerçek olduğu hissini verebilmesi için bu bilgi başta verilmemistir. Bu calısmadan elde edilen veriler valnızca bilimsel arastırmalar ve yazılarda kullanılacaktır. Bu araştırmaya katıldığınız için tekrar çok teşekkür ederiz. Arastırmanın sonuclarını öğrenmek va da daha fazla bilgi almak icin, arastırmacı Uzm. Sosyal Psikolog Ayten Yeşim Yener'e yener.yesim@metu.edu.tr adresinden, veya danışman Yard. Doç.Dr. Murat Perit Çakır'a perit@metu.edu.tr adresinden ulaşabilirsiniz. Çalışmaya katkıda bulunan bir gönüllü olarak, katılımcı haklarınızla ilgili veya etik ilkelerle ilgili soru veya görüslerinizi ODTÜ Uygulamalı Etik Araştırma Merkezi'ne iletebilirsiniz, e-posta: ueam@metu.edu.tr.

Informed Consent-Pre-study 1

Araştırmaya Gönüllü Katılım Formu

Bu çalışma Uzm. Sosyal Psikolog Ayten Yeşim Yener tarafından, bilişsel bilimler yüksek lisans tezi kapsamında, Bilişsel Bilimler öğretim üyesi Yard. Doç. Dr. Murat Perit Çakır danışmanlığında gerçekleştirilmektedir.

Çalışmanın Amacı Nedir?

Bu çalışma daha sonra gerçekleştirilecek bir deneyin ön çalışmasıdır. Bu ön çalışmanın katılımcılarının bazı özelliklerinin, bundan sonraki deneye katılacak olan katılımcılarla karşılaştırılabilmesi/eşleştirilmesi gerekmektedir. Bu amaçla sorulacak sorular, bir sonraki bölümde anlatılmıştır. Bu ön çalışmanın bir amacı, gördüğünüz fotoğraflardaki kişilerin ne kadar çekici ve ne kadar güvenilir göründüğünün değerlendirilmesidir. Bu bulgu, bu çalışmanın devamında gerçekleştireceğimiz bilimsel araştırmada kullanılacaktır. Çalışmanın ikinci amacı, bir sonraki bilimsel araştırmada kullanılacaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Öncelikle katılımcıların, demografik bilgiler testini (yaş, eğitim durumu gibi sorular içeren), romantik ilişki doyumu ile ilgili testi, bazı kişilik özelliklerini belirtmeleri gereken testi (dışadönüklük, sakinlik vb gibi kişilik özelliklerinin sorulduğu test), ve sonrasında 1991 yılında geliştirilen ve 2008 yılında yenilenen, Türkçe dahil 25 dile çevirilen, cinsel davranış stratejilerini ve duygusal bağlılık olmadan cinsel ilişkiye girme eğilimlerindeki kişiler arası farkı tespit etmeyi amaçlayan envanteri doldurmaları beklenilmektedir.

Ardından fotoğraflarını gördükleri kişilerin çekiciliklerini 0 (Hiç çekici değil) ile 10 (Son derece çekici) arasında değişen bir ölçek üzerinde değerlendirmeleri ve fotoğrafını gördükleri kişilerin güvenilirliklerini 0(Hiç güvenilir değil) ile 10(Son derece güvenilir) arasında değişen bir ölçek üzerinde değerlendirmeleri beklenilmektedir. Son olarak, hazırlanan ölçekteki soruların anlaşılabilirliğini değerlendirmeleri beklenilmektedir.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya kurum belirleyici herhangi bir bilgi istenilmemektedir. Cevaplarınız tamamıyla gizli tutulacak ve araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır. Eğer bu çalışmaya katılmak isterseniz, çalışmaya gönüllü olarak katılmak istediğinizi belirten seçeneği işaretleyiniz ve bir sonraki sayfaya geçiniz. Eğer katılmak istemezseniz, bu linkten çıkmanız yeterli olacaktır ancak tercih ederseniz katılmak istemediğinizi belirten seçeneği işaretledikten sonra da linkten çıkabilirsiniz.

Katılımınızla ilgili bilmeniz gerekenler:

Çalışma içerisinde yanıtlamak istemediğiniz sorular olursa, bu soruları yanıtlamayıp çalışmamıza devam edebilir veya çalışmayı yarıda kesip sonlandırabilirsiniz. Yanı sıra, herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakıp sonlandırmakta serbestsiniz. Böyle bir durumda araştırmanın olduğu linkten çıkmanız yeterli olacaktır.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Çalışma sonunda, son sayfada göreceğiniz Katılım Sonrası Bilgilendirme Formu ile bu araştırma ile ilgili daha detaylı bilgi verilecektir. Bu çalışmaya destek olduğunuz için şimdiden çok teşekkür ederiz. Çalışma hakkında sorularınızı veya merak ettiklerinizi sormak isterseniz, yener.yesim@metu.edu.tr e-posta adresinden Uzm. Sosyal Psk. Ayten Yeşim Yener veya perit@metu.edu.tr e-posta adresinden Bilişsel Bilimler Bölümü öğretim üyelerinden Yard. Doç.Dr. Murat Perit Çakır ile iletişim kurabilirsiniz. Debriefing Form- Pre-study 1

Araştırma Sonrası Bilgilendirme Formu

Öncelikle araştırmamıza katıldığınız için teşekkür ederiz.

Katıldığınız araştırma daha sonra gerçekleştirilecek bir deneyin ön çalışmasıdır. Bu ön çalışmanın bir amacı, gördüğünüz fotoğraflardaki kişilerin ne kadar çekici ve ne kadar güvenilir göründüğünün değerlendirilmesidir. Bu bulgu, bu çalışmanın devamında gerçekleştireceğimiz bilimsel araştırmada kullanılacaktır. Çalışmanın ikinci amacı, bir sonraki bilimsel araştırmada kullanılmak üzere hazırladığımız soruların anlaşılabilirliğini değerlendirebilmektir.

Bu amaçlar doğrultusunda, demografik bilgiler testini (yaş, eğitim durumu gibi sorular içeren), bazı kişilik özelliklerinizi belirtmeniz gereken testi (dışadönüklük, sakinlik vb gibi kişilik özelliklerinin sorulduğu test), ve sonrasında 1991 yılında geliştirilen ve 2008 yılında yenilenen, Türkçe dahil 25 dile çevirilen, cinsel davranış stratejilerini ve duygusal bağlılık olmadan cinsel ilişkiye girme eğilimlerindeki kişiler arası farkı tespit etmeyi amaçlayan envanteri doldurdunuz. Ardından fotoğraflarını gördüğünüz kişileri 0 (Hiç çekici değil) ile 10 (Son derece çekici) ve ne kadar güvenilir göründüklerini 0(Hiç güvenilir değil) ile 10(Son derece güvenilir) arasında değişen bir ölçeği kullanarak değerlendirdiniz. Son olarak ise, bir sonraki deney için hazırladığımız ölçekteki soruların anlaşılır olup olmadıklarını değerlendirdiniz.

Eğer araştırmayla ilgili sorularınız varsa araştırmacı yener.yesim@metu.edu.tr e-posta adresinden Uzm. Sosyal Psk. Ayten Yeşim Yener veya perit@metu.edu.tr e-posta adresinden Bilişsel Bilimler Bölümü öğretim üyelerinden Yard. Doç.Dr. Murat Perit Çakır ile iletişim kurabilirsiniz.

Informed Consent-Pre-study 2

Araştırmaya Gönüllü Katılım Formu

Bu çalışma Uzm. Sosyal Psikolog Ayten Yeşim Yener tarafından, bilişsel bilimler yüksek lisans tezi kapsamında, Bilişsel Bilimler öğretim üyesi Yard. Doç. Dr. Murat Perit Çakır danışmanlığında gerçekleştirilmektedir.

Çalışmanın Amacı Nedir?

Bu çalışma daha sonra gerçekleştirilecek bir deneyin ön çalışmasıdır. Bu ön çalışmanın katılımcılarının bazı özelliklerinin, bundan sonraki deneye katılacak olan katılımcılarla karşılaştırılabilmesi/eşleştirilmesi gerekmektedir. Bu amaçla sorulacak sorular, bir sonraki bölümde anlatılmıştır. Bu ön çalışmanın bir amacı, fotoğraftaki kişilerin bağlılık gerektiren, ciddi romantik ilişki yaşama konusunda ne kadar istekli göründüklerinin ve rastgele cinsel ilişki yaşama ihtimallerinin değerlendirilmesidir. Bu bulgu, bu çalışmanın devamında gerçekleştireceğimiz bilimsel araştırmada kullanılacaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Öncelikle katılımcıların, demografik bilgiler testini (yaş, eğitim durumu gibi sorular içeren), romantik ilişki doyumu ile ilgili testi, bazı kişilik özelliklerini belirtmeleri gereken testi (dışadönüklük, sakinlik vb gibi kişilik özelliklerinin sorulduğu test), ve 1991 yılında geliştirilen ve 2008 yılında yenilenen, Türkçe dahil 25 dile çevirilen, cinsel davranış stratejilerini ve duygusal bağlılık olmadan cinsel ilişkiye girme eğilimlerindeki kişiler arası farkı tespit etmeyi amaçlayan envanteri doldurmaları beklenilmektedir.

Yanı sıra fotoğraflarını gördükleri kişilerin bağlılık gerektiren, ciddi romantik ilişki yaşama konusunda ne kadar istekli göründüklerini 0 (Hiç istekli değil) ile 10 (Son derece istekli) arasında değişen bir ölçek üzerinde değerlendirmeleri ve fotoğrafını gördükleri kişilerin rastgele cinsel ilişki yaşama ihtimallerini 0(Hiç ihtimalli değil) ile 10(Son derece ihtimalli) arasında değişen bir ölçek üzerinde değerlendirmeleri beklenilmektedir.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya kurum belirleyici herhangi bir bilgi istenilmemektedir. Cevaplarınız tamamıyla gizli tutulacak ve araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır. Eğer bu çalışmaya katılmak isterseniz, çalışmaya gönüllü olarak katılmak istediğinizi belirten seçeneği işaretleyiniz ve bir sonraki sayfaya geçiniz. Eğer katılmak istemezseniz, bu linkten çıkmanız yeterli olacaktır ancak tercih ederseniz katılmak

istemediğinizi belirten seçeneği işaretledikten sonra da linkten çıkabilirsiniz.

Katılımınızla ilgili bilmeniz gerekenler:

Çalışma içerisinde yanıtlamak istemediğiniz sorular olursa, bu soruları yanıtlamayıp çalışmamıza devam edebilir veya çalışmayı yarıda kesip sonlandırabilirsiniz. Yanı sıra, herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakıp sonlandırmakta serbestsiniz. Böyle bir durumda araştırmanın olduğu linkten çıkmanız yeterli olacaktır.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Çalışma sonunda, son sayfada göreceğiniz Katılım Sonrası Bilgilendirme Formu ile bu araştırma ile ilgili daha detaylı bilgi verilecektir. Bu çalışmaya destek olduğunuz için şimdiden çok teşekkür ederiz. Çalışma hakkında sorularınızı veya merak ettiklerinizi sormak isterseniz, yener.yesim@metu.edu.tr e-posta adresinden Uzm. Sosyal Psk. Ayten Yeşim Yener veya perit@metu.edu.tr e-posta adresinden Bilişsel Bilimler Bölümü öğretim üyelerinden Yard. Doç.Dr. Murat Perit Çakır ile iletişim kurabilirsiniz. Debriefing Form- Pre-study 2

Araştırma Sonrası Bilgilendirme Formu

Öncelikle araştırmamıza katıldığınız için teşekkür ederiz.

Katıldığınız araştırma daha sonra gerçekleştirilecek bir deneyin ön çalışmasıdır. Bu ön çalışmanın bir amacı, gördüğünüz fotoğraflardaki kişilerin bağlılık gerektiren, ciddi romantik ilişki yaşamak konusunda ne kadar istekli göründüklerinin ve rastgele cinsel ilişki yaşama ihtimallerinin değerlendirilmesidir. Bu bulgu, bu çalışmanın devamında gerçekleştireceğimiz bilimsel araştırmada kullanılacaktır.

Bu amaçlar doğrultusunda, demografik bilgiler testini (yaş, eğitim durumu gibi sorular içeren), bazı kişilik özelliklerinizi belirtmeniz gereken testi (dışadönüklük, sakinlik vb gibi kişilik özelliklerinin sorulduğu test), ve sonrasında 1991 yılında geliştirilen ve 2008 yılında yenilenen, Türkçe dahil 25 dile çevirilen, cinsel davranış stratejilerini ve duygusal bağlılık olmadan cinsel ilişkiye girme eğilimlerindeki kişiler arası farkı tespit etmeyi amaçlayan envanteri doldurdunuz. Ardından fotoğraflarını gördüğünüz kişilerin bağlılık gerektiren, ciddi romantik ilişki yaşama konusunda ne kadar istekli göründüklerini 0 (Hiç istekli değil) ile 10 (Son derece istekli) ve rastgele cinsel ilişki yaşama ihtimallerini 0(Hiç ihtimalli değil) ile 10(Son derece ihtimalli) arasında değişen bir ölçeği kullanarak değerlendirdiniz.

Eğer araştırmayla ilgili sorularınız varsa araştırmacı yener.yesim@metu.edu.tr e-posta adresinden Uzm. Sosyal Psk. Ayten Yeşim Yener veya perit@metu.edu.tr e-posta adresinden Bilişsel Bilimler Bölümü öğretim üyelerinden Yard. Doç.Dr. Murat Perit Çakır ile iletişim kurabilirsiniz.

### The Ethical Committee Permission

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ APPLIED ETHICS RESEARCH CENTER



ORTA DOĞU TEKNİK ÜNİVERSİTESİ MIDDLE EAST TECHNICAL UNIVERSITY

DUMLUPINAR BULVARI 06800 CANKAYA ANKARA/TURKEY T: +90 312 210 22 91 F: -90 312 210 79 59 ueam®metu.edu.tr www.ueam.edu.tr

Konu:

09 KASIM 2016

Gönderilen: Yrd.Doç.Dr. Murat Perit ÇAKIR,

Değerlendirme Sonucu

Enformatik Enstitüsü,

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın, Yrd.Doç.Dr. Murat Perit ÇAKIR;

Danışmanlığını yaptığınız yüksek lisans öğrencisi Yeşim YENER' in "Türkiye'de İnternet Üzerinden Flört Edenlerin Güvenli Cinsellik Eğilimlerini Belirleyen Değişkenler" başlıklı araştırması İnsan Araştırmaları Kurulu tarafından uygun görülerek gerekli onay **2016-FEN-063** protokol numarası ile **23.11.2016 - 30.07.2017** tarihleri arasında geçerli olmak üzere verilmiştir.

Bilgilerinize saygılarımla sunarım.

Prof. Dr. Canan SÜMER

İnsan Araştırmaları Etik Kurulu Başkanı

Prof. Dr. Mehmet UTKU

İAEK Üyesi

' Prof. Dr. Ayhan Gürbüz DEMİR İAEK Üyesi

Yrd .Dog Dr. Pinar KAYGAN

İAEK Üyesi

whan SOI

KONDAKC

İAEK Üyesi

Yzz Boç. Dr. €mre SELÇUK

İAEK Üyesi

#### ODTÜ 2015

### BU BÖLÜM, İLGİLİ BÖLÜMLERİ TEMSİL EDEN İNSAN ARAŞTIRMALARI ETİK ALT KURULU TARAFINDAN DOLDURULACAKTIR.

Protokol No: 2016-FEN-063

### İAEK DEĞERLENDİRME SONUCU

Sayın Hakem,

Aşağıda yer alan üç seçenekten birini işaretleyerek değerlendirmenizi tamamlayınız. Lütfen "<u>Revizyon Gereklidir</u>" ve "<u>Ret</u>" değerlendirmeleri için gerekli açıklamaları yapınız.

Değerlendirme Tarihi: 09-11.206

Ad Soyad:

Herhangi bir değişikliğe gerek yoktur. Veri toplama/uygulama başlatılabilir.

Revizyon gereklidir

🗆 Gönüllü Katılım Formu yoktur.

🗆 Gönüllü Katılım Formu eksiktir.

Gerekçenizi ayrıntılı olarak açıklayınız:

Katılım Sonrası Bilgilendirme Formu yoktur.

Katılım Sonrası Bilgilendirme Formu eksiktir.

Gerekçenizi ayrıntılı olarak açıklayınız:

Rahatsızlık kaynağı olabilecek sorular/maddeler ya da prosedürler içerilmektedir.

Gerekçenizi ayrıntılı olarak açıklayınız:

Diğer.

Gerekçenizi ayrıntılı olarak açıklayınız:

Ret

Ret gerekçenizi ayrıntılı olarak açıklayınız:
#### APPENDIX D

The histograms

The histograms from the first pre-study



Figure 38. The histogram of the perceived physical attractiveness mean ratings of the male participants



Figure 39. The histogram of the perceived trustworthiness mean ratings of the male participants



Figure 40. The histogram of the perceived physical attractiveness mean ratings of the female participants



Figure 41. The histogram of the perceived trustworthiness mean ratings of the female participants



Figure 42. The histogram of the male participants' IPIP-PA scores



Figure 43. The histogram of the male participants' perceived physical attractiveness mean ratings of others



Figure 44. The histogram of the female participants' IPIP-PA scores (self-perceived attractiveness)



Figure 45. The histogram of the female participants' perceived physical attractiveness ratings of others

The histograms from the second pre-study



Figure 46. The histogram of the male participants' perceived promiscuity mean ratings



Figure 47. The histogram of the perceived promiscuity ratings of the female participants



Figure 48. The histogram of the perceived interest in a committed relationship ratings of the male participants



Figure 49. The histogram of the perceived interest in a committed relationship ratings of the female participants

The histograms from the main study



Figure 50. The histogram of male participants' slope coefficients for the first question



Figure 51. The histogram of female participants' slope coefficients for the first question



Figure 52. The histogram of male participants' slope coefficients for the second question



Figure 53. The histogram of female participants' slope coefficients for the second question

## APPENDIX E

# Descriptive reaction time data tables

Table 35. Male Participants' Reaction Time Data (Seconds)

Male	Profiles	n	M	SD	Min	Max
Participants	Not/Liked					
1	P.N.L	44	1.20	0.94	0.56	5.51
1	P.L	13	2.72	2.05	1.01	6.58
2	P.N.L	44	1.69	1.57	0.70	6.80
2	P.L	13	7.95	8.66	1.26	26.22
3	P.N.L	40	2.15	1.65	0.66	8.10
3	P.L	17	3.51	2.75	0.81	10.47
4	P.N.L	46	2.84	7.62	0.54	52.27
4	P.L	11	4.78	5.90	0.98	19.15
5	P.N.L	24	3.71	3.96	0.98	20.08
5	P.L	33	3.12	2.53	1.00	11.10
6	P.N.L	37	1.58	1.13	0.58	6.11
6	P.L	20	2.84	2.50	1.06	11.21
7	P.N.L	55	1.84	1.57	0.64	9.95
7	P.L	2	4.41	0.51	4.05	4.78
8	P.N.L	45	3.41	3.80	0.89	22.43
8	P.L	12	3.42	1.68	1.00	6.75
9	P.N.L	50	2.44	3.73	0.88	26.33

9 P.L 7 3.55 1.45 1.31	5.61
------------------------	------

10	P.N.L	51	1.60	1.48	0.55	7.70
10	P.L	6	3.15	1.80	0.90	5.55
11	P.N.L	45	1.72	1.39	0.70	7.43
11	P.L	12	2.95	3.77	0.86	13.93
12	P.N.L	44	1.22	1.32	0.41	6.51
12	P.L	13	1.33	0.76	0.81	3.58
13	P.N.L	50	1.04	0.90	0.48	6.41
13	P.L	7	1.16	0.49	0.80	2.31
14	P.N.L	55	1.13	1.00	0.03	5.80
14	P.L	2	2.59	0.81	2.01	3.16
15	P.N.L	44	2.21	1.86	0.73	8.58
15	P.L	13	2.74	1.69	0.81	5.50
16	P.N.L	52	1.08	0.72	0.40	4.86
16	P.L	5	2.24	2.63	0.90	6.95
17	P.N.L	56	1.49	1.50	0.36	9.40
17	P.L	1	1.41	NA	1.41	1.41
18	P.N.L	47	1.54	2.18	0.36	12.93
18	P.L	10	1.15	0.69	0.50	3.05

P.N.L: Profiles Not Liked

P.L: Profiles Liked

Female Participants	Profiles	n	М	SD	Min	Max	
1	P.N.L	52	1.14	0.66	0.45	3.63	
1	P.L	5	1.71	0.30	1.38	2.08	
2	P.N.L	52	0.97	0.51	0.51	3.45	
2	P.L	5	2.11	0.72	1.20	3.18	
3	P.N.L	38	1.98	1.55	0.01	7.18	
3	P.L	19	1.95	1.00	0.85	3.90	
4	P.N.L	51	1.28	0.86	0.08	4.91	
4	P.L	6	1.53	0.64	0.86	2.60	
5	P.N.L	55	1.20	2.60	0.36	19.83	
5	P.L	2	1.22	0.83	0.63	1.81	
6	P.N.L	52	1.13	0.77	0.46	5.20	
6	P.L	5	3.07	1.58	1.00	4.98	
7	P.N.L	54	1.54	1.19	0.76	6.35	
7	P.L	3	3.98	2.31	1.96	6.51	
8	P.N.L	46	1.57	1.20	0.58	7.06	
8	P.L	11	2.18	1.57	0.86	6.51	
9	P.N.L	50	1.23	0.90	0.48	3.73	
9	P.L	7	1.21	0.43	0.76	1.85	

Table 36. Female participants' reaction time data (Seconds)

Female Participants	Profiles	n	M	SD	Min	Max
10	P.N.L	47	1.52	0.85	0.65	4.11
10	P.L	10	2.06	1.40	1.01	4.93
11	P.N.L	34	3.20	2.16	0.44	10.30
11	P.L	23	2.94	1.33	1.21	6.36
12	P.N.L	53	0.89	0.94	0.48	6.86
12	P.L	4	1.79	0.86	0.81	2.63
13	P.N.L	50	1.12	0.74	0.50	3.45
13	P.L	7	4.42	6.33	1.23	18.7
14	P.N.L	50	1.16	1.34	0.53	8.98
14	P.L	7	1.58	1.19	0.86	4.21
15	P.N.L	45	2.29	3.11	0.64	20.25
15	P.L	12	2.22	0.98	0.78	3.93
16	P.N.L	45	1.59	1.01	0.66	5.60
16	P.L	12	3.73	5.55	1.10	21.07
17	P.N.L	47	1.28	0.99	0.51	3.96
17	P.L	10	1.27	0.52	0.73	2.28
18	P.N.L	53	1.54	2.12	0.48	12.05
18	P.L	4	1.17	0.49	0.75	1.88

19	P.N.L	53	1.09	1.29	0.51	8.13
19	P.L	4	2.30	1.64	0.76	4.58
20	P.N.L	52	1.20	1.73	0.41	11.90
20	P.L	5	1.18	0.14	1.00	1.36
21	P.N.L	41	1.73	1.69	0.65	10.65
21	P.L	16	1.41	0.46	0.86	2.40

### APPENDIX F

## Collinearity diagnostics tables for the main analysis

Table 37. The Tolerance and VIF values (male data)

Variables	Tolerance	VIF
Attractiveness	.838	1.194
Trustworthiness	.629	1.518
Promiscuity	.887	1.127
Interest in a committed	.813	1.229
RT	.973	1.027

Table 38. The Tolerance and VIF values (female data)

Variables	Tolerance	VIF
Attractiveness	.082	12.167
Trustworthiness	.101	9.885
Promiscuity	.355	2.816
Interest in a committed	.511	1.957
RT	.865	1.156