Universidade do Minho
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Physical attractiveness: sexual satisfaction, promiscuity and infidelity

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Physical attractiveness: sexual satisfaction, promiscuity and infidelity

Abstract

Attractiveness refers to positive characteristics, and good physical appearance is one of these traits (Hartz, 1996). If attractiveness is an important aspect in interacting with others, it is possible that it influences certain behaviors, namely those involved in intimate relationships. Therefore, this study sought to relate attractiveness with sexual satisfaction, promiscuity and infidelity. The sample had 206 participants, 164 females and 42 males, aged between 18 to 54 years. Results showed a significant positive correlation between self-perceived attractiveness promiscuity. In order to further access participant's attractiveness we took photographs of their faces, and they were shown to independent evaluators. These photographs were then used to create a Portuguese database of human faces. This database presented uniform conditions in all photos and included one folder per participant, with nine photographs of different expressions and some personal information, which is an improvement over existing database.

Keywords: Physical attractiveness; Sexual satisfaction; Promiscuity; Infidelity; Photos database.

Atratividade física: satisfação sexual, promiscuidade e infidelidade

Resumo

A atratividade associa-se a características positivas, e a boa aparência física é um desses traços (Hartz, 1996). Se a atratividade representa um papel importante na interação com os outros, é possível que influencie certos comportamentos, nomeadamente os que se relacionam com as relações íntimas. Este estudo procurou relacionar a atratividade física com a satisfação sexual, a promiscuidade e a infidelidade. A amostra foi constituída por 206 participantes, 164 mulheres e 42 homens, entre os 18 e os 54 anos. Os resultados mostraram uma correlação positiva significativa entre a auto atratividade e a promiscuidade. Com o intuito de aceder à atratividade dos participantes foram tiradas fotografias às suas faces e, apresentadas a avaliadores independentes. Posteriormente, as fotografias foram usadas para criar a primeira base de dados portuguesa de rostos humanos. Esta base de dados foi criada com condições uniformes e incluiu uma pasta por participante, com nove fotografias de diferentes expressões e algumas informações pessoais, sendo uma melhoria em relação às bases de dados existente.

Palavras-chave: Atratividade física; Satisfação sexual; Promiscuidade; Infidelidade; Base de dados de fotos.

Introduction

Attractiveness

        Attractiveness refers to positive characteristics, and good physical appearance is one of these traits (Hartz, 1996). Despite the subjectivity of this concept, there are certain commonly valued characteristics that people tend to have in consideration when assessing attractiveness. For example, facial symmetry (Grammer & Thornhill, 1994) and traces of sexual dimorphism (Komori, Kawamura & Ishihara, 2009), such as women's faces without hair and men with beard, are some of these features. Another attribute associated with physical attractiveness is health, represented by traits such as skin clean, filled lips and muscle toning (Colwell, 2007). According to an evolutionary perspective, the concept of attractiveness as an indicator of quality, including health, good genes and breeding capacity, come from ancestors who developed these preferences due to reproductive advantages (Barber, 1995). In our society, as Snyder, Tanke and Berscheid (1977 referred, physical attractiveness is a positive and valuable attribute that often determine responses to others. Since society influences individual's standards of attractiveness (Hartz,1996), appeared the halo effect of attractiveness, which defined most attractive people with better reviews and more positively matched by others (Berry & Miller, 2001). This effect, present in various social groups, corroborated the importance of physical appearance, which influenced assessments about other people (Colwell, 2007). In the same way, Feingold (1992) associated favorable characteristics, like socially desirable personalities and facility in establish loving relationships, to physically attractive individuals.

Attractiveness in interpersonal relationships

        Physical attractiveness also played an important role in the way individuals feel, since there is a relation between physical attractiveness and well-being (Plaut, Adams & Anderson, 2009). The positive perception of their own physical attributes allows the individual to experience greater confidence in the interaction with the opposite sex, which could lead to more opportunity for sexual involvement and validation (Wiederman & Hurst, 1997). Since attractiveness is an important factor in interpersonal relationships, there is a desire for social closeness to attractive people that lead to a search for partners who meted this requirement (Lemay, Clark & Greenberg, 2010). Sigall and Landy (1973) showed that individuals associated with a physically attractive partner were considered in a more favorable way. Even though attractiveness is a determining factor in first impressions (Miller, 1970), there are gender differences.

According to Colwell (2007), men gave more importance to physical appearance, not only in the first contact but also in a lasting relationship. Similarly, despite being an important factor in initial meetings, women undervalued physical appearance in detriment of social status and the possibility of creating a family, in a long-term loving relationship (Buss & Barnes, 1986). A longitudinal study conducted by Meltzer, McNulty, Jackson and Karney (2014) reinforced this previous idea, indicating that the physical attractiveness of a partner played an important role in predicting greater satisfaction of husbands, but that it was not a major predictor of women's satisfaction in a long-term relationship. Brody, Simard and Hess, 2012) emphasized differences between sex and found that men tend to be attentive to attractive women, whether they are in a stable relationship or not, sexually active or inactive. However, women involved in a long-term relationship pay less attention to attractive men (Hess, Brody, Schalk & Fischer, 2007. Although being in a long-term relationship seems to be a protective mechanism (Karremans, Dotsch & Corneille, 2011), the exposure to alternative partners, especially physically attractive, has been shown to threaten satisfaction and commitment to romantic relationship (Gangestad & Thornhill, 1997). Other study also showed that individuals, regardless of being in a relationship, remained attentive to attractiveness of opposite sex (Maner, Gailliot & Miller,2009).

Sexual satisfaction

A romantic relationship is usually initiated by sexual attraction (Sprecher & Regan, 1998), which is influenced by physical attractiveness (Stroebe, Insko, Thompson & Layton, 1971). Beyond the importance in initial stages of involvement, sexuality also contribute to maintain satisfactory and long-term romantic relationships (Litzinger & Gordon, 2005; Sprecher & Cate, 2004). Some researchers observed that sexual satisfaction had an important role in the relationship satisfaction, since individuals with greater relationship satisfaction also reported greater sexual satisfaction, and increasing relationship stability (Byers, 2005; Yeh, Lorenz, Wickrama, Conger & Elder, 2006). There are some sex differences among sexuality, for example, men usually have a stronger sex drive than women (Baumeister, Catanese & Vohs, 2001). Furthermore, women tend to find sexual intercourse less pleasurable (Haavio-Mannila & Kontula, 1997), less important and with different meanings than men (Baumeister, Catanese & Vohs, 2001).

Marital dissatisfaction is related to extramarital involvements (Glass & Wright, 1985). These behaviors, of infidelity and promiscuity, are shown to affect

significantly romantic relationships (Smith, 2010), two concepts that seemed to be related (Mark, Janssen & Milhausen, 2011).

Promiscuity

Promiscuity is defined as the tendency to get involved with several people, whether romantically or sexually (Jones & Paulhus, 2012). Therefore, this concept can be defined in two ways, emotional and sexual (Jones, 2011; Markey & Markey 2007). Emotional promiscuity is tendency for people to fall in love quickly, indiscriminately and often (Jones, 2011). On other hand, sexual promiscuity is related to unrestricted practices, like engaging in uncommitted sexual behaviors (Markey & Markey, 2007; Penke & Asendorpf, 2008; Schmitt 2004). Another term linked to sexual promiscuity is sociosexuality (Simpson & Gangestad, 1991). According to Simpson and Gangestad (1991), people that are at one end of this dimension can be designated as unrestrained – they tend to feel comfortable engaging in sex without proximity or commitment – whereas those that are at the opposite extreme can be designated as restricted – they need closeness to feel comfortable to develop sexual behaviors. Buss and Barnes (1986) demonstrated that men have more promiscuous behaviors and women exhibited more restricted behaviors. In addition, promiscuous behaviors are related to some personality traits in occidental cultures (Schmitt, 2004). Although there are only few studies among promiscuity, some of them investigated the relationship between sexual behaviors and attitudes and infidelity (Feldman & Cauffman, 1999; Mark, Janssen & Milhausen, 2011; Pinto & Arantes, 2016). Barta and Kiene (2005) revealed that participants with an unrestricted sociosexuality lean towards a sexual motive for being unfaithful.

Infidelity

Infidelity is one of the most increasing (Brand, Markey, Mills & Hodges, 2007; Whisman, Dixon & Johnson, 1997) and disturbing problems in relationships (Berman & Frazier, 2005). This concept can be characterized by deterioration of monogamy (Peluso, 2007), that is, a sexual or romantic involvement, for a short or long-term, during a committed romantic relationship (Brand, Markey, Mills & Hodges, 2007). Another definition of betrayal is a breakdown of the emotional contract made by a couple when engaged in a relationship, that may have had emotional or sexual motivations (Barta & Kiene, 2005). Emotional motivations may have arisen because partner neglect, relationship dissatisfaction or anger. Sexual motivations refer to a desire of greater variety of sexual partners, sex more often or a partner with different sexual interests (Barta and Kiene, 2005). Therefore, extradyadic involvement ranges from

intimate conversation, flirting with others or sexual intercourse (Wiederman & Hurd, 1999). The way that men and women conceptualize sex and love influences their behaviors (Wade, Kelley & Church, 2012). For example, some studies suggested that men are more likely to commit infidelity than women (Atkins, Eldridge, Baucom, & Christensen, 2005; Waite & Joyner, 2001). Barta and Kiene (2005) found that males tend to have more sexual motivations and engage in physical forms of infidelity while females seem to engage more in emotional forms of infidelity. Despite sex differences, individuals who maintain permissive attitudes toward uncommitted sexual relationships are more likely to commit adulterous acts (Mattingly, Clark, Weidler, Bullock, Hackathorn & Blankmeyer, 2011). So, individuals involved in infidelity tend to report less sociosexual restriction and less commitment, while individuals without history of infidelity are associated with restricted perceptions about infidelity and greater commitment (Rodrigues, Lopes & Pereira, 2016).

A possible factor that has been shown to increase infidelity behaviors is the possibility of sexual encounters, since higher levels of attractiveness result in more opportunities for sexual involvement with multiple desirable partners (Weeden & Sabini, 2007). Sexual behavior, considering beginning of sexual acts at an earlier age and more sexual partners (Bogaert & Fisher, 1995), may also influence attitudes of infidelity. Another factor that may lead to these behaviors is reproductive success, which can be increased with extra pair marital relations, more frequent among attractive individuals (Rhodes, Simmons & Peters, 2005).

Since there is evidence that individuals searched for more attractive partners (Tesser & Brodie, 1971), it is plausible to assume that physical appearance influences attitudes of infidelity.

Present study

Although there is plenty of literature around attractiveness, there are no investigations concerning attractiveness and sexual satisfaction, promiscuity and infidelity. Given this, the present study aims understanding if individual attractiveness, self-perceived and evaluated by others, is related to sexual satisfaction, promiscuity and infidelity. To fulfill this objective, participants were questioned about their attractiveness and photographs of their faces were also taken, to allow an evaluation by conducted by independent assessors. Since attractiveness can be easil access through photos, this seemed an appropriate way to evaluate participants.

We have several hypotheses. Hypothesis 1 states that individuals who perceive themselves as being more attractive tend to show higher sexual satisfaction. Hypothesis 2 states that individuals who perceive themselves as being more attractive report more promiscuous behaviors. Hypothesis 3 states that individuals who perceive themselves as being more attractive reported more infidelity behaviors. Similarly, hypothesis 4 proposes that individuals perceive as more attractive by independent evaluators demonstrate higher sexual satisfaction. Hypothesis 5 proposes that individuals perceived as more attractive by independent evaluators show more promiscuous behaviors. Hypothesis 6 proposes that individuals perceived as more attractive by independent evaluators report more infidelity behaviors. Regarding gender differences, hypothesis 7 suggests that men are more sexually satisfied than women. Hypothesis 8 suggests that men are more promiscuous than to women. Finally, hypothesis 9 suggests that men are more unfaithful than women.

With the photographs taken, we also created a human faces database, as another objective of this thesis was to contribute to literature and to improve materials for future investigations.

There are several databases of faces (Grgic, Delac & Grgic, 2011; Lucey, Cohn, Kanade, Saragih, Ambadar & Matthews, 2010), however all of them had failures. Among them are the use of a small number of subjects (Ji, Lin & Zha, 2009; Kanade, Cohn & Tian, 2000; Omaia, Poel & Batista, 2009; Tan & Triggs, 2010), differences in the background or different clothes among participants (Huang, Ramesh, Berg & Learned-Miller, 2007), photographs taken in different years with different conditions (Fox, O'Mullane & Reilly, 2005; Naseem, Togneri & Bennamoun, 2010; Ng & Winkler, 2014) or grey scale (Sohail & Bhattacharya, 2008). Some database created groups with different conditions, disregarding uniformity between photos (Minear & Park, 2004). Although there are databases with a high number of participants, some depreciate consistency and have many different details in each photo (Abdallah, El-Nasr & Abbott, 2007; Phillips, Wechsler, Huang & Rauss, 1998). Another limitation of databases is the presentation of only one facial expression (Messer, Matas, Kittler, Luettin & Maitre, 1999; Marszalec, Martinkauppi, Soriano & Pietikaeinen, 2000). Some databases with diverse expressions do not have consistent conditions among all photos (Jia & Martinez, 2008; Karim, Lipu, Rahman & Sultana, 2010). For example, the Multi-Pie database has good features, but each participant was photographed with their own clothing and seated in a chair that appears on the image, which diverted focus from

faces to other details (Gross, Matthews, Cohn, Kanade & Baker, 2010). The Chicago Face Database has good conditions and different expressions; however, it has only around 100 subjects and in some of photos it is possible to see details of participants' clothing, which could be a distractor of the subjects' faces (Ma, Correll & Wittenbrink, 2015). Our database will be the first Portuguese face database, will be constituted by a large sample, photographs will be taken under the same conditions, participants will represent seven facial expressions plus two profiles, and some personal information will be added to the subjects.

Method

Participants

There were 206 participants, 164 females (76.6 %) and 42 males (20.4 %). The subjects' ages ranged from 18 to 54 years, with a mean of 22.3 (*SD* = 5.9). In relation to sexual orientation, 189 (91.7 %) were heterosexual, 7 (3.4%) homosexual, 8 (3.9%) bisexuals and two (1%) did not respond to this question. Most participants had already started their sexual life (*n* = 162; 78.6%). One hundred and two (49.5%) were in a romantic relationship, 81 (39.3%) had been in a romantic relationship in the past and 23 (11.2%) never had a romantic relationship. Of the participants who were or had already been in a relationship, 34 (18.6%) had betrayed their partner and 149 (81.4%) had never betrayed. The sample consisted mainly of people from the University of Minho (*n* = 190; 92.23%), 173 (84%) were students, 17 (8.2%) were student workers, 15 (7.3%) were workers and one (0.5%) was unemployed. Almost all participants had Portuguese nationality (*n* =193; 93.7%) and 13 (6.3%) were foreigners, more specifically English, Spanish, French, Brazilian, Angolan and Uzbek. Another personal information like height (*M*= 166 cm; *SD*= 0.1), weight (*M*= 61.6 kg; *SD*= 11.4) and if the subjects were wearing make-up (n_{YES} = 64; 31.1 %) were associated with each participant. Participants assessed their physical attractiveness with a mean of 62.3 (*SD* = 14.1).

Participants were recruited through advertising and rewarded through a lottery of shopping card gift checks, each valued at 10 euros. Another process of raising participants was linked to psychology students from the University of Minho, through a platform and attribution of credits. This study did not have exclusion criteria.

The photographic questionnaire, was answered by 88 external evaluators, 67 (76.14%) women and 21 men (23.86%), with a range of age between 18 and 63 years

(M = 28; SD= 11.2). The evaluation of the physical attractiveness of the participants had an average of 47.6 (SD= 7.3).

Materials

The photo collection phase required a camera, a tripod, a flash, a black spleen cloth, to cover the participants' clothing, and a beige screen of 2*2 meters, to serve as background for the images.

The computer software used during entire study was *Windows 10. Qualtrics 2016* was used to build all questionnaires.

Demographic questionnaire. This questionnaire consisted of 11 items, such gender, age, sexual orientation, professional situation, weight, height, whether they were in a relationship or had already been and if they have already started their sex life. The subjects also had to evaluate their own physical attractiveness (facial attractiveness and general physical attractiveness) using a Likert scale ranging from 1 "Extremely unattractive" to 100 "Extremely attractive".

The Revised Sociosexual Orientation Inventory (SOI-R) (Simpson and Gangestad, 1991). The Sociosexual Orientation Inventory (SOI) was originally proposed by Simpson and Gangestad (1991) and provided a short self-report measure of global sociosexual orientations. Penke and Asendorpf (2008) tested this assumption in a confirmatory factor analysis of a model that had all seven SOI items, finding structural and psychometric issues and added new items, creating a psychometrically improved revision, the SOI–R. The SOI-R evaluates sociosexuality or sociosexual orientation and indexes a degree of sexual promiscuity on a continuum running from restricted to unrestricted (Wlodarski, Manning & Dunbar, 2015). The SOI-R used in this study was translated and validated by Pinto and Arantes (2016) with a good internal reliability (α = .88). The questionnaire comprises a total of nine items, divided into three parts. Items 1 and 3 reflect behavioral components of sociosexuality, scored on a scale from 0 to 20 people or more, items 4 to 6 reflect attitudinal component of sociosexuality, rated on a five-point Likert scale, that ranges from 1 "strongly disagree" to 5 "strongly agree" and items 7 to 9 reflect aspects of sociosexuality desire, scored on a five-point Likert scale from 1 "never" to 5 "nearly every day". All items were randomized.

Emotional Promiscuity (EP) Scale (Jones, 2011). According to Jones and Paulhus's study (2012) this scale measures individual differences between who fall in love easily and who fall in love often. This scale is formed by nine items, eight items scored on a Likert scale of five points, from 1 "totally disagree" to 5 "totally agree" and

the last one is about the number of love partners that participant already had. Questions two and five was quoted inversely, such that a higher punctuation represented less promiscuity. All items of the questionnaire were randomized. Therefore, a high score on the EP Scale represents individuals who experience deeper and stronger levels of romantic attraction when compared to individuals with low scores (Jones, 2011). The items from one to five loads on the "easily" factor and items six to 10 on the "often" factor (Jones, 2011). The version used in this study has been translated and validated by Pinto and Arantes (2016) with a good internal reliability ($\alpha = .82$).

Questionnaire on Satisfaction with sexual relations (QSRS) (Rosen, Cappelleri & Gendrano, 2002). This questionnaire was originally constituted by 14 items. The one used in this study was an adaptation of Ribeiro and Raimundo (2005), constituted by 13 items. Question two, "I feel confident that I can maintain my erection during sexual intercourse", was replaced, by "I felt confident that I was sufficiently aroused during the sexual intercourse", to allow any subject to respond to the questionnaire, regardless of gender. These questions were divided into two dimensions, satisfaction with sexual functioning, items one to seven, and trust, items nine to 13. The latter was divided into two subscales, self-esteem, items nine to 11, and relationship in general, items 12 and 13. All items were randomized. The statements were conveyed on a five-point Likert scale, from 1 "almost never / never" to 5 "almost always / always". Question 10 was quoted inversely, so that a higher grade represents lower satisfaction. The result was obtained with mean and highest scores were representative of more favorable responses, which was confirmed by results of study that demonstrated adequate psychometric values for Portuguese version (Ribeiro & Raimundo, 2005) with a good internal reliability of $\alpha = .90$.

Sexual and Emotional Infidelity (SEI) Scale (Pinto & Arantes, 2016). In a recent study, Pinto and Arantes (2016) created Sexual and Emotional Infidelity Scale (SEI) with the purpose of evaluating the two types of infidelity. The questionnaire should be answered considering all past relationships or current relationship. The 14-items inventory referred to behaviors perceived or not as infidelity, answered on a seven-point Likert scale, from 1 "never happened to me" to 7 "happens very often to me". These items were divided into two factors, emotional (items one to seven) and sexual (items eight to 14). According to the authors, the scale revealed good internal reliability of $\alpha = .93$. All items were randomly presented.

Photographic questionnaire. This questionnaire was created some of the photographs taken to the participants, being composed by 206 faces with smiling expression. This questionnaire had a sociodemographic part with three questions about gender, age and professional situation. The following questions were answered on a scale ranging from 0 "extremely unattractive" to 100 "extremely attractive", associated with each subject's photo.

Procedure

Initially, the informed consent was given to each participant. Face photo collections took place in a controlled environment and similar for all participants. The task was performed in a room where windows were covered, so there was no daylight, with participants sitting with their backs to a bright background, in a chair 1000 centimeter from a tripod, positioned 150 centimeters from floor, where it was installed a camera with a flash attached. Each participant was portrayed in seven different facial expressions, neutral, smiling, laughing, sad, angry, scared and seductive. This phase of procedure lasted about 10 minutes. After being photographed, participants answered to questionnaire, consisting of 52 items with a demographic part, presented first, and four other questionnaires evaluating sexual attitudes and behaviors (SOI-R, EPS, QSRS and EIQ), presented in a random order. Participants took an average of ten minutes to complete the questionnaire.

Total time dedicated to each participant, from explanation of the task until the end, was around 20 minutes.

After collection of all photos, a selection was made based on the image quality and correspondence of facial expression with desired emotion (nine photos for each participant). From this screening, smiling faces, one per subject, was used in creation of a questionnaire, to evaluate attractiveness by third parties. The questionnaire was built on Qualtrics 2016 and contained a photo of each participant to be classified for physical attractiveness. This questionnaire was placed online and sent individually to people with no relation to experience and subjects present in the photos, to allow distancing and objectivity in classifying attractiveness.

From collected photographs was created a database of human faces, which contained nine images of each person, and personal information associated with each person, including gender, age, weight, height, self-attractiveness and attractiveness by external evaluators.

Data analysis

   After all tasks were finished, data were organized using the *Microsoft Office Excel 2016* and analyzed using the *SPSS 24.0 (Statistical Package for the Social Sciences).* A correlation test was carried out, to understand if there was a relation between attractiveness of subjects and sexual satisfaction, promiscuity and infidelity. For analyzed the differences between high and low self-attractiveness and attractiveness by independent evaluators was performed a t-test for independent samples. Similarly, a t-test for independent samples was made to access the differences between sex.

<div align="center">

Results

</div>

Correlational analysis

   Pearson's correlations were applied to understand the relationship between attractiveness, sexual satisfaction, infidelity and promiscuity (Table 1).

   Results showed a significant positive correlation between facial self-attractiveness and general self-attractiveness ($r = .86$, $p < .001$), emotional promiscuity ($r = .14$, $p < .05$), easily dimension ($r = .15$, $p < .05$) and sexual promiscuity ($r = .15$, $p < .05$). Therefore, participants who considered themselves more facial attractive tended to have higher levels of general attractiveness, emotional promiscuity and easily dimension, and sexual promiscuity.

   Another significant positive correlation was found between general self-attractiveness and emotional promiscuity ($r = .15$, $p < .05$), easily dimension ($r = .15$, $p < .05$), sexual promiscuity ($r = .18$, $p < .01$), behavior ($r = .17$, $p < .05$) and attitude ($r = .14$, $p < .05$). Therefore, participants who considered themselves more attractive in general tended to have higher levels of emotional promiscuity and easily dimension, sexual promiscuity and their factors behavior and attitude.

   A significant positive correlation was found between attractiveness by independent evaluators and sexual satisfaction ($r = - .15$, $p < .05$). Thus, participants who were considered more attractive tended to have higher levels of sexual satisfaction.

   The results from the Pearson's correlation test showed a significant positive correlation between infidelity and sexual infidelity ($r = .80$, $p < .001$), emotional infidelity ($r = .97$, $p < .001$), emotional promiscuity ($r = .28$, $p < .001$), often dimension ($r = .42$, $p < .001$), sexual promiscuity ($r = .62$, $p < .001$), behavior ($r = .44$, $p < .001$), attitude ($r = .52$, $p < .001$) and desire ($r = .56$, $p < .001$). Therefore, participants who had higher scores on infidelity tended to have higher levels of sexual and emotional

infidelity, emotional promiscuity and the often dimension, sexual promiscuity and their three factors.

Results also showed a significant positive correlation between sexual infidelity and emotional infidelity ($r = .62$, $p < .001$), emotional promiscuity ($r = .18$, $p < .01$), often dimension ($r = .31$, $p < .001$), sexual promiscuity ($r = .49$, $p < .001$), behavior ($r = .46$, $p < .001$), attitude ($r = .38$, $p < .001$) and desire ($r = .38$, $p < .001$). Thus, participants who had higher scores on sexual infidelity tended to have higher levels of emotional infidelity, emotional promiscuity and the often dimension, sexual promiscuity and their three factors.

Results also showed a significant positive correlation between emotional infidelity and emotional promiscuity ($r = .29$, $p < .001$), often dimension ($r = .42$, $p < .001$), sexual promiscuity ($r = .61$, $p < .001$), behavior ($r = .38$, $p < .001$), attitude ($r = .52$, $p < .001$) and desire ($r = .58$, $p < .001$). Therefore, participants who had higher scores on emotional infidelity tended to have higher levels of emotional promiscuity and the often dimension, sexual promiscuity and their three factors.

The analyses showed a significant positive correlation between emotional promiscuity and easily ($r = .91$, $p < .001$), often ($r = .85$, $p < .001$) dimension, sexual promiscuity ($r = .22$, $p < .01$), behavior ($r = .50$, $p < .001$) and attitude ($r = .30$, $p < .01$). So, participants with higher levels of emotional promiscuity tended to have higher scores in easily and often dimensions, sexual promiscuity and their factors behavior and attitude.

The analyses also showed a significant positive correlation between easily dimension of emotional promiscuity and often dimension ($r = .55$, $p < .001$), behavior ($r = .21$, $p < .01$) and sexual satisfaction ($r = - .15$, $p < .05$). Therefore, participants with higher scores in easily dimension of emotional promiscuity tended to have higher scores in often dimension, factor behavior of sexual promiscuity and sexual satisfaction.

Another significant positive correlation was found between often dimension of emotional promiscuity and sexual promiscuity ($r = .30$, $p < .001$), behavior ($r = .27$, $p < .001$), attitude ($r = .24$, $p < .001$) and desire ($r = .22$, $p < .001$). Thus, participants with higher scores in often dimension of emotional promiscuity tended to have higher scores in sexual promiscuity and their three factors.

Results showed a significant positive correlation between sexual promiscuity and behavior ($r = .71$, $p < .001$), attitude ($r = .88$, $p < .001$) and desire ($r = .79$, $p <$

.001). Therefore, participants with higher scores on sexual promiscuity tended to have higher scores in all their dimensions.

A significant positive correlation was found between component behavior of sexual promiscuity and attitude ($r = .50$, $p < .001$), and desire ($r = .30$, $p < .001$). So, participants with higher scores in component behavior of sexual promiscuity tended to have higher scores in factors attitude and desire.

Another significant positive correlation was found between component attitude of sexual promiscuity and component desire ($r = .55$, $p < .001$). So, participants with higher scores in component attitude of sexual promiscuity tended to have higher scores in factor desire.

Tabel 1 *Correlational analysis*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Self-attractiveness face	-	.86***	.06	.01	- .02	.03	.64	.14*	.15*	.09	.15*	.11	.14	.11
2. Self-attractiveness general		-	.09	.02	- .01	.03	.16	.15*	.15*	.11	.18**	.17*	.14*	.13
3. Attractiveness by independente evaluators			-	.005	.21	- .002	- .15*	- .07	- .03	- .09	- .03	.11	- .04	- .12
4. Infidelity				-	.80***	.97***	.39	.28***	.42***	.11	.62***	.44***	.52***	.56***
5. Sexual Infidelity					-	.62***	.97	.18**	.04	.31***	.49***	.46***	.38***	.38***
6. Emotional Infidelity						-	.25	.29***	.13	.42***	.61***	.38***	.52***	.58***
7. QSRS							-	.21	- 15*	.89	- .04	.03	- .03	- .08
8. Emotional Promiscuity								-	.91***	.85***	.22**	.5***	.3***	.09
9. Easily									-	.55***	.1	.21**	.1	- .04
10. Often										-	.3***	.27***	.24***	.22***
11. Sexual promiscuity											-	.71***	.88***	.79***
12. Behavior												-	.5***	.3***
13. Attitude													-	.55***
14. Desire														-

p < .001 ***; p < .01 **; p < .05 *

Higher and lower attractiveness

T-tests for independent samples were conducted to understand if there were significant differences between high and low facial self-attractiveness and high and low attractiveness classified by independent evaluators, sexual satisfaction, infidelity and promiscuity.

The analyses showed statistically significant differences between self-attractiveness and emotional promiscuity [t (204) = .24, p <.01] and the easily dimension [t (204) = .01, p < .001]. Participants with high attractiveness reported higher values of emotional promiscuity (M = 2.72, SD = .65) and the easily dimension (M = 3.16, SD = .7), compared to participants with low attractiveness (M = 2.49, SD = .61), (M = 2.84, SD = .7) (Figure 1). On other hand, there were no statistically significant differences between high and low self-attractiveness and often dimension of emotional promiscuity [t (204) = .1, p >.10].
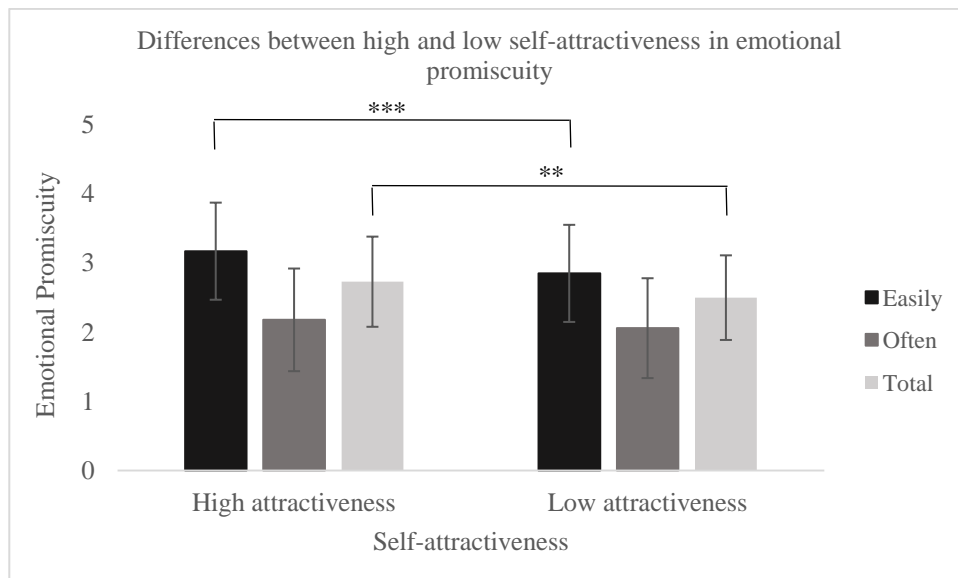

Figure 1 Differences between high and low self-attractiveness in emotional promiscuity

Results also showed statistically significant differences between self-attractiveness and sexual promiscuity [t (204) = 3.54, p < .01] and their components behavior [t (204) = 4.8, p < .001] and attitude [t (204) = 3.54, p < .05]. A marginally significant difference was found between self-attractiveness and the component desire of sexual promiscuity [t (204) = .7, p < .10]. Participants with high attractiveness reported higher values of sexual promiscuity (M = 2.4, SD = .84) and their components behavior (M = 2.04, SD = .89), attitude (M = 2.91, SD = 1.1) and desire (M = 2.26, SD = 1.08), compared to participants with low attractiveness (M = 2.08, SD = .74), (M = 1.66, SD = .74), (M = 2.57, SD = 1.12) and (M = 2, SD = 1.03), respectively (Figure 2). On

other hand, there were no statistically significant differences between high and low self-attractiveness and often dimension of emotional promiscuity [t (204) = .1, p >.10].
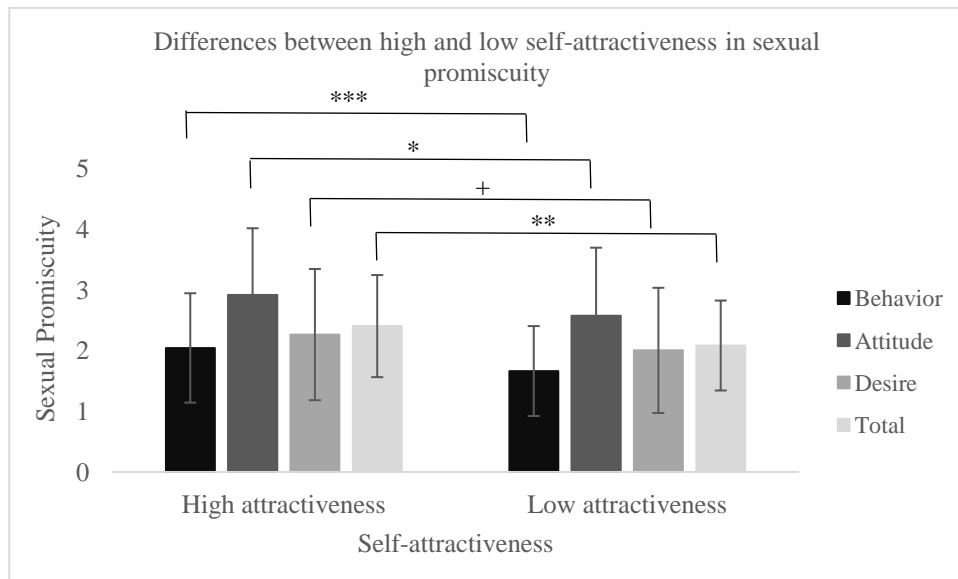

Figure 2 Differences between high and low self-attractiveness in sexual promiscuity

The *t*-test for independent samples revealed no significant differences between high and low self-attractiveness and infidelity [t (181) = .06, p > .10], sexual infidelity [t (181) = 1.19, p > .10] and emotional infidelity [t (181) = .02, p >.10].

There were also no differences between high and low self-attractiveness and sexual satisfaction [t (160) = 1.09, p >.10].

Given the attractiveness classified by independent evaluators, statistically significant differences were found relatively to the component behavior of sexual promiscuity [t (204) = .08, p < .05]. Participants with high attractiveness reported higher values of the component behavior of sexual promiscuity (M = 1.97, SD = .8) compared to participants with low attractiveness (M = 1.73, SD = .87) (Figure 3).
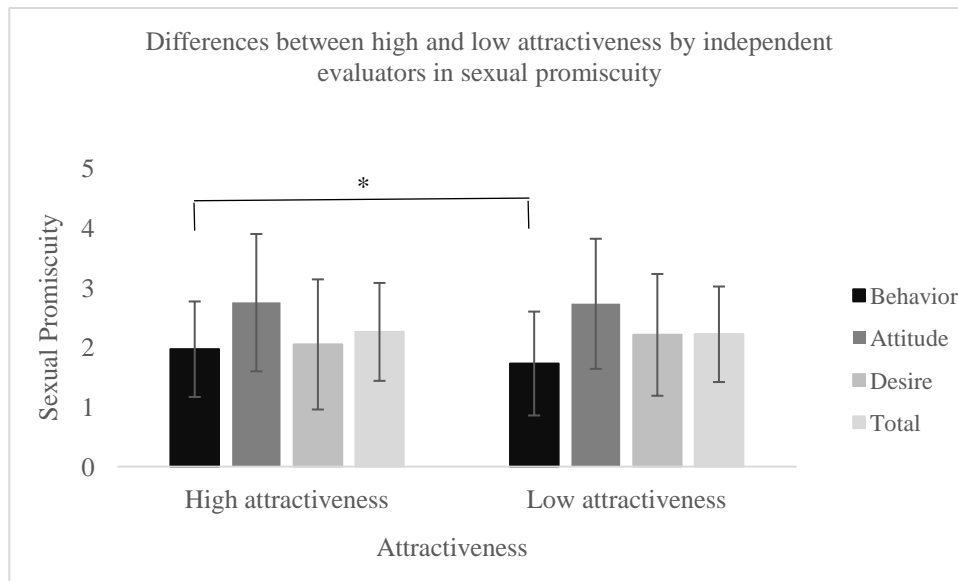
Figure 3 Differences between high and low attractiveness by independent evaluators in sexual promiscuity

However, *t-tests* revealed no differences between attractiveness classified by independent evaluators and sexual satisfaction [t (160) = 2.43, p >.10], infidelity [t (181) = .85, p >.10], sexual infidelity [t (181) = 2.3, p >.10] and emotional infidelity [t (181) = .8, p >.10], emotional promiscuity [t (204) = .35, p >.10] and dimensions easily [t (204) = .6, p >.10] and often [t (204) = 0, p >.10], sexual promiscuity [t (204) = .001, p > .10] and components attitude [t (204) = .34, p > .10] and desire [t (204) = .07, p > .10].

Differences between sex

To analyze significant differences between women and men, in attractiveness, infidelity, sexual satisfaction and promiscuity, t-tests for independent samples were conducted.

The results revealed statistically significant differences between sexes in relation to facial [t (204) = 2.6, p < .01] and general [t (204) = 1.44, p < .05] self-attractiveness. Men obtained higher values regarding classification of their own facial (*M* = 67.69, *SD* = 15.84) and general (*M* = 66.26, *SD* = 12.73) attractiveness compared to women, (*M* = 60.91, *SD* = 16.82) and (*M* = 61.08, *SD* = 12.73), respectively. Statistically significant differences were found in attractiveness classified by independent evaluators [t (204) = 1.03, p < .05)]. Women reported higher values of attractiveness (*M* = 47.59, *SD* = 7.42) than men (*M* = 44.85, *SD* = 6.53) (Figure 4).
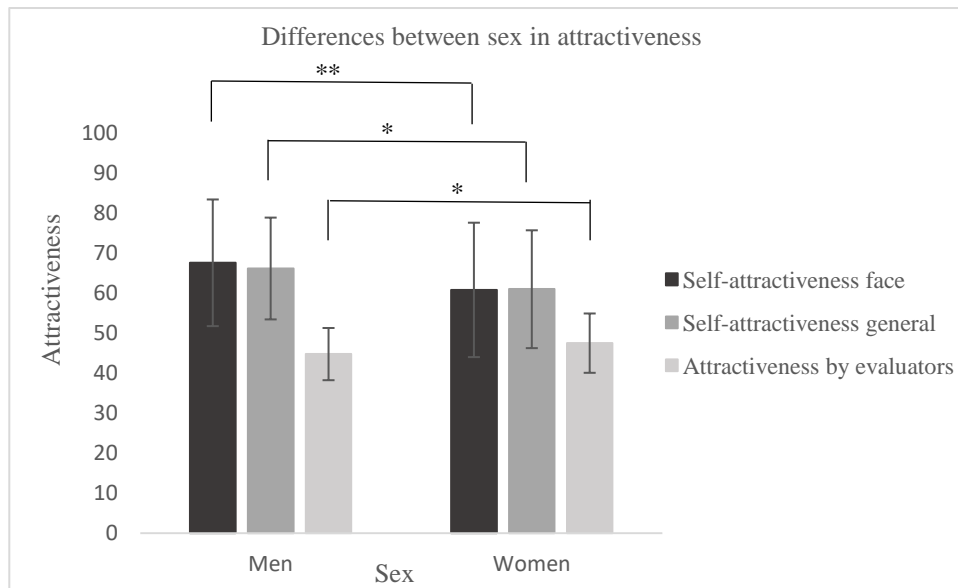
Figure 4 Differences between sex in attractiveness

A *t*-test revealed no significant differences between sex and sexual satisfaction [$t (160) = .95, p > .10$].

The analyses showed statistically significant differences in infidelity [$t (181) = 5.09, p < .001$], sexual infidelity [$t (181) = 3.31, p < .05$] and emotional infidelity [$t (181) = 3.74, p < .001$]. Men reported higher values of infidelity ($M = 1.68, SD = .56$), sexual infidelity ($M = 1.28, SD = .36$) and emotional infidelity ($M = 2.08, SD = .85$) compared to women, ($M = 1.35, SD = .48$), ($M = 1.14, SD = .32$) and ($M = 1.57, SD = .73$), respectively (Figure 5).
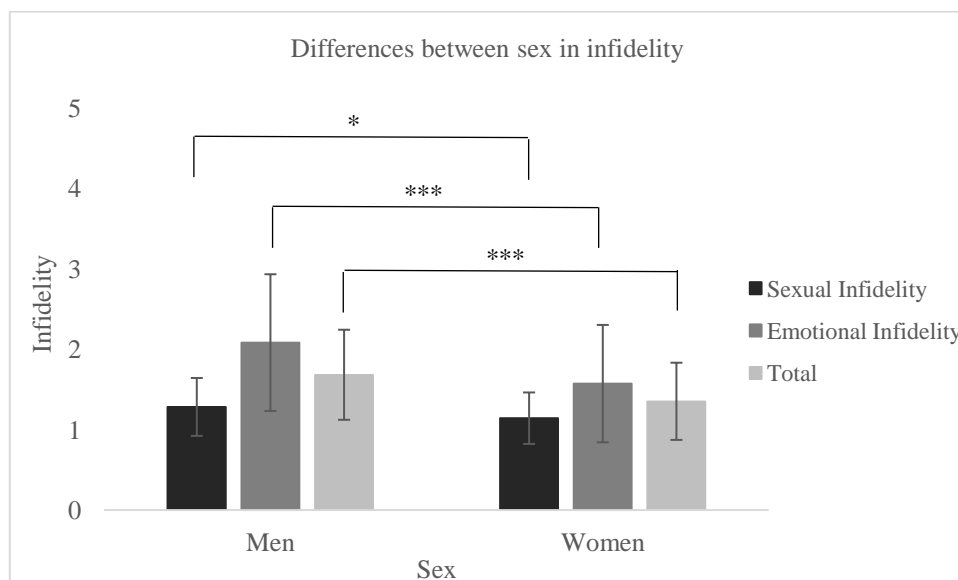

Figure 5 Differences between sex in infidelity

Statistically significant differences were found regarding emotional promiscuity [$t (204) = 3.1, p < .01$] and the often dimension [$t (204) = 7, p < .01$]. Men

reported higher values of emotional promiscuity ($M = 2.84$, $SD = .73$) and in the often dimension ($M = 2.42$, $SD = .91$), compared to women ($M = 2.54$, $SD = .6$) and ($M = 2.03$, $SD = .65$), respectively. Furthermore, there were found marginally statistically significant differences between sex in relation to easily dimension of emotional promiscuity [t (204) = 0.51, $p < .10$] (Figure 6). Men reported higher values of easily dimension of emotional promiscuity ($M = 3.18$, $SD = .74$), compared to women ($M = 2.95$, $SD = .71$).
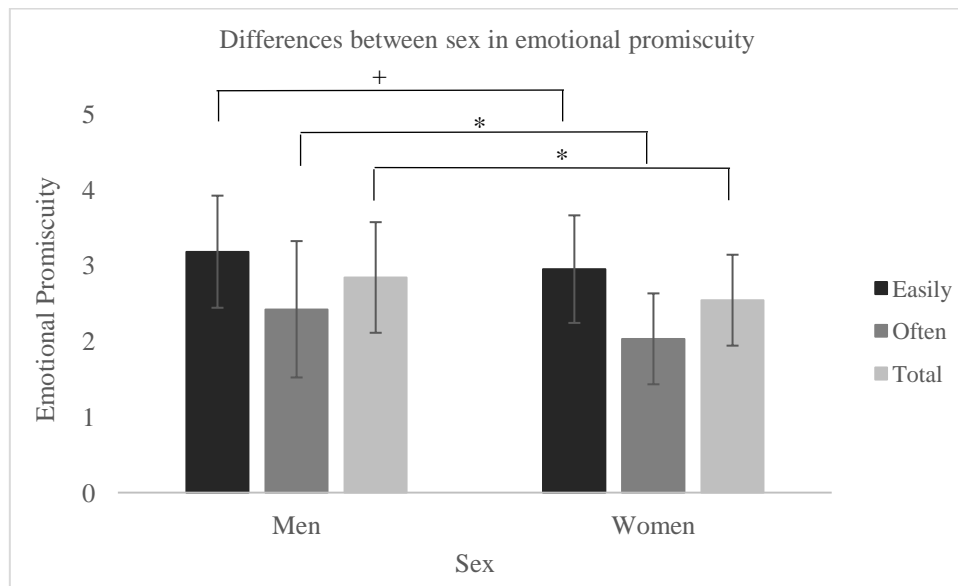

Figure 6 Differences between sex in emotional promiscuity

Statistically significant differences were found in sexual promiscuity [t (204) = 4.25, $p < .001$] and their dimensions behavior [t (204) = 19.27, $p < .001$], attitude [t (204) = .35, $p < .001$] and desire [t (204) = 2.27, $p < .001$]. Men had higher values of sexual promiscuity ($M = 3$, $SD = .85$) in all dimensions, behavior ($M = 2.42$, $SD = 1.1$), attitude ($M = 3.57$, $SD = 1.06$) and desire ($M = 3$, $SD = 1.09$) compared to women, ($M = 2.05$, $SD = .67$), ($M = 1.7$, $SD = .69$), ($M = 2.53$, $SD = 1.03$) and ($M = 1.91$, $SD = .94$), respectively (Figure 7).
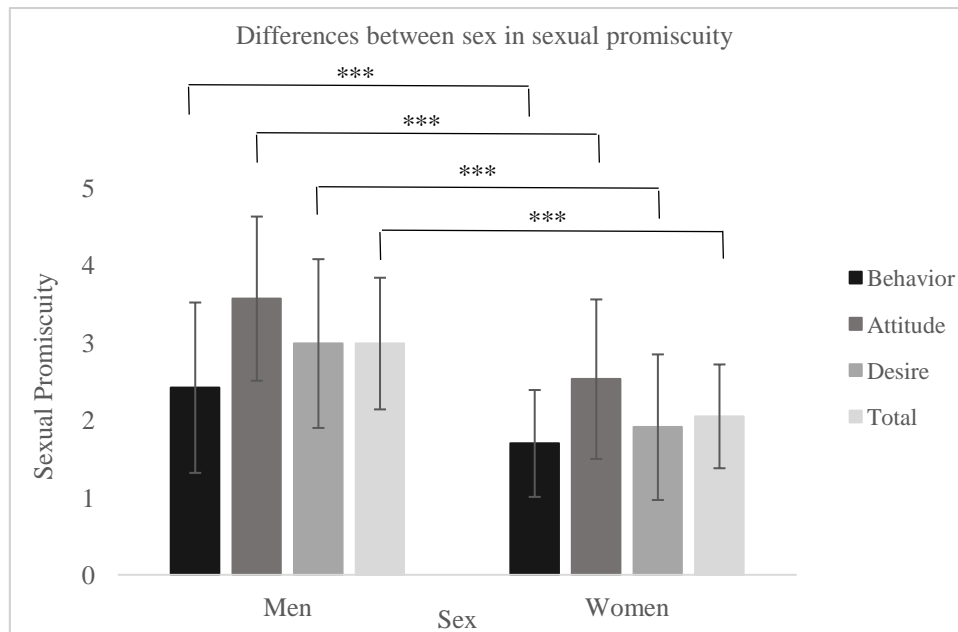
Figure 7 Differences between sex in sexual promiscuity

Photos database

Photos database included 206 folders, each one with nine photographs of a participant, seven different facial expressions and two profiles, and a file with personal information, such as sex, age, height, weight and self-attractiveness. Figure 8 shown an example of the photos taken to one participant.

Neutral

Right profile

Left profile

Smile

Laught

Seductive

Angry

Sad

Scare

Figure 8 Photos database of one subject

Discussion

   The main objective of this study was to observe whether physical attractiveness is related to sexual satisfaction, infidelity and promiscuity.

   The hypothesis 1, considering self-attractiveness and sexual satisfaction was refuted. This result may have been influenced by factors that were not considered in the analysis. Some aspects like body esteem, sexual esteem and sexual experience influenced self-perceptions and sexuality (Amos & McCabe, 2016), which might have reduced the impact physical attractiveness. Furthermore, since people tend to look for more attractive individuals (Lemay, Clark & Greenberg, 2010), there was a constant search for better partners that could led to sexual disaffection.

   The hypothesis 2, considering that individuals who perceived themselves as more attractive reported more promiscuity, was corroborated. As expected, a positive self-image led to better social connectedness (Plaut, Adams & Anderson, 2009; Sigall & Landy, 1973). The positive view of a person referred more self-esteem and, consequently, self-confidence in interpersonal relationships (Brown, Collins & Schmidt, 1988). This idea of greater openness to relationships with others was related to promiscuity, both emotional and sexual (Schmitt, 2004), and associated with extramarital behaviors (Barta & Kiene, 2005). Contrarily, hypothesis 3 was refuted. Although the larger possibility of sexual encounters has led to infidelity behaviors, as more attractive people had more opportunities for sexual involvement with multiple desirable partners (Weeden & Sabini, 2007). There were findings that people in romantic relationships seemed to be less attentive to attractive individuals of opposite sex (Karremans, Dotsch & Corneille, 2011).

   The hypothesis 4, regarding individuals perceived as attractive more sexual satisfied was refuted. Like hypothesis 1, the awareness that people looked for more attractive individuals (Lemay, Clark & Greenberg, 2010) might led to sexual disaffection. Otherwise, there was a possible explanation for this, not related to dependent variables but to classification made by external evaluators. Likewise, hypothesis 5 was refuted, once individuals evaluated as more attractive demonstrated higher levels of promiscuity. Hypothesis 6, that individuals perceived as more attractive by independent evaluators reported more infidelity, was also refuted. However, participants classified as more attractive had higher values in the component behavior of sexual promiscuity and led to the idea that more attractive people would report more promiscuity. The classification of attractiveness by external evaluators could had

influenced this result, since there were a distanced between these scores and self-attractiveness of each participant. Another factor was that more than half of sample scored under 50, presenting low values of external attractiveness. These scores might had been caused by discrepancy of attractiveness values attributed to the same participant, which may have led to the lack of appropriate differentiation between subjects. Other aspect that could influenced this evaluation were related to social standards that created an unrealistic view of attractiveness (Heinberg & Thompson, 1995; Yamamiya & Thompson, 2009). Nowadays, the beauty ideal was mainly predisposed by social media, in television shows, social networks and fashion magazines (Cusumano & Thompson, 1997; Greenwood, 2009; Groesz, Levine & Murnen, 2002), since early age (Vandenbosch & Eggermont, 2012). These patterns of attractiveness were being internalized by individuals and became their own beliefs (Thompson & Stice, 2001). This exposure of attractive people in mass media influenced attractiveness ratings of people on a daily basis (Vartanian & Hopkinson, 2010; Yamamiya & Thompson, 2009). On the other hand, the conditions of photos may had negatively influenced the classification of participants. Once participants were photographed during a normal day of classes or work, without any preparation or beauty effects and in a more constrained environment, may had portrayed a less favorable image of subjects.

The idea of hypothesis 7, that men were more sexually satisfied than women, was refuted. The research on sexual satisfaction was not always consistent and there were contradictory studies. Baumeister, Catanese and Vohs (2001) reported that men had a higher sexual motivation, while women placed more importance on the emotional component (Haavio-Mannila & Kontula, 1997). However, Davies, Katz and Jackson (1999) found no differences regarding sexual desire between men and women (Santtila, Wager, Witting, Harlaar, Jern, Johansson, … & Sandnabba, 2008). In addition, certain studies indicated that men also cared for emotional attachment in sexual satisfaction (Mark, Garcia & Fisher, 2015; Stulhofera, Ferreirab & Landripeta, 2014). These aspects may had approximated the values of sexual satisfaction between men and women, justifying the result. Another factor that could justified this result was related to the sample, since there were few male participants, which may not had been enough to prove a difference.

The hypothesis 8, that men were more promiscuous than women, was corroborating. This finding seemed to make sense since men tend to exhibit more

promiscuous behaviors (Buss and Barnes, 1986; Pinto & Arantes, 2016) and showed a stronger sexual motivation (Vohs, Catanese & Baumeister, 2001).

The hypothesis 9 was also corroborating, since men reported higher levels of infidelity than women. Some studies already reported that men were more likely to commit infidelity (Atkins, Eldridge, Baucom, & Christensen, 2005; Sheppard, Nelso & Andreoli-mathie, 1995). The finding corroborated this idea that men betrayed more than women (Waite & Joyner, 2001). Other interesting result that might had influence in men's behaviors was the fact that their considered themselves more attractive, presenting a higher confidence and openness to interpersonal relationships (Wiederman & Hurst, 1997).

The analyses also confirmed the link between the promiscuity and infidelity (Mark, Janssen & Milhausen, 2011), establishing the choice in evaluate both concepts. There were an association between personality traits, like greater sociability and openness to others (Schmitt, 2004), and permissive behaviors, that led individuals to engage in extramarital relationships (Barta & Kiene, 2005; Hackathorn, Mattingly, Clark & Mattingly, 2011).

For last, the photos database was well achieved because it fulfilled the conditions defined initially and presented a good sample. The photographs were taken in a controlled environment with the aim of ensuring uniformity among all, using same conditions of luminosity, a clear background and black fabric for cover participant's clothing. Furthermore, the fact that the photographs did not have subsequent treatments of embellishment allowed a more real representation of the population. The main value of the database was addressed to facial expressions performed by the subjects. Each participant was photographed in seven different facial expressions, neutral, smiling, laughing, charming, sad, scared and angry, plus two profiles, right and left. Other advantage of the database was the information added to each participant, such as gender, age, weight, height, self-attractiveness and attractiveness by external evaluators. This database fills in some of the faults observed in previous ones. Even the Chicago Face Database (Ma, Correll & Wittenbrink, 2015), despite presenting high-quality photographs, only had 158 participants and four different facial expressions. Another value of this database was that it was the first Portuguese photo database.

Limitations and Future Research

Although there were some patterns about attractivity that could be subjective (Grammer & Thornhill, 1994; Komori, Kawamura & Ishihara, 2009) and made conclusions more difficult to achieved.

Besides, the photographs of facial expressions may not be identical to the subject's reality, since emotions have been recreated in a controlled environment.

Other limitation of this study was associated with self-report evaluation instruments because there was no guarantee that the subjects had answered the truth, once participants may not had felt comfortable exposing intimate details about their relationships (Catania, McDermott & Pollack, 1986).

Considering the study and previous limitations, it was possible to elaborate some suggestions for future studies in this area of research.

Other interesting idea could be related to the treatment of the photos, telling participants previously that they would be photographed and using photoshop programs. This change could change some of the results, which would be interesting to note.

A larger sample with more diverse population and an approximate number of female and male participants could also deliver more accurate results.

As well as focus the study on a single variable, evaluated by several instruments, which could provide more information about each concept and fill in some flaws that may exist with a self-report questionnaire.

Conclusions and Implications

The added value of this study was the innovative character, since there was no literature that relates these variables. The relationship between physical attractiveness and sexual satisfaction, promiscuity and infidelity had never been studied, so there were no comparative results. However, the search for new relationships with physical attractiveness may allowing enrichment in understanding some behaviors related to the notion. Besides, an improve on knowledge about people's behaviors was always important for clinical psychology.

It was known that attractiveness played an important factor in the self-concept of individuals, influencing how they present themselves to others and deal with social interactions (Brown, Collins & Schmidt, 1988). Since self-perceived attractiveness was an important factor in determining self-esteem (Kenealy, Gleeson, Frude & Shaw, 1991) and impacts individuals' behaviors, it seemed important understanding their patterns. The thoughtful about these relations and adjacent cognitions can allow a

development on therapeutic strategies, to stimulate conscious attitudes about sexual behaviors. Furthermore, this also have implications at the intervention level, being important to work with individuals on how they classify themselves and interact with others, evolving the deconstruction of stereotypes and against the negative internalization of self-concepts.

Another important feature of the study was the creation of first Portuguese photo database that fulfilled its purpose, through the portrait of real people and representation of society. This database can be provided to other researchers with the aim of promoting scientific studies and new discoveries in attractiveness. A benefit of the existence of a database is to save future investigations of the amount of effort required to gather and standardize images stimulus. Especially in the case of real people, which requires the recruitment, taking the photographs and processing. For this reason, databases of faces offer several benefits and it's a convenient and attractive alternative to these bothers. Additionally, databases may facilitate comparisons across studies and promote exact replications, improving experimental control.

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