



**INSTITUTO UNIVERSITÁRIO EGAS MONIZ**

**MESTRADO EM PSICOLOGIA FORENSE E CRIMINAL**

**INTIMATE PARTNER VIOLENCE: RELATIONSHIP WITH  
INFIDELITY AND ATTACHMENT IN ADULTHOOD**

Trabalho submetido por  
**Ana Filipa Oliveira Fernandes**  
para a obtenção do grau de Mestre em Psicologia Forense e Criminal

**junho de 2019**



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Trabalho orientado por  
**Prof. Doutora Telma Almeida**

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## Abstract

**Background:** Given the importance of intimate partner violence (IPV), researchers focus on the study of their risk factors, namely, attachment and infidelity. Studies show that anxious and avoidant attachments, as well as the occurrence of infidelity, increase the probability of the existence of IPV. There are no national studies that analyze this relationship, and it is important to study this problem, identifying risk factors that allow the implementation of intervention programs. **Objectives:** We aimed to adapt the Composite Abuse Scale (CAS) and the Infidelity Scale (IS) to the Portuguese population; analyze the relationship between IPV and infidelity and verify the relationship between IPV and attachment. **Participants:** The sample was composed of 604 Portuguese adults (525 women and 79 men) between 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ). **Methods:** The participants answer to the protocol through a web survey, and completed a socio-demographic questionnaire, CAS, IS and ERP. **Results:** For CAS the results showed a structure with four factors and an unsatisfactory model, although it presents good psychometric properties. IS has two factors, a satisfactory fit of the model and good psychometric properties. The results showed no significant relationship between IPV and infidelity and a positive and significant relationship between IPV and attachment. **Conclusions:** This data allows for identifying some risk factors for IPV. Based on the validation of CAS and IS, it is possible to overcome limitations present in IPV and infidelity assessment instruments, which may be important for integration into risk assessment protocols.

*Keywords: Intimate partner violence, Composite Abuse Scale, Infidelity Scale, Attachment Styles*



## Resumo

**Enquadramento:** Dada a importância da violência entre parceiros íntimos (IPV), os estudos focam-se na procura dos seus fatores de risco, nomeadamente, a vinculação e infidelidade. Os estudos mostram que a vinculação ansiosa e evitante, bem como, a presença de infidelidade, aumentam a probabilidade de ocorrência de IPV. Não há estudos nacionais que analisem esta relação, e é importante estudar este problema, identificando fatores de risco que permitam a realização de programas de intervenção.

**Objetivos:** Este estudo visa adaptar a *Composite Abuse Scale* (CAS) e a Escala de Infidelidade (IS) à população portuguesa, analisar a relação entre IPV e infidelidade, e verificar a relação entre IPV e a vinculação. **Participantes:** A amostra inclui 604 adultos portugueses (525 mulheres e 79 homens) entre os 18 e os 70 anos ( $M = 35.60$ ,  $DP = 8.61$ ).

**Método:** Os participantes responderam a um protocolo através via *web*, que contemplava o questionário sociodemográfico, o CAS, a IS e a ERP. **Resultados:** Relativamente ao CAS, os resultados mostraram uma estrutura com quatro fatores e um modelo insatisfatório, ainda que apresente boas propriedades psicométricas. A IS apresenta dois fatores, um ajustamento satisfatório do modelo e boas propriedades psicométricas. Os resultados revelam inexistência de uma relação significativa entre IPV e infidelidade e uma relação positiva e significativa entre a IPV e a vinculação.

**Conclusão:** Os resultados desta investigação permitem a identificação de fatores de risco para a IPV. A partir da validação do CAS e da IS, é possível colmatar limitações presentes nos instrumentos de avaliação da IPV e da infidelidade, podendo estes ser uma mais-valia para a integração em protocolos de avaliação de risco.

**Palavras-chave:** *Violência entre parceiros íntimos, Composite Abuse Scale, Escala de Infidelidade, Estilos de Vinculação*



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## **List of Abbreviations**

CAS - Composite Abuse Scale

CFA - Confirmatory Factorial Analysis

CFI - Compared Fit Index

CR - Composite Reliability

EFA - Exploratory Factor Analysis

ERP - Experiences in Close Relationships

GFI - Goodness of Fit Index

IPV - Intimate Partner Violence

IS - Infidelity Scale

KMO - Kaiser-Meyer-Olkin

RMSEA - Root Mean Square Error of Approximation

VEM - Variance Extracted Mean



## **Intimate Partner Violence: Relationship with Infidelity and Attachment in Adulthood**

### **Introduction**

Since the 1990s, in Portugal, greater emphasis has been placed on the phenomenon of violence in intimate relationships due to the evolution of research (Matos & Anita, 2014). The studies on this theme focus on its conceptualization and types of violence employ in this context (e.g., Burelomova, Gulina, & Tikhomandritskaya, 2018; Wright, Hanlon, Lozano, & Teitelman, 2019). Research has also focused on other aspects, particularly on its impact. Studies show that victimization in intimate relationships leads to severe damage to the physical and psychological health (e.g., Gaman, McAfee, Homel, & Jacob, 2016; McLaughlin, O'Carroll, & O'Conner, 2012; Yakubovich et al., 2018).

To better understand the intimate partner violence (IPV), it was developed some explicative theories. The most notable is the social learning theory, developed by Bandura in 1977. This theory postulates that vicarious observation or direct experiences are responsible for the transmission of violence that is facilitated by the existence of reinforcement (Bandura, 1977). This approach leads to the model of intergenerational transmission of violence, which explains that violence is transmitted from generation to generation through the learning of normalizing beliefs of violence and the imitation of the behaviors. Therefore, exposure to violence during childhood can increase violence in adulthood, particularly in the context of intimate relationships (Chapple, 2003). Another emerging theory is the theory<sup>13</sup>. It postulates that the occurrence of aggression is due to the presence of factors: instigating (aversive situational events that emerge as a driver for violence, such as the realization that it is being provoked or rejected), impelling (dispositional factors that impel the adoption of violent behaviors), and inhibiting (situational or dispositional factors that can inhibit aggressive behaviors) that are present daily (Slotter & Finkel, 2011).

Attempting to explain violence, studies show additional factors that increase the likelihood of IPV, namely, infidelity (e.g., Islam et al., 2017; Stith, Green, Smith, & Ward, 2008). Research is consensual about this association between perception or occurrence of infidelity and the probability of occurrence of the various types of violence in intimate relationships (e.g., Nemeth, Bonomi, Lee, & Ludwin, 2012; Utley, 2017).

Research about infidelity is increasingly in evolution and this is still a theme where there is no consensus at various levels, namely its conceptualization and impact. Although the few studies on the subject, some explanatory theories have been developed, namely, the evolutionary theory, models of commitment and social exchange, and the theory of reasoned

action. The evolutionary theory was developed by Buss (1996), who concluded that men are more likely to be unfaithful, due to the fact that they can impregnate multiple partners, and also have a desire to achieve genetic success. Instead, women are more likely to have a relationship with a long duration, due to fertilization and gestation, providing them the necessary resources for their survival (Buss, 1996). The models of commitment and social exchange (Rusbult, 1983) suggest that individuals are more likely to be unfaithful when they perceive that other partners may be more desirable (Drigotas, Safstrom, & Gentilia, 1999). Furthermore, the reasoned theory presumes that individuals who adopt behaviors consistent with their attitudes and social norms will have more permissive attitudes towards infidelity and thus will more likely to be involved in infidelity (Ajzen & Fishbein, 1969).

Some variables have been associated with infidelity, namely attachment styles (e.g., Donovan & Emmers-Sommer, 2012; Fish, Pavkov, Wetchler, & Berrick, 2012). The system of attachment begins in childhood and is important throughout the development of individuals influencing how they relate to others (Bowlby, 1979). The attachment is defined as an innate behavioral system that serves to increase survival and promote secure (Doumas, Pearson, Elgin, & McKinley, 2008), since in the presence or perception of danger the attachment system is active, motivating the child to look for their attachment figure. In case that their needs are satisfied, a child's sense of security will be created, otherwise, the child's attachment system will remain active providing a feeling of insecurity (Bowlby, 1979). These considerations are part of the attachment theory developed by Bowlby (1984), which is the most commonly used theory when it comes to attachment styles. Initially, this theory focused on the different attachment styles in children (e.g., Bartholomew & Horowitz, 1991; Simpson, 1990). Ainsworth and colleagues (2015) classified attachment styles in children into three groups: anxious/ambivalent, avoidant, and secure. Quickly, studies on attachment styles have grown into adulthood. For example, Hazan and Shaver (1987) concluded that adults may present in their intimate relationships the attachment styles found by Ainsworth and colleagues (2015), i.e., secure avoidant, and anxious styles. Thus, individuals with secure attachment show a positive view of themselves and others, thereby gaining trust in others. Those are more likely to maintain stable relationships (Bartholomew & Horowitz, 1990). Individuals with avoidant attachment tend to have difficulties in trusting and relying on others, although they may be close to them (Simpson, 1990). Finally, anxious attachment is characterized by the existence of difficulty in approaching other people as much as they would like. Generally, individuals with this style of attachment are concerned that their

partners didn't like them. Therefore, they tend to become extremely close to them (Simpson, 1990).

In sum, the attachment theory applied to adults demonstrates that attachment styles can shape the way people regulate their emotions and how they behave and interact with others. Depending on the type of attachment, individuals will adopt behavioral responses in order to preserve their system of attachment and to promote its security (Pietromonaco & Beck, 2015). Thus, attachment styles may also be associated with IPV, as demonstrated by previous research (e.g., Barbaro & Shackelford, 2016; He & Tsang, 2017).

## **Objectives**

Based on the above-referenced state of the art, the present study has the main objective to analyze the relationship between the occurrence of victimization in intimate relationships, infidelity and attachment. With regard to specific objectives, this study proposes: a) to adapt the Composite Abuse Scale (CAS) to the Portuguese population; b) to analyze the occurrence of violence in intimate relationships; c) to adapt the Infidelity Scale (IS) to the Portuguese population; d) to analyze the occurrence of infidelity; e) to analyze the relationship between intimate partner violence and infidelity; d) to verify the relationship between intimate partner violence and attachment styles in adulthood; e) to analyze if the occurrence of infidelity is related to violence in intimate relationships; f) to verify if the occurrence of infidelity is related to the attachment styles.

## **Structure of the thesis**

The thesis is divided into six sections. Initially, a brief theoretical framework is established, where the objectives of this research are specified. In the second section, the methodology is presented, with: the characterization of the general sample, the procedures and measures that were used, and the statistical analyzes. The first and second articles (third and fourth section respectively) are related to the adaptation of the CAS (Hegarty, Bush, & Sheehan, 2005) and the IS (Drigotas et al., 1999), which presents a similar structure: definition of theoretical concepts, the factorial structure, and the psychometric characteristics. The fifth section, corresponding to the third article, represents the relationship between IPV, infidelity and styles of attachment in adulthood, and is characterized by two stages: definition of theoretical concepts, and statistical analyzes to respond to the objectives of the study.

Finally, the last section describes a general conclusion, where will be performed a resume of the articles reported, as well as the discussion of the results obtained.

## **Method**

### **Participants**

The total sample includes 604 Portuguese adults. As for the exclusion criteria, these varied between articles. In the first article, were considered the participants that identified herself as victims of violence in current or past intimate relationships, reaching a total of 211 participants. For the second article, all those who reported not being unfaithful in their current or past relationships were excluded, reaching a total of 83 participants. In the third article, it was used all the sample obtained, reaching a total of 604 participants.

### **Procedures**

The sample was collected online, through the Google Forms. The consent was signed electronically, for all participants. The protocol comprises all the measures needed for this study, namely, sociodemographic questionnaire, IS (Drigotas et al., 1999), CAS (Hegarty et al., 2005), and the Experiences in Close Relationships (ERP; Paiva & Figueiredo, 2010). The protocol was approved by the University Institutional Review Board and by the Ethics Committee.

### **Measures**

**Socio-demographic data.** We constructed a brief questionnaire to assess the following socio-demographic data: age, gender, marital status, educational level, sexual orientation, relationship status, current relationship duration, professional situation, profession, the gender of the person with who they maintain this relationship, if the official partner ever discovered the infidelity relationship, and questions related to the presence of infidelity (e.g., “In your present and/or current relationships you had a need to be unfaithful?”; “In your current and/or past relationships have you ever had the perception of being unfaithful?”; “In your current and/or past relationships have you ever been unfaithful?”). We also constructed a checklist with possible motivations for infidelity, where individuals answer “yes/no” to each affirmation. This checklist was built according to literature. The participants also have the hypothesis to answer “other” if the motivation for infidelity was not described.

**The Composite Abuse Scale (CAS).** This instrument allows assessing the existence and severity of physical, emotional and sexual abuse, through a scale, which varies between never, once, once per week, once per month, several times and only once, assessing the frequency of the experiences. The scale comprises 30 items and four factors: severe combined abuse, emotional abuse, physical abuse, and harassment. The participants answer according to the frequency that the experiences may occur in the last twelve months in the context of an intimate relationship.

**Infidelity Scale (IS).** This instrument comprises 11 items, which assesses the degree of physical and/or emotional intimacy with the partner of the intimate relationship, through a scale of nine-point scale. The total score and each subscale score represent the level of intimacy between partners of the infidelity relation, so the higher the punctuation of the scale, major will be the score of infidelity.

**Experiences in Close Relationships (ERP).** The ERP assess the attachment in close relationships in adulthood. This instrument comprises two factors: avoidance to approach and anxiety about abandonment. The scale is composed of 36 items which are answered from a seven-point Likert scale.

### **Statistical Analysis**

To respond to the objectives of the study, several statistical analyzes were used, namely, to adapt the CAS and the IS: descriptive analyzes were carried out to characterize the samples in relation to sociodemographic data; exploratory analyzes, to verify the adequacy of a confirmatory analysis and the extracted factors; confirmatory analysis, in order to obtain an adequate model. Two programs were used: the IBM SPSS Statistics Version .25.0 and the IBM SPSS AMOS v.25.0.

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## Article 1

### The Composite Abuse Scale: Psychometric Properties Among Portuguese Adults

#### Abstract

**Background:** Intimate partner violence (IPV) can involve a range of control behaviors and/or a threat or perpetration of violence against an intimate partner. Literature indicates the existence of several types of abuse, such as emotional abuse, physical abuse, and sexual abuse. The studies have been focused on the risk factors for the occurrence of IPV. The concept has been associated with several variables, like satisfaction relationship, infidelity, and the testimony of violence in childhood. In Portugal, several studies have been carried out in this context. **Objectives:** We aimed to analyze the psychometric properties of the Composite Abuse Scale (CAS) in a Portuguese adult's sample. **Participants:** The sample was composed of 211 Portuguese adults (174 women and 37 men) aged between 18 and 68 years old ( $M = 32.09$ ,  $SD = 11.08$ ), which report victimization in their relationships, in the present or past. **Methods:** The sample participated through a web survey and answered to a socio-demographic questionnaire and the CAS. **Results:** The confirmatory analyzes showed a structure with four factors. Unless the results showed an unsatisfactory model fit, it has convergent and discriminant validities, and also good psychometric properties. **Conclusions:** The findings showed that the total values of each subscale are low. The model shows a different factorial structure from the original version of CAS.

*Keywords: Intimate Partner Violence, Composite Abuse Scale, Psychometric properties*

#### Introduction

Since the 1970s, it has been an increase of researches related to intimate partner violence (IPV) (Jasinski & Williams, 1998). According to the reports of the World Health Organization (WHO, 2013), 30% of women worldwide are victims of their intimate partners. In Europe, the data indicate that 25% of women and 56% of men are victims of physical and/or sexual violence in their intimate relationships (Black et al., 2011). These data are consistent with studies conducted in several countries, namely in Spain, indicating 24.8% of violence in intimate relationships (Ruiz-Pérez et al., 2017). In Brazil, Panama, and Uruguay the scores are lower than those obtained in Americans, where there is a range of 14% to 17%.

Higher values are found in Bolivia, with a rate of IPV of 58.5% (Bott, Guedes, Ruiz-Celis, & Mendonza, 2019). In Portuguese reality, statistics indicate a 57.7% general rate of IPV (APAV, 2018).

Intimate Partner Violence doesn't have a universal definition that comprises the complexity of this concept (Burelomova, Gulina, & Tikhomandritskaya, 2018). Most studies report that intimate partner violence involves a range of control behaviors (Black et al., 2011) and/or a threat or perpetration of violence against an intimate partner regardless gender or sexual orientation (Department of Health, 2000). In our understanding, IPV involves various types of abuse (e.g., Black et al., 2011; Burelomova et al., 2018), perpetrated by one of the members or ex-members of the intimate relationship to the other one (Burelomova et al., 2018). That abusive behavior aims to have the power or the control of the relationship (Bonache, Gonzalez-Mendez, & Krahé, 2016) and the victim realizes the threat.

The most cited types of abuse in intimate relationships are psychological violence (Pazos, Oliva, & Hernando, 2014), physical violence (Aiquipa, 2015), and sexual violence (Simon & Wallace, 2017). Psychological violence is perpetrated as a way to humiliate or offend the other verbally, using threats (Burelomova et al., 2018), insults, accusations (Outlaw, 2009) or through restrictions like, social isolation, financial control, blackmail, restriction to friends or family as well as education or health services (WHO, 2013). Physical violence is defined as the use of physical force in order to inflict physical harm or suffering on the other (Garcia-Moreno et al., 2015). Sexual violence involves any unwanted sexual act directed against the partner's sexuality (Garcia-Moreno et al., 2015). Physical violence is considered less likely to occur than psychological. In particular, Rui-Pérez and colleagues (2017) showed that 21.1% had experienced psychological violence perpetrated by a partner, compared with 16% who suffered physical abuse in their intimate relationships. They also highlighted the greater probability of co-occurrence of these two types of abuse IPV, or other types of abuse such as, sexual coercion and controlling behaviors (Lövestad, Löve, Vez, & Krantz, 2017).

Concerning the high prevalence of IPV, it is important to identify their risk factors (Islam et al., 2017). Over time, studies have been focused on the factors that can contribute to its maintenance or origin, associating several variables. Stith, and colleagues (2008) conducted a meta-analysis with 32 articles and concluded that marital satisfaction and discord between intimate partners are significantly related to IPV. The infidelity has also been associated with the occurrence of IPV. Research shows that infidelity increases the likelihood of violent episodes (Nemeth, Bonomi, Lee, & Ludwin, 2012). Other variables have been

commonly associated with IPV, such as attachment (e.g., Barbaro & Shackelford, 2016). Bonache and colleagues (2016) showed that the anxious and avoidant attachment styles are related to both sexual violence and psychological abuse. Another important factor related to IPV is the testimony of violence in childhood and the tolerance of attitudes that support violence. Islam and colleagues (2017) verified that men that witness parent violence are more likely to report physical or sexual violence in their intimate relationships, and present more attitudes justifying partner violence. These results highlight the intergenerational transmission of violence (Scott & Babcock, 2010).

The negative consequences of IPV are well documented. Research has shown a huge number of negative effects on the physical and mental health of victims. A study in the USA, showed that IPV accounts for 30% of female homicide and 5% of male homicide and for decreased quality of life and increased mental disorders, as well as increased use of psychoactive substances (Gaman, McAfee, Homel, & Jacob, 2016). Yakubovich and colleagues (2018) concluded, under a systematic research and a meta-analysis, that the consequences involve death, injuries, sexually transmitted infections, and chronic diseases. There are also other reported consequences, such as posttraumatic stress disorder (Scott & Babcock, 2010), suicide (McLaughlin, O'Carroll, & O'Conner, 2012), headaches and insomnia (Sugg, 2015), suicidal ideation, difficulty going to work or school (Coston, 2018), depression (Plichta, 2004; Wright, Hanlon, Lozano, & Teitelman, 2019), increased levels of stress (Wright et al., 2019), and anxiety (Roberts et al., 2019).

In Portugal, several studies have been carried out in the context of violence in intimate relationships. Antunes and Machado (2012) carried out a study with 600 students from higher and secondary education and concluded that 72.3% revealed to experienced violence in intimate relationships and the type of violence most used was the physical violence. More recently, the research by Santos and Caridade (2017), with a sample of 168 couples with the same-sex, showed that there is a high prevalence of psychological abuse and low sexual coercion. Concerning physical abuse, participants reported more aggressive behaviors without sequels, compared to aggressive physical behaviors who leave sequels.

There are some instruments in Portugal that allow assessing the different types of abuse perpetrated in intimate relationships. However, to the best of our knowledge, those instruments evaluate the beliefs about the occurrence of violence in intimate relationships (e.g., Beliefs of Conjugal Violence: Machado, Matos, & Gonçalves, 2006), the presence of specific behaviors, without the evaluation of the different types of abuse (e.g., Conjugal Violence Inventory: Machado et al. 2006) or a few different types of abuse reported in the

literature (Revised Tactics Scale: Alexandra & Figueiredo, 2006). Besides, those instruments assess only marital violence, not considering the abuse that may occur in the context of other types of relationships (e.g., infidelity relationships, dating relationships).

The Composite Abuse Scale (CAS) was developed in Australia (Hegarty, Bush, & Sheehan, 2005) and adapted to other countries (e.g., Hegarty, 2014; Lokhmatkina, Kuznetsova, & Feder, 2010; Rietveld, Lagro-Janssen, Vierhout, & Wong, 2010). It is considered as a preferred measure of IPV to report the experiences of abuse perpetrated to women (e.g., Sohal, Eldridge, & Feder, 2007; Wathen, Jamieson, & MacMillan, 2008) in 30 items that report the frequency of abusive experiences (physical abuse, emotional abuse, harassment and severe combined abuse) in the previous 12 months. The validation of CAS (Hegarty et al., 2005) will allow evaluating more types of abuse reported in the literature (e.g., WHO, 2010).

Hence, this study aims to adapt the CAS (Hegarty et al., 2005) to the Portuguese population for both women and men, and to verify the prevalence of the types of each abuse among Portuguese population.

## **Method**

### **Participants**

The total sample was composed of 604 Portuguese adults' aged between 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ). Although in this study, we only considered participants who report being victims in present or past relationships, which were 211 participants of the total sample (34.93%). Participants who reported being victims of intimate partner violence, are majority women (174, 82.5%) aged between 18 and 68 years old ( $M = 32.09$ ,  $SD = 11.08$ ). The majority of participants are single (117, 55.50%), and employed (110, 52.1%). Inside of the employed participant's the most reported professional category is the specialists in intellectual and scientific activities (53, 25.1%). Concerning participant's education, 82 have secondary education (38.9%), 77 undergraduate (36.5%), 30 master's degree (14.2%), 3 three the third cycle (3.3%), five reported another situation (2.4%), five the second cycle (2.4%), four PhD (1.9%) and one has the first cycle complete (.5%). The majority (142, 67.3%) of the total sample are in a stable relationship, with an average duration of 3.82 years.

## Measures

**Socio-demographic data.** We constructed a brief questionnaire to assess the following socio-demographic data: age, gender, marital status, educational level, professional situation, profession, sexual orientation, relationship status, and current relationship duration.

**The Composite Abuse Scale (CAS).** The instrument allows assessing the existence and severity of physical, emotional and sexual abuse. Six items have yes/no answers that allow assessing intimate relationships of participants and the question seven have multiple affirmations, in which participants have to answer according to the frequency that each action occurs. The participants answer with a Likert-scale of six points [0 (never) to 5(daily)]. The original version of CAS comprises four factors with 30 items: severe combined abuse (8 items: 2, 5, 7, 15, 18, 22, 25, 26), emotional abuse (11 items: 1, 4, 8, 9, 12, 19, 20, 21, 24, 28, 29), physical abuse (7 items: 6, 10, 14, 17, 23, 27, 30) and harassment (4 items: 3, 11, 13, 16). The participants answer according to the frequency that the experiences described may occur in the last twelve months in the context of an intimate relationship. This measure varies between never, once, once per week, once per month, several times and only once, assessing the frequency of the experiences. The total score and each subscale score represent the presence and severity of each types of abuse. Therefore, the higher the punctuation of the scale, the major will be the score of abuse. Original version of CAS shows good psychometric characteristics, once presents an alpha superior to .80 (harassment –  $\alpha = .87$ ; severe combined abuse –  $\alpha = .91$ ; emotional abuse –  $\alpha = .93$ ; physical abuse –  $\alpha = .94$ ).

## Procedure

The study design was descriptive, observational and cross-sectional with a non-probabilistic and convenience sample. First, the CAS was translated from English into Portuguese by three researchers and translated from the Portuguese version to English by two researchers. The initial version was translated for both genders to allow the assessment of the perpetrated IPV against women and men in a heterosexual or homosexual relationship. The final version of CAS and the sociodemographic questionnaire were inserted in Google Form. The link to complete the questionnaires was disseminated to the web and the data collection was conducted, between March 1<sup>st</sup>, 2018 to April 30<sup>th</sup>, 2019. Before completing the questionnaires through the web-based survey, all participants signed a consent form electronically. The confidentiality of results and the anonymity of subjects were both ensured.

The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2009) and the protocol was approved by the Institutional Review Board and the Ethics Committee.

### **Statistical Analysis**

Initially, a descriptive analysis was performed with the socio-demographic data to better know the characteristics of the sample and for each subscale of the factor structure obtained. In the next step was performed an exploratory factor analysis to verify the factorial structure of CAS and compare with the factor structure obtained by Hegarty and colleagues (2005). To realize the exploratory factorial analysis was verified the Kaiser-Meyer-Olkin (KMO) which should be greater than .60 for acceptable suitability (Sharma, 1996). The Bartlett sphericity test, which must have statistically significant values, i.e.,  $p \leq .05$ , was also used. For the extraction and rotation of the items, the principal component method with varimax rotation was used. In order to choose the number of factors necessary to explain the total variance of the items, the Kaiser's criterion (Marôco, 2014) was used, accepting eigenvalues greater than 1. To perform this analysis, we used the statistical software IBM SPSS Statistics Version. 25.0.

Besides the exploratory factor analysis, it was performed a confirmatory factorial analysis (CFA) to assess the quality of the adjustment of the model obtained in the exploratory factor analysis (Marôco, 2014). In our study, we perform two CFA, one corresponding to the original factor structure of CAS and another one with the factor structure obtained in the exploratory factor analysis. This was made to compare the adjustment of both factor structure. We choose the factor structure with better values of adjustment. To perform this analysis, we used the statistical software AMOS v. 25. Thus, to obtain the model parameter estimates we use the maximum likelihood method to estimate the factor structure of the model. We also used indices of quality of adjustment, to assess the fit of the model, namely, Compared Fit Index (CFI), Goodness of Fit Index (GFI) and Root Mean Square Error of Approximation (RMSEA; 90% Confidence Interval). To assess the differences between the two models we used the chi-square ( $\chi^2$ ) According to Marôco (2014), values above .90 for CFI and GFI indicates a good fit of the model. For RMSEA, values below .05 point out a good model fit.

Concerning to psychometric properties of the CAS, we performed convergent validity and discriminant validity. Convergent validity is verified when variance extracted mean (VEM) is

$\geq .50$  (Hair, Anderson, Tatham, & Black, 1998). Discriminant validity occurs when the VEM of factor is greater or equal to the square of the correlation between that factors (Marôco, 2014). Respected to reliability it was used the Cronbach's alphas and the composite reliability (CR), as an additional measure of reliability, once CAS have more than one subscale. For Cronbach's alphas should have values above .60 and the CR considers values above .70 as indicators of appropriate construct reliability (Hair et al., 1998).

## Results

### Descriptive Analyses

The descriptive analyses were performed for each subscale obtained of the CAS (Table 1). For the total sample the mean of CAS was .05 ( $SD = .29$ ). This analysis shows that the participants reported more behaviors related to emotional abuse ( $M = .08$ ,  $SD = .39$ ), followed by harassment ( $M = .07$ ,  $SD = .42$ ), physical abuse ( $M = .05$ ,  $SD = .28$ ), and severe combined abuse ( $M = .03$ ,  $SD = .23$ ).

Table 1. *Descriptive Statistics for Subscales of CAS*

	Minimum	Maximum	<i>M</i>	<i>SD</i>	$\alpha$
Severe Combined Abuse	0	4	.03	.23	.93
Physical Abuse	0	5	.05	0.28	.91
Emotional Abuse	0	5	.08	.39	.88
Harassment	0	5	.07	.42	.88
CAS – total score	0	5	.05	.29	.95

*Notes.* *M* = Mean; *SD* = Std. Deviation

### Construct Validity

#### Factor validity.

Through the analyzes of the principal components using the Varimax rotation, it was found that it would be appropriate to perform a factorial analysis since a KMO of .868 was obtained. With the exploratory factorial analysis, we obtained a four factors structure that explain 71.61% of the total variance. The Factor 1 – severe combined abuse – comprises the items 2, 5, 7, 8, 9, 15, 16, 22, 25, 26, 28. The Factor 2 – physical abuse – includes the items 4, 6, 12, 14, 17, 18, 23, 27, 30. The Factor 3 – emotional abuse – includes the items 1, 10, 19, 20, 21, 24, 29. Finally, the Factor 4 – harassment – Includes items 3, 11, and 13. This factor structure is different from the obtained by the authors of the original version of CAS. Thus, it was necessary performed two CFA, one with the factor structure obtained in the exploratory factorial analysis and other with the original factorial structure.

Concerning the assessment of multivariate normality this was confirmed for items 1,12,19,20,29, once these items obtained skewness below than three and kurtosis below than seven (Table 2).

Table 2. *Multivariate Normality of the Items*

Items	<i>Mv Sk</i>	<i>Mv K</i>
1	2.002	3.913
2	7.273	56.518
3	3.628	14.226
4	3.583	13.976
5	6.608	43.645
6	5.094	31.227
7	7.652	58.869
8	3.814	15.484
9	6.547	47.141
10	2.529	7.351
11	4.972	27.939
12	2.373	6.010
13	3.979	16.221
14	3.207	11.843
15	7.477	56.011
16	6.539	45.347
17	2.780	9.688
18	9.144	85.999
19	2.448	6.316
20	1.605	2.727
21	3.043	9.372
22	8.808	81.131
23	4.404	21.384
24	2.678	7.600
25	7.467	60.363
26	5.881	37.350
27	5.937	38.967
28	4.130	19.552
29	1.556	2.351
30	3.748	16.230

Notes. *Mv Sk* = Multivariate Skewness; *Mv K* = Multivariate Kurtosis

As can be seen multivariate distribution wasn't confirmed for the remaining items, but they were not excluded because the standardized regression weights of these items are higher than .5 (Table 3).

Table 3. Standardized Regression Weights for Obtained Factor Structure

Items	<i>B</i>	$\beta$
Severe Combined Abuse		
2	1	.920***
5	1.630	.707***
7	1.583	.771***
8	1.487	.656***
9	1.579	.818***
15	1.619	.746***
16	1.300	.657***
22	1.647	.985***
25	1.606	.892***
26	1.463	.695***
28	1.133	.478***
Physical Abuse		
4	1	.666***
6	.847	.824***
12	1.358	.733***
14	1.344	.864***
17	1.181	.773***
18	.649	.747***
23	1.142	.900***
27	.795	.747***
30	1	.749***
Emotional Abuse		
1	1	.692***
10	.876	.712***
19	.888	.613***
20	1	.777***
21	.819	.818***
24	.779	.777***
29	1.072	.672***
Harassment		
3	.988	.862***
11	.991	.911***
13	.991	.771***

Notes. \*\*\* $p \leq .001$

Both CFA performed showed unsatisfactory model fit, thus we have chosen the one with the better values. Regarding to CFA performed with the factorial structures obtained in the factorial exploratory analysis, the model fit indexes showed an unsatisfactory model fit, once the values of GFI and CFI are below than .90:  $\chi^2(384) = 2218$ ; CFI = .743; GFI = .645; RMSEA = .151 CI90% [.145; .157]. Regarding factor loadings, we verified that all items significantly loaded in the respective subscale, once they significance are  $p < .001$ . Concerning the CFA performed with the original factorial structure, the model fit indexes showed an unsatisfactory model fit, once the values of GFI, and CFI are below than .90:  $\chi^2$

(372) = 2381; CFI = .719; GFI = .589; RMSEA = .160 CI90% [.154; .167]. The total of items significantly loaded in the respective subscale, once their significance is  $p < .001$ .

### **Reliability and convergent and discriminant validities.**

The current version of CAS has good psychometric properties. The four factors revealed a good CR, with values above .70: Factor 1 – severe combined abuse (CR = .94); Factor 2 – physical abuse (CR = .93); Factor 3 – emotional abuse (CR = .89); Factor 4 – harassment (CR = .89). Regarding to analysis reliability, the Cronbach alpha indicates a good internal consistency for total scale ( $\alpha = .95$ ) and for all subscales: Factor 1 ( $\alpha = .93$ ); Factor 2 ( $\alpha = .91$ ); Factor 3 ( $\alpha = .88$ ); Factor 4 ( $\alpha = .88$ ). For the convergent validity, all subscales presented a VEM  $\geq .50$ : Factor 1 (VEM = .59); Factor 2 (VEM = .61); Factor 3 (VEM = .53); Factor 4 (VEM = .72). Concerning discriminant validity, the VEM of each factor was greater than all square of correlations between factors.

## **Discussion**

The objectives of this study were to analyze the factor structure and psychometric properties of the Composite Abuse Scale in Portuguese Adults.

First, we conducted a factorial exploratory analysis to verify if the structure of the factors coincides with the obtained by Hegarty and colleagues (2005). We verify that despite we found four factors, like the original, the items for each factor are different. For this motive we performed two CFA to compare the factorial between the obtained in the original version of CAS with the obtained in our study through the factorial exploratory analysis. We observed that both CFA had bad values for the fit of the model. Thus, we had to choose the one who has higher values. For these reasons, we choose the factorial structure obtained in our factorial exploratory analysis. The unsatisfactory fit of the model can be explained because of the lowest number of participants. One of the solutions could be retiring items from the scale, although the weights of factors are very significant, and their removal could diminish the power of explication of the subscales. Another possible explanation for the non-adjustment of the model to the sample is the non-identification of the participants with the types of abuse addressed in the instrument, with the possible non-comprehension of the items or with possible cultural differences that may exist between the original study sample and the used in our study. The unsatisfactory fit of the model can also be due to the absence of multivariate normality, especially could be due to the values of Kurtosis, which are very high.

According to several authors (e.g., Yuan, Chan, & Bentler, 2000; Satorra & Bentler, 2001) samples with less than 250 participants, as in our study and the presence of asymmetric variables can lead to a poor adjustment of the model. Therefore, it is necessary to carry out a new scale review.

In other studies, the majority of the authors maintain the factorial structure of Hegarty and colleagues (2005) (e.g., Wathen et al., 2010; Lokhmatkina et al., 2010). However, one example of a different result is the study performed by Ford-Gilboe and colleagues (2016), which pretend to realize a short-version of CAS. With the CFA they obtained a good fit of the model, but for that, they regrouped the factors and remove some items. In this study, it was extracted three factors (psychological abuse, physical abuse, and sexual abuse) (Ford-Gilboe et al., 2016). One possible explanatory reason for this difference could be the removal of items. Another possible explanation for this difference could be that Ford-Gilboe and colleagues (2016) provided a definition of intimate partner violence (IPV) for participants. This can be important, once, the concept of violence is not consensual, varying from culture to culture (Burelomova et al., 2018). In the authors standardized the concept of IPV for all participants, diminishing the bias regarding the concept.

Regarding the psychometric properties, we verified a good internal consistency for the total of CAS and for each subscale. This result is consistent with other studies, which presents a Cronbach's alpha superior to .60 (e.g., Wathen et al., 2010; Ford-Gilboe et al., 2016; Wolford-Clevenger, Vann, & Smith, 2016). The consistent results can show that CAS is an adequate instrument to measure IPV.

As for the mean obtained in this sample, there are low values of intimate partner violence. The results are inconsistent, since some studies show higher means (Evans, Gregory, & Feder, 2016), while other studies report lowest means of IPV (Hegarty et al., 2005; Lokhmatkina et al., 2010). These inconsistencies may occur due to sample characteristics. In the two studies above that validated CAS (e.g., Lokhmatkina et al., 2010; Hegarty et al., 2005) the participants were only women and health professionals, while in our sample the instrument was answered by both women and men of all professional classes. The difference between results can also be due to the existence of differences that can occur between cultures.

In what regards the type of violence, the most reported by the sample is the emotional abuse, followed by physical abuse. These data are corroborated by the existing literature. For example, Ybarra and colleagues (2016), with a sample of 1058 individuals concluded that

emotional abuse is more likely to occur than physical abuse. Besides, the authors concluded that sexual abuse has more probability to occur in males. This data can explain the reason for the lowest number of severe combined abuse since our sample its majority composed of women. Besides, sometimes victims of sexual abuse don't have the perception that are victims of this type of abuse, mainly in the context of marital relationships, because they see the sexual activity as an obligation as wife or husbands.

### **Limitations**

This study has some limitations. The first limitation is related to the sample characteristics, namely the fact that the majority of the sample is women which do not allow the complete generalization of the data. Also, the model fit indices as well as the multivariate normality levels, for most items are shown to be the most critical to the study. In future studies, we recommend using a larger sample, with an equal number of men and women. It is also important to consider the influence of other variables in IPV, such as the duration of relationship, once in relationships which are still at an early stage, there may be a lower prevalence of IPV. Another limitation of the study is that it has been applied online once we cannot control the environment in which the participant responds. In the case of having responded in a public place or of people who are close to him and who can see his answers, there may be a tendency to omit certain situations of violence, biasing the answers and responding even according to the social desirability.

Despite this, this study is relevant, since it is the first adaptation for the Portuguese population of the CAS.

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## Article 2

### Infidelity Scale: Psychometric Properties Among Portuguese Adults

#### Abstract

**Background:** The majority of the scholars define infidelity an emotional and/or sexual involvement in the short or long term with someone who is committed to another person. Several variables have been associated with infidelity, namely, intimate partner violence, attachment styles and relational satisfaction. In Portugal, there are few studies about infidelity and the existing measures, only assesses infidelity in another contexts. **Objectives:** We aimed to analyze the psychometric properties of the Infidelity Scale (IS) in a Portuguese adult's sample. **Participants:** The sample was composed of 83 Portuguese adults (75 women and eight men) between the ages of 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ), which already have an infidelity relationship, in the present or past. **Methods:** The sample participated through a web survey and completed a self-reported socio-demographic questionnaire and the IS. **Results:** The confirmatory analysis showed a structure with two factors. The results showed a satisfactory model fit and the presence of convergent and discriminant validities. **Conclusions:** The findings showed that the total values and of each subscale are average ( $M = 53.89$ ,  $SD = 17.96$ ). The model possesses a satisfactory fit, reinforcing the fact that the original scale's factorial structure is maintained in our sample.

*Keywords: infidelity, Infidelity Scale, psychometric properties*

#### Introduction

There are several studies on infidelity and although the statistics are not consensual, they appear to range from 11% to 40%. The definition of infidelity is also not consensual, but the most general and extensive one, characterize it as an emotional and/or sexual involvement in the short or long term with someone who is committed to another person (Brand, Markey, Mills, & Hodges, 2007).

Research has shown the existence of several types of infidelity: sexual infidelity, emotional infidelity, and composite infidelity. The sexual infidelity occurs when an element of a couple engages in sexual activity with another person that it's not her husband/wife or boyfriend/girlfriend (Guitar et al., 2016). The emotional infidelity occurs when an element of

the primary relationship devotes more time, love and attention (Guitar et al., 2016), developing feelings of love (Moller & Vossler, 2015) to another person outside the primary relationship. The composite infidelity is defined as the simultaneous occurrence of sexual and emotional infidelity (Glass & Wright, 1985; Guitar et al., 2017). Another type of infidelity less reported is the cybernetic/electronics, in which the emotional and/or sexual relationship maintained with someone outside the primary relationship, started online and is maintained by email and chat rooms (Fye & Mims, 2018).

Investigations on infidelity have occurred in association with other variables, such as violence in intimate relationships, attachment, and relational satisfaction. The research indicates that the perception of infidelity contributes to the occurrence of intimate partner violence. Namely, a study with 17 heterosexual couples from Ohio, developed by Nemeth, Bonomi, Lee, and Ludwin (2012) concluded that the intimate partner violence is triggered by accusations or perceived infidelity, especially in contexts where there is consumption of substances or alcohol. These conclusions are corroborated by Arnocky and colleagues (2015) who, through a sample of 66 heterosexual men from Canada, demonstrated that there is a greater probability of intimate partner violence when there is suspicion of infidelity. The authors also explain that such a relationship is due to higher levels of anxiety. These results obtained with a sample of men are also demonstrated by Utley (2017), in a sample of 110 women from the United States.

The scholars are consensual, indicating that avoidant and anxious attachment styles are related to infidelity. Studies with several samples verified this outcome (e.g., DePompo & Butsuhara, 2016; He & Tsang, 2017). In particular, Fish and colleagues (2012) concluded that, in a sample of 260 women and 93 men in the USA, styles of anxious and avoidance attachment are related to infidelity, specifically that the anxious attachment is positively related to sexual, emotional, and composite infidelity. A study carried out in Iran corroborated these data, which identifies the anxious attachment style as the most associated with infidelity (Barbaro, Sela, Atari, Shackelford, & Zeigler-Hill, 2018). In samples with 141 undergraduate students from the United States, Shimberg, Josephs, and Grace (2015) verified that attachment styles are related to attitudes toward infidelity. More specifically, more tolerant attitudes toward infidelity correlated with avoidant attachment and low scores of empathy.

Regarding relationship satisfaction, the authors indicate that men and women are more likely to be unfaithful when they perceive a lower relational satisfaction with the partner of the primary relationship (Allen & Rhoades, 2007; Mark, Janssen, & Milhausen, 2011). The

research of Allen and Rhoades (2007), conducted with a sample of 345 undergraduate students (141 males and 204 females) and with 115 adult married participants (63 males and 52 females), proved that lower relational satisfaction in the primary relationship is related to a higher emotional involvement with the person who has committed the infidelity. However, the same does not happen for sexual satisfaction: infidelity is only related to the lower perception of sexual satisfaction in men (Mark et al., 2011). A study carried out in Portugal by Silva and colleagues (2017), with 1145 Portuguese participants from the general population (306 males and 839 females) corroborate these findings. The research concluded that the participants, who evaluated their relationship as satisfactory and with quality, have more negative attitudes towards infidelity (Silva, Saraiva, Albuquerque, & Arantes, 2017).

In Portugal, the phenomenon of infidelity has been sparsely studied. A research carried out by Pinto and Arantes (2016), aimed to analyze the relationship between emotional and sexual infidelity with promiscuity, through a sample of 369 Portuguese participants. The authors concluded that emotional and sexual infidelity is related to sexual and emotional. The study also revealed that participants who perceive lower satisfaction in the primary relationship are more likely to be emotionally promiscuous and unfaithful.

Several studies have the search to know the reasons for the occurrence of infidelity, concluding that it can arise for different reasons. Namely, frustration and need for affection and love, dissatisfaction with the primary relationship, neglect and anger (Barta & Kiene, 2005), lack of attraction by the partner of the primary relation on the part of the men and stress generated by the lack of personal freedom felt by women (Apostu, 2016). Research also signalizes the nonexistence of sexual and emotional needs satisfactory in a primary relationship, the desire for additional sexual encounters, low emotional satisfaction, desire for additional emotional connection and yet the partner's desire for revenge of the primary relation (Omarzu, Miller, Schultz, & Timmerman, 2012). Recently, Warach, Josephs, and Gorman (2018), through a sample with 351 participants from the United States, concluded that other variables predicted infidelity, such as higher levels of narcissism, infidelity victimization and disrupted attachment. According to some authors (e.g., Kasper, Short, & Milam, 2015; Liu & Zheng, 2019), these factors can lead to an increase in online sexual activity, which is related to infidelity.

In addition, infidelity can lead to a negative impact for all those who are involved (Altgelt, Reyes, French, Meltzer, & McNulty, 2018) and the main consequence reported is the dissolution of relationships, especially divorce (Amato & Previti, 2003). Divorce studies mention that within the various causes of the dissolution of marriage like family violence,

low trust in the partner, low levels of love, infidelity is the major reason for divorce (Kloubučar & Simonič, 2017). Researches also indicate that individuals may present positive emotions, like happiness, an increase of self-esteem, and feelings related to the desire of being wanted (Omarzu et al., 2012). They also can manifest negative emotions like cognitive dissonance resulting from the discrepancy between the behavior of infidelity and their self-concept and can experience psychological discomfort (Foster & Misra, 2013).

There are a variety of assessment tools for evaluating infidelity. However, to the best of our knowledge, in Portugal, the existing measures, only assess the direct behaviors of emotional and sexual infidelity not giving information about the degree of involvement between partners of an infidelity relationship (Sexual and Emotional Infidelity Scale: Pinto & Arantes, 2016), attitudes and beliefs regarding infidelity (Attitudes Toward Infidelity Scale: Silva et al., 2017; Perceptions of Dating Infidelity Scale: Wilson, Mattingly, Clark, Weidlen, & Bequette, 2011). The Infidelity Scale (Drigotas, Safstrom, & Gentilia, 1999) allows assessing the degree of physical intimacy and/or emotional relationships in intimacy by evaluating the three main and most cited types of infidelity: physical, emotional, and composite infidelity. Besides a wide range of application to different samples, this measure has not yet been validated for the Portuguese language.

Thus, this study aims to the factor structure and the psychometric properties of a Portuguese version of the Infidelity Scale and to verify the factor structure invariance between men and women.

## **Method**

### **Participants**

The total sample is composed of 604 Portuguese adults' aged between 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ). Although in this study, we only considered participants who report being unfaithful in present or past relationships, which were 13.74% of the total sample ( $n = 83$ ). The majority of the participants who reported infidelity are women (75, 90.4%), heterosexual (73, 88%), married (58, 69.90%), and employed (61, 73.5%). Inside of the employed participant's the most reported professional category is the specialists in intellectual and scientific activities (18, 21.7%). Concerning participant's education, 40 have secondary education (48.2%), 25 undergraduates (30.1%), eight have a master's degree (9.6%), five have the third cycle (6.0%), two have the second cycle (2.4%), two reported another situation (2.4%) and one have Ph.D. (1.2%). The majority (74, 89.2%) of the total sample are in a stable relationship, with an average duration of 3.82 years ( $SD = .690$ ).

All participants are or have been involved in a relationship of infidelity. The majority of the sample (48, 57.8%) report that their primary relationship partner never has discovered the relationship.

## Measures

**Socio-demographic data.** We constructed a brief questionnaire to assess the following socio-demographic data: age, gender, marital status, educational level, sexual orientation, relationship status, current relationship duration, professional situation, profession, the gender of the person with who they maintain this relationship, if the official partner ever discovered the infidelity relationship, and questions related to the presence of infidelity (e.g., “In your present and/or current relationships you had a need to be unfaithful?”; “In your current and/or past relationships have you ever had the perception of being unfaithful?”; “In your current and/or past relationships have you ever been unfaithful?”). We also constructed a checklist with possible motivations for infidelity, where individuals answer “yes/no” to each affirmation. This checklist was built according to literature. The participants also have the hypothesis to answer “other” if the motivation for infidelity was not described.

**Infidelity Scale (IS).** Participants completed the Portuguese translation of the Infidelity Scale (IS; Drigotas et al., 1999). The IS comprises 11 items measure which assessing the degree of physical and/or emotional intimacy with the partner of the intimate relationship. The original version of IS embraces two factors predicted by the investment model, such as physical infidelity, and emotional infidelity. The original instrument shows adequate psychometric properties, with an alpha of .93. Participants were instructed to report to answer the questionnaire through a nine-point scale. The total score and each subscale score represent the level of intimacy between partners of the infidelity relation. Therefore, the higher the punctuation of the scale, the major will be the score of infidelity. To the best knowledge, there is no validation of this measure in other countries.

## Procedure

The IS was translated from English into Portuguese by two researchers and translated from the Portuguese version to English by one researcher. The initial version was translated

for both genders to permit the assessment of the degree of physical and/or emotional intimacy with the partner of an intimate relationship.

The study was conducted in accordance with the ethical principles outlined by the Declaration of Helsinki (World Medical Association, 2013) and was approved by the university institutional review board and ethics committee. The final version of IS and the sociodemographic questionnaire were inserted in Google Form. The link to complete the questionnaires was disseminated to the web and the data collection was conducted, between March 1<sup>st</sup>, 2018 to April 30<sup>th</sup>, 2019. Before completing the questionnaires through the web-based survey, all participants signed a consent form electronically. The confidentiality of results and the anonymity of subjects were both ensured.

### **Statistical Analysis**

First, we performed a descriptive analysis with the socio-demographic data to better know the characteristics of the sample and for each subscale of the factor structure obtained. Next, we performed an exploratory factor analysis to verify the factorial structure of IS and compare with the factor structure obtained by Drigotas and colleagues (1999). To perform this analysis, we used the statistical software IBM SPSS v. 25.0. In the exploratory factorial analysis (EFA) was verified the Kaiser-Meyer-Olkin (KMO), which should be  $> .60$  for acceptable suitability (Sharma, 1996), and it was used the Bartlett sphericity test, which must have values equal or less than  $.05$ . The principal component method with Varimax rotation was used for the extraction and rotation of the items. Finally, Kaiser's criterion (Marôco, 2014) was used to choose the number of factors necessary to explain the total variance of the items. We accepted eigenvalues greater than 1.

In the next step, it was performed a confirmatory factorial analysis (CFA) to assess the quality of the adjustment of the model (Marôco, 2014). In our study, we only perform one CFA, once, the factor structure obtained in our study is equal to the original version of IS. To perform this analysis, we used the statistical software AMOS v. 25.0. To obtain the model parameter estimates, we used, the maximum likelihood method and indices of quality of adjustment, namely, Compared Fit Index (CFI), the Goodness of Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA; 90% Confidence Interval) and the chi-square ( $\chi^2$ ). According to Marôco (2014), values above  $.90$  for CFI and GFI indicates a good fit of the model. For RMSEA, values below  $.05$  point out a good fit. Regarding to factorial weights, all the items must have values higher than  $0.5$ .

Concerning to psychometric properties of the IS, we performed convergent validity and discriminant validity. Convergent validity is verified when variance extracted mean (VEM) is  $\geq .50$  (Hair, Anderson, Tatham, & Black, 1998). Discriminant validity occurs when the VEM of factor is greater or equal to the square of the correlation between those factors (Marôco, 2014). Respected to reliability it was used the Cronbach's alphas and the composite reliability (CR), which is an additional measure of reliability, once IS have more than one subscale. For Cronbach's alphas it should have values above .60 and the CR considers values above .70 as indicators of appropriate construct reliability (Hair et al., 1998).

## Results

### Descriptive Analyses

Concerning the total sample ( $n = 604$ ), 83 participants (13.74%) reported being unfaithful at some point in their lives. The descriptive analyses were performed for each subscale of the IS. For the total sample, the mean of IS was 4.97 ( $SD = 1.64$ ). Participants reported more physical infidelity ( $M = 4.99$ ,  $SD = 2.19$ ) comparing with emotional infidelity ( $M = 4.94$ ,  $SD = 1.49$ ) (Table 1).

Table 1. *Descriptive Statistics of IS.*

	Minimum	Maximum	<i>M</i>	<i>SD</i>	$\alpha$
<b>IS</b>					
Physical Infidelity	0	8	4.99	2.19	.85
Emotional Infidelity	0	7	4.94	1.49	.89
IS Total score	0	7.36	4.97	1.64	.907

Notes. *M* = Mean; *SD* = Std. Deviation

As for the reasons that led the participants to engage in a relationship of infidelity, the following stand out: a desire to end a relationship with a partner in the primary relationship (54, 65.1%), to prove the partner that other people find him physically interesting (43, 51.8%), experience fellowship (41, 49.4%), feeling neglected in the primary relationship (36, 43.4%) and feel young (33, 39.8%).

### Construct Validity

#### Factor validity.

Through the analyses of the principal components using the Varimax rotation, it was found that it would be appropriate to perform a factorial analysis since a KMO of .822 was

obtained. With this analysis, two factors explaining 65.320% of the total variance. The Factor 1 – emotional infidelity – comprises the items 7, 8, 9, 10, 11; and the Factor 2 – physical infidelity – includes the items 1, 2, 3, 4, 5, 6.

This factor structure is similar to the obtained by Drigotas and colleagues (1999). Thus, it was only performed one CFA. Concerning to the assessment of multivariate normality (Table 2), this was confirmed for all items, since these items obtained skewness below than three and kurtosis below than seven. All the items have factorial weights higher than 0.5, except the item 1 and 7, that do not have values statistically significant, once  $p > .05$  (Table 3).

Table 2. *Descriptive Statistics and Multivariate Normality of the Items*

Item	Range	<i>M</i>	<i>SD</i>	<i>Mv Sk</i>	<i>Mv K</i>
1	0-8	5.84	2.08	-1.139	.879
2	0-8	5.86	1.72	-1.529	2.877
3	0-8	6.12	2.25	-1.432	1.243
4	0-8	5.02	2.54	-.524	-.756
5	0-8	6.10	2.06	-1.203	1.096
6	0-2	.72	.53	-.205	-.503
7	0-8	4.12	2.59	-.036	-1.257
8	0-8	5.20	2.53	-.707	-.615
9	0-8	4.81	2.59	-.357	-1.030
10	0-8	5.77	2.47	-1.001	-.046
11	0-8	5.05	2.82	-.495	-1.158

Notes. *M* = mean; *SD* = standard deviation; *Mv Sk* = multivariate skewness; *Mv K* = multivariate kurtosis

Table 3. *Standardized Regression Weights for Obtained Factor Structure*

Item	<i>B</i> (not standardized)	$\beta$ (standardized)
1	1	.835
2	.579	.585***
3	1.204	.930***
4	1.087	.744***
5	.998	.843 ***
6	.036	.118*
7	1	.739
8	1.080	.820***
9	1.179	.872***
10	.982	.763***
11	1.080	.732***

Notes. \*  $p < .05$ ; \*\*\*  $p \leq .001$

Model fit indexes shows a satisfactory adjustment, once the values of GFI and CFI are higher than .80:  $\chi^2(40) = 94.82$ ; CFI = .911; GFI = .831. Only RMSEA presents an unacceptable adjustment (RMSEA = .129 CI90% [.096; .163]). Regarding factor loadings, it's possibly verified that all items significantly loaded in the respective subscale, once they significance  $< .001$ .

### **Reliability and convergent and discriminant validities.**

The current version of IS has good psychometric properties. The two factors revealed a good CR, with values above .70: Factor 1 – emotional infidelity (CR= .89), Factor 2 – physical infidelity (CR= .85). Regarding to analysis reliability, the Cronbach alpha indicates a good internal consistency for total score ( $\alpha = .91$ ), for the subscale physical infidelity ( $\alpha = .89$ ); and emotional infidelity ( $\alpha = .85$ ). For the 45 convergent validity, all subscales presented a VEM  $\geq .50$ : Factor 1 (VEM= .62), Factor 2 (VEM= .53). Concerning discriminant validity, the VEM of each factor was greater than all square of correlations between factors.

## **Discussion**

The objectives of this study analyzed the factor structure and psychometric properties of the Infidelity Scale in Portuguese adults. To the best of our knowledge, this is one of the few studies that has been conducted in Portugal with the objective of assessing the infidelity in the Portuguese adults.

Our analyses demonstrate a similar factor structure obtained by Drigotas and colleagues (1999), once we obtain two factors that explain the variance of 65.3%. These results are also similar to the obtained in a study developed by Hertlein and Skaggs (2005). These authors realized and exploratory factor analysis for IS, obtaining two factors.

Regarding the psychometric properties of the IS, the model possesses a satisfactory fit, reinforcing the fact that the original scale's factorial structure is maintained in our sample. Most of the factor loadings were lower than or close to 0.5, however, it is verified that item 1 and 7 are not significant. In this way, we had two options: remove the items or maintain the items even though their values. We have opted to maintain the two items since the instrument intends to evaluate the degree of involvement in the infidelity relationship, and the withdrawal of the items could cause the scale to lose its explanatory power. In addition, the

presence of item 1 becomes important, since at conceptual level, the physical characteristics of the other are a reason for the occurrence of infidelity (Glass & Wright, 1988), which in turn may also influence the degree of involvement. Regarding item 7, these becomes pertinent, since it describes behaviors that can characterize the levels of involvement between the partners (Yeniçeri & Kökdemir, 2006).

These values are consistent with other studies previously developed with IS (e.g., Emmers-Sommer, Warber, & Halford, 2010; Fish et al., 2012). Reliability, convergent and discriminant validity were confirmed for the subscales. Therefore, most items measured the construct that we intended to measure. These findings indicate the IS as a good measurement instrument to identify infidelity.

With the descriptive analysis, it is possible to observe that the total scores and of each subscale are average, taking into account the total score of IS, the physical and the emotional infidelity. Our values are higher than those obtained in the original study by Drigotas and colleagues (1999), as well as in more recent studies (e.g., Pereira, Taysi, Orcan, & Fincham, 2014; Reich & Kalantar, 2018). The study of Pereira and colleagues (2014), with a sample of students in the Southeastern United States and the study of Reich and Kalantar (2018) in Iran, had substantially lower infidelity scores. The difference of results obtained in our study and in other studies may be due to the samples used since our data comprises adults and not only young adults, while other studies use mostly students (Pereira et al., 2014; Reich & Kalantar, 2018). Thus, the age differences between samples may be an explanatory factor for the difference of results. Another potentially explanatory factor is cultural differences since the study by Reich and Kalantar (2018) was developed in a different culture from ours, which can influence the norms of intimate relationships and respective attitudes and behaviors through infidelity.

Concerning the reasons for infidelity, the participants emphasize a desire to end a relationship with a partner in the primary relationship, to prove the partner that other people find him physically interesting, experience fellowship (Glass & Wright, 1988), feeling neglected in the primary relationship (Barta & Kiene, 2005), and feeling young (Glass & Wright, 1988). Among the reasons reported in the literature for the occurrence of infidelity, only to feel negligence in its primary relation was reported more frequently in our study. The literature also been points out the need for affection, the dissatisfaction with the primary relationship, and the desire for additional sexual encounters as a reason of infidelity. Despite being mentioned in our study, they were not the most reported as the main cause for the

occurrence of infidelity, which goes against what happened with other studies (e.g., Apostu, 2016; Barta & Kiene, 2005). Other reasons that may contribute to these differences in outcome are that our sample mostly comprises women and other studies contain mostly men. Thus, since the studies (Omarzu et al., 2012) indicate that men report different reasons for the occurrence of infidelity than women, this may be an explanatory factor of these results. These differences may be due to the use of different samples since many authors use samples of students, mainly university students, which can influence due to the less maturity in intimate relationships.

### **Limitations**

This study shows certain limitations, namely the size of the sample and the fact that the majority of participants are women. This is an important question because the literature mentions that men have more probability to evolve in infidelity (e.g., Mark et al., 2011; Silva et al., 2017). Due to this and the fact that this is not a representative sample of the Portuguese population, it is not possible to generalize our results. In addition, the sociodemographic questionnaire lacks some variables, since they may influence the occurrence of infidelity, namely, questions related to religion, since this may influence the attitudes toward infidelity, the number of infidelity relationships maintained in the past, and the expectations that individuals have regarding the current relationship. Another important aspect to take into consideration is the sample size. A bigger sample could endorse better values in the psychometric properties. Thus, we suggest performing studies with a large sample.

Another limitation is related to RMSEA, which indicates a poor fit. One of the possible reasons for this value is sample size (McCallum, Browne, & Sugawara, 1996). According to Marôco (2014), it is possible that the study presents a good fit of the model and simultaneously a higher RMSEA, this can happen due to the small sample or due to a higher degree of liberty. Since infidelity is still a taboo subject in our society, it can exist a tendency for responses according to social desirability. In addition, the definition of infidelity is not consensual, and its conception may vary from individual to individual, which may influence the results.

Despite these limitations, the current research comprises the first adaptation of the IS to the Portuguese population with good values, even though the obtained results should be generalized with caution. For future researches, we suggested the widening and representativeness of the sample as well as the insertion of other sociodemographic variables, such as the duration of the infidelity relation.

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### Article 3

## Intimate Partner Violence: Relationship with Infidelity and Attachment Styles in Adulthood

### Abstract

**Background:** The majority of the studies of intimate partner violence (IPV) focus on its conceptualization and types of victimization. Some variables has been are linked to IPV, like attachment in adulthood and infidelity. Researchers show that avoidant and anxious attachment styles contribute to the occurrence of violence. Also, the occurrence of infidelity contributes to violence in intimate relationships. **Objectives:** We aimed to study the relationship between: a) IPV and infidelity; b) IPV and avoidance and anxiety attachment styles; c) infidelity and attachment styles. **Participants:** The sample is composed of 604 Portuguese adults between 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ). **Methods:** The sample was collected online, and participants answered to the sociodemographic questionnaire, the IS, the CAS, and the ERP. **Results:** Analyzes showed a relationship between IPV and attachment styles; and infidelity and attachment. Although, it was not verified a relationship between intimate partner violence and infidelity. **Conclusions:** Researches corroborate the majority of our results, namely the relationship between IPV and attachment styles, and infidelity and attachment styles. The study comprises limitations, once the majority of the sample is women. In future researches, we suggested a bigger inclusion of males.

*Keywords: Intimate Partner Violence, Infidelity, Attachment Styles*

### Introduction

It has been placed greater emphasis to intimate partner violence (IPV) due to the several damages in individual's health, namely the decrease in physical and psychological wellbeing (e.g., Gaman, McAfee, Homel, & Jacob, 2016; McLaughlin, O'Carroll, & O'Conner, 2012). IPV involves different types of abuse (e.g., Black et al., 2011; Burelomova, Gulina, & Tikhomandritskaya, 2018), against one of the members or ex-members of the intimate relationship (Burelomova et al., 2018). The types of abuse comprise, globally, the psychological violence (Pazos, Oliva, & Hernando, 2014), physical violence (Aiquipa, 2015), and sexual violence (Simon & Wallace, 2017). Regarding the prevalence of the types of

abuse, researches show that the emotional abuse is the most reported one, followed by physical abuse and sexual coercion (e.g., Lövestad, Löve, Vez, & Krantz, 2017; Rui-Pérez et al., 2017).

Given the importance of IPV, several studies were conducted, focusing on the risk factors for occurrence (e.g., Scott & Babcock, 2010; Yakubovich et al., 2018). An important factor linked with IPV is the attachment styles in adulthood (e.g., Bonache, Gonzalez-Mendez, & Krahé, 2016; Sandberg, Valdez, Engle, & Menghrajani, 2016), and another variable recently reported is the occurrence of infidelity (e.g., Nemeth, Bonomi, Lee, & Ludwin, 2012; Utley, 2017).

### **IPV and Infidelity**

The link between IPV and infidelity is well established in the literature (e.g., Utley, 2017; Barbaro, Sela, Atari, Shackelford, & Zeigler-Hill, 2018). Research is consensual about this association, concluding that perception or occurrence of infidelity intensifications the incidence of the types of IPV (e.g., Nemeth et al., 2012; Utley, 2017), especially regard to sexual coercion. Studies indicate that the man's perception of unfaithful increases the likelihood of sexual coercion, which in turn works as an attempt to reestablish control and prevent the occurrence of sexual infidelity (Goetz & Shackelford, 2009). These data are corroborated by He and Tsang (2017), which with a sample of Chinese university students concluded that the perception of female infidelity is related to violence threat coercive tactics.

Other authors corroborate this association. Nemeth and colleagues (2012), with a sample of 17 couples where men were detained for violence against the partner, concluded that the perception of infidelity or anxiety about its occurrence triggered physical violence (Nemeth et al., 2012). Larger samples support such results. In particular, Conroy (2014) studied a sample of 422 spouses and concluded that the perception that a partner is unfaithful is significantly related to sexual coercion and physical violence. Also, Arnocky and colleagues (2015), with a sample of 66 men, concluded that early perception of infidelity is associated with physical aggression, injury, sexual coercion, and psychological aggression.

### **IPV and Attachment Styles**

Research focuses on the relationship between IPV and insecure attachment styles (avoidant and anxious). There is a well-established relationship in the literature between those variables. Studies indicate that IPV can be perpetrated as a way of maintaining secure attachment (Bowlby, 1984; Dumas, Pearson, Elgin, & McKinley, 2008). Studies are

consistent when they indicate that anxious and avoidant attachment is related to the various types of IPV. For example, Dumas and colleagues (2008) concluded that anxious attachment is related to verbal and physical violence perpetrated by men. Sandberg and colleagues (2016) corroborated those results. Karantzas and colleagues (2016) show that individuals with an anxious attachment tend to be victims of sexual coercion when compared to individuals with avoidant attachment. Bonache and colleagues (2016) also concluded that anxious attachment is associated with psychological abuse and sexual coercion, and it does not vary by sex.

Regarding avoidant attachment, Bélanger, and colleagues (2015), concluded that men with avoidant attachment have more probability to be a victim of physical abuse in the context of intimate relationships. Sommer and colleagues (2017), corroborates the results, mentioning that this type of attachment is related not only to physical but also to psychological abuse.

### **Infidelity and Attachment Styles**

Attachment styles have been extensively studied and it defines the way individuals regulate their emotions, how they think and experience their relationships with family, intimate partners, and peers (Pietromonaco & Beck, 2015). There was an extension of the studies for attachment in the adult showing that the link between the baby and their caregiver is similar to those between intimate partners in adulthood (Hazan & Shaver, 1987). Thus, the threat to the link between partners (e.g., disease, rejection, conflict) activates several behaviors that aim to reestablish and maintain the attachment style (Mikulincer & Shaver, 2007). One of the behavioral responses used to reestablish or maintain attachment in adulthood, specifically in intimate relationships, is through sexual intimacy (Birnbaum, Reis, Mikulincer, Gillath, & Orpaz, 2006). The studies show that attachment theory has been useful to recognize the motivations that lead to infidelity since it is used to obtain safety and avoid abandonment (Girard & Connor, 2018).

There is strong evidence concerning the association between secure attachment and a decreased occurrence of infidelity (e.g., Donovan & Emmers-Sommer, 2012; Fish, Pavkov, Wetchler, & Berrick, 2012). Individuals who have a secure attachment and who are aware of the existence of an emotional bond, tend to have the perception that their needs are satisfied and therefore will be less likely to engage in affairs (Fye & Mims, 2018). However, the studies focus on attachment styles that work as a risk factor for infidelity instead of protective factors.

The avoidant and anxious attachment more likely to be associated with infidelity (e.g., Pereira, Taysi, Orcan, & Fincham, 2014). Likewise, Ong and colleagues (2014) concluded that compared to secure attachment anxious and avoidant attachment styles increase the likelihood of infidelity. Other researches corroborated these results (e.g., He & Tsang, 2017; Weiser & Weigel, 2015). Nevertheless, avoidant attachment is the style that most significantly relates to physical, emotional, and composite infidelity (Ong, Poon, Sibya, & Macapagal, 2014). Parker and Campbell (2017) concluded that individuals with preoccupied attachment have less likely to be unfaithful, while those with a preoccupied attachment have more possibility to be unfaithful in their intimate relationships.

### **IPV: Relationship with infidelity and attachment styles**

To the best knowledge, only one research was realized to analyze the relationship among infidelity, attachment in adulthood and various types of violence on intimate relationships. He and Tsang (2017) handled a study with university students to analyze the relationship between the perception of female infidelity and sexual coercion perpetrated by men, using as a mediator the insecure attachment of males. The authors concluded that the insecure attachment style of men is positively correlated with the perception of infidelity and that the perception that women are unfaithful is positively correlated with violence threat and coercive tactics. It was also possible to conclude that the anxious attachment of men was a mediating factor in the relationship between the perception of female infidelity and emotional manipulation coercive tactics (He & Tsang, 2017).

Although the article above lists all the variables under study, it focuses on a specific population, and not a normative population sample. In addition to this, it focuses only on two types of violence, not mentioning other ones. Even so, some data are supported by the existing literature, namely the fact that anxious attachment is correlated with violence in intimate relationships. However, all these studies are more comprehensive with regard to types of violence (e.g., Bonache et al., 2016; Sandberg, Valdez, Engle, & Menghrajani, 2016; McClure & Parmenter, 2017). In order to contribute to the research concerning the relationship between IPV, infidelity, and attachment, the current investigation aims to investigate those variables in adults. The main objectives of this study are to analyze the relationship between IPV, infidelity and attachment styles in adulthood. Regarding the specific objectives, we aimed to a) analyze the relationship between IPV and infidelity; b) analyze the relationship between IPV and attachment styles; c) verify the relationship between infidelity and attachment styles in adulthood.

## Method

### Participants

The sample is composed of 604 Portuguese adults, aged between 18 and 70 years old ( $M = 35.60$ ,  $SD = 8.61$ ). The majority of participants are women (525, 86.9%), heterosexual (567; 93.9%), married (362, 59.90%), and employed (399, 66.1%), and the most reported professional category is the specialists in intellectual and scientific activities (159, 26.3%). Concerning participant's education, 237 have secondary education (35.2%), 196 undergraduates (32.5%), 75 have a master's degree (12.4%), 57 have the third cycle (9.4%), 21 have Ph.D. (3.5%), nine reported another situation (1.5%), eight the second cycle (1.3%), and one has the first cycle (.2%). The majority (524; 86.8%) of the total sample are in a stable relationship. Regarding the current relationship duration, the majority of our sample (467; 77.3%), reported being in the relationship over than one year. The majority of participants reported never been in an infidelity relationship (521; 86.23%), and concerning the victimization in relationships, 211 (34.5%) refer being victims in actual or past relationships.

### Measures

**Socio-demographic data.** We intended to assess the following socio-demographic data through a brief questionnaire: age, gender, marital status, educational level, sexual orientation, relationship status, current relationship duration, professional situation, profession, presence of actual relationship, current relationship duration, victimization in present/past relationship and questions regarding infidelity. These questions involved: the presence of infidelity in present or past relationships, through questions like “In your present and/or current relationships you had a need to be unfaithful?”; “In your current and/or past relationships have you ever had the perception of being unfaithful?”; “In your current and/or past relationships have you ever been unfaithful?” and we assess also the victimization in infidelity relationship and reasons for the occurrence of infidelity.

**The Composite Abuse Scale (CAS).** The scale was developed by Hegarty and colleagues (2005) and assessing the existence and severity of physical, emotional, and sexual abuse. Through 30 items: six items have yes/no answers that allow assessing intimate relationships of participants and the question seven have multiple affirmations, in which participants have to answer according to the frequency that each behavior occurs. The

participants answer with a scale of six points (never, once, once per week, once per month, several times and only once), which describes the frequency that the experiences defined occur in the last twelve months in the context of an intimate relationship. CAS comprises four factors: severe combined abuse, emotional abuse, physical abuse, and harassment.

**Infidelity Scale (IS).** Participants completed the Portuguese translation of the Infidelity Scale (IS; Drigotas et al., 1999). The IS comprises 11 items measure which assessing the degree of physical and/or emotional intimacy with the partner of the intimate relationship. These items are answered through a nine-point scale. The original version of IS comprises two subscales as physical and emotional infidelity. The original instrument shows adequate psychometric properties, with an alpha of .93. The total score and each subscale score represent the level of intimacy between partners of the infidelity relation. Therefore, the higher the punctuation of the scale, the major will be the score of infidelity. To the best knowledge, there is no validation of this measure in other countries.

**Experiences in Close Relationships (ERP).** The instrument assesses the attachment styles in close relationships in adulthood, namely, the avoidance to approach and anxiety about abandonment. The ERP comprises 36 items answered from a seven-point Likert scale. The scale comprises two factors, such as avoidance to approach and anxiety about abandonment. The instrument shows adequate psychometric properties, with an alpha of .86 for the total of items, .86 for the subscale avoidance and .88 for the subscale anxiety.

## **Procedure**

The total sample was collected online, through the Google Forms. The link of the questionnaire was disseminated to the web and the data collection was conducted, between March 1<sup>st</sup>, 2018 to April 30<sup>th</sup>, 2019. All participants signed a consent form electronically. The protocol comprises all the measures needed for this study, namely, sociodemographic questionnaire, the IS (Drigotas et al., 1999), the CAS (Hegarty et al., 2005), and the ERP (Paiva & Figueiredo, 2010).

The confidentiality of results and the anonymity of subjects were ensured. The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2009) and the protocol was approved by the

Institutional Review Board and the Ethics Committee. The protocol was approved by the University Institutional Review Board and the Ethics Committee.

### Statistical Analysis

Initially, a descriptive analysis was performed with the socio-demographic and subscales data to better know the characteristics of the sample. In the next step was performed Pearson correlations to verify the relation between total scores and subscales of the CAS, the IS, and the ERP. To perform this analysis, we used the statistical software IBM SPSS Statistics Version. 25.0.

To study the relationship between intimate partner violence, the infidelity and the attachment styles in adulthood. Thus, we performed Pearson correlations to answer to the aim of this study We also performed ANOVA one way to compare the means between sociodemographic variables and the subscales of the CAS, the IS, and the ERP.

### Results

The total sample reported higher scores for emotional abuse ( $M = .08$ ,  $SD = .39$ ). As for IS, we obtained a higher mean for the subscale of physical infidelity ( $M = 4.99$ ,  $SD = 2.19$ ). In the ERP, participants showed higher scores in the anxious attachment style ( $M = 3.51$ ,  $SD = 1.12$ ) (Table 1).

Table 1. *Descriptive Statistics for CAS, IS and ERP.*

	Minimum	Maximum	<i>M</i>	<i>SD</i>
<b>ERP</b>				
Avoidance	1	6.13	2.21	1.03
Anxiety	1	6.67	3.51	1.12
ERP – total score	1.08	5.47	3.02	.80
<b>CAS</b>				
Severe Combined Abuse	0	4	.03	.23
Physical Abuse	0	5	.05	.28
Emotional Abuse	0	5	.08	.39
Harrassment	0	5	.07	.42
CAS – total score	0	5	.05	.29
<b>IS</b>				
Physical Infidelity	0	8	4.99	2.19
Emotional Infidelity	0	7	4.94	2.19
IS - Total score	0	7.36	4.97	1.64

Notes. *M* = Mean; *SD* = Std. Deviation

Regarding ANOVA one way we tested all the assumptions of ANOVA one way, namely the homogeneity of variances. In our study, we used the marital status, professions, and type of current relationship, since, other variables have a discrepancy of participants between the groups.

Concerning marital status and his comparing with all the subscales of the CAS, the IS, and the ERP, the assumption of homogeneity of variances for subscales is confirmed: physical infidelity ( $p = .466$ ), emotional infidelity ( $p = .283$ ), IS total ( $p = .832$ ), avoidance ( $p = .582$ ), anxiety ( $p = .920$ ), the total score of the ERP ( $p = .773$ ), physical abuse ( $p = .079$ ) and harassment ( $p = .095$ ) of the CAS. The results show that there are no statistically significant differences between marital status and the subscales above mentioned.

In relation to the comparison between the subscales of the CAS, the IS and the ERP and professions, the tests of homogeneity of variances show that this assumption is verified to the subscales: physical infidelity ( $p = .180$ ), emotional infidelity ( $p = .253$ ), avoidance ( $p = .341$ ), anxiety ( $p = .584$ ), and the total score of ERP ( $p = .510$ ). The ANOVA one way with these subscales shows that there are no statistically significant differences.

Regarding the type of the current relationship, there is homogeneity of variances for subscales: physical infidelity ( $p = .074$ ), emotional infidelity ( $p = .087$ ), total of IS ( $p = .227$ ), avoidance ( $p = .164$ ), anxiety ( $p = .997$ ), and for the total score of the ERP ( $p = .260$ ). With the ANOVA one way it is possible to verify the existence of significant statistical differences for avoidance ( $M = 2.21$ ,  $SD = 1.03$ ), [ $F(3) = 6.85$ ,  $p \leq .001$ ], and for the total score of the ERP ( $M = 3.02$ ,  $SD = .80$ ), [ $F(3) = 3.48$ ,  $p = .016$ ].

The results of the Pearson correlations suggest the existence of significant correlations between the subscales of the CAS, the ERP and between subscales of IS and ERP (Table 2). We can verify positive and significant correlations between the subscales of CAS and the subscales of the ERP. Specifically, the severe combined abuse is correlated with anxiety ( $r = .119$ ,  $p = .004$ ), and with the total score of the ERP ( $r = .116$ ,  $p = .004$ ). Physical abuse is associated with avoidance ( $r = .093$ ,  $p = .022$ ), anxiety ( $r = .185$ ,  $p \leq .001$ ), and with the total score of the ERP ( $r = .177$ ,  $p \leq .001$ ). The emotional abuse correlates positively with avoidance ( $r = .131$ ,  $p = .001$ ), anxiety ( $r = .219$ ,  $p \leq .001$ ), and with the total score of the ERP ( $r = .223$ ,  $p \leq .001$ ). Finally, harassment is positively correlated with avoidance ( $r = .084$ ,  $p = .044$ ), anxiety ( $r = .154$ ,  $p \leq .001$ ), and the total score of the ERP ( $r = .151$ ,  $p \leq .001$ ). The results show non-significant correlations between the CAS and the IS.

The association between IS and ERP show positive and significant correlations between physical infidelity and avoidance ( $r = .242$ ,  $p = .028$ ), and the total score of the ERP

( $r = .225, p = .041$ ). There are also positive correlations between the total score of the IS and avoidance ( $r = .237, p = .031$ ), and between the ERP and the subscales of the CAS and the IS. Specifically, avoidance is associated with physical infidelity ( $r = .242, p = .028$ ), with the total score of the IS ( $r = .237, p = .031$ ), physical abuse ( $r = .093, p = .022$ ), emotional abuse ( $r = -.131, p \leq .001$ ), and with the harassment ( $r = .084, p = .044$ ). Anxiety is correlated with severe combined abuse ( $r = .119, p = .004$ ), physical abuse ( $r = .185, p \leq .001$ ), emotional abuse ( $r = .219, p \leq .001$ ), and with harassment ( $r = .154, p \leq .001$ ). Furthermore, the total score of the ERP show positive statistical correlations between physical infidelity ( $r = .225, p = .041$ ), the total score of the IS ( $r = .212, p = .054$ ), severe combined abuse ( $r = .116, p = .004$ ), physical abuse ( $r = .177, p \leq .001$ ), emotional abuse ( $r = .223, p \leq .001$ ), and harassment ( $r = .151, p \leq .001$ ).

Table 2. *Correlations Between CAS, IS and ERP*

	Severe Combined Abuse	Physical Abuse	Emotional Abuse	Harassment	IS Total	Emotional Infidelity	Physical Infidelity	ERP Total	Avoidance	Anxiety
<b>CAS</b>										
Severe Combined Abuse	_____	.878**	.820**	.756**	.090	.053	.107	.116**	.065	.119**
Physical Abuse	.	_____	.892**	.869**	.074	.023	.103	.177**	.093*	.185**
Emotional Abuse			_____	.880**	.120	.085	.130	.223**	.131**	.219**
Harassment				_____	.079	.031	.106	.151**	.084*	.154**
<b>IS</b>										
IS_Total					_____	.885**	.925**	.212	.237*	.093
Emotional Infidelity						_____	.642**	.154	.182	.063
Physical Infidelity							_____	.225*	.242*	.102
<b>ERP</b>										
ERP_Total								_____	.749**	.811**
Avoidance									_____	.234**

Notes. \* $p < .05$ ; \*\* $p < .001$

## Discussion

This study aimed to analyze the relationship between intimate partner violence (IPV), infidelity, and attachment styles in adulthood.

The results show that the sample used reported higher levels of emotional abuse, comparing to the other forms of abuse. Other studies, such as Fernández-Fuertes and Fuertes (2010) and Ruiz-Pérez and colleagues (2017) corroborated these results. It is important to note that the higher prevalence of emotional abuse seems to be transversal to the different samples since the authors mentioned above used different samples. Fernández-Fuertes and Fuertes (2010) used a sample of adolescent students, and Ruiz-Pérez and colleagues (2017) used a sample of women who were part of the primary healthcare centers. The second most reported type of violence in our study was physical abuse, followed by severe combined abuse and harassment. These results are similar to those obtained by Loxton and colleagues (2013), since their study show higher levels of emotional abuse, followed by physical abuse, harassment and, finally, sexual abuse.

Regarding infidelity, there are higher values of physical infidelity compared to emotional infidelity, although the differences are marginal. We cannot compare these scores with other studies since these only reports the results for the total score of infidelity and not for physical and emotional infidelity. In this context, we obtained higher scores than those obtained in other studies (e.g., Drigotas et al., 1999; Pereira et al., 2014). These differences in results may occur due to the use of disparate samples due to the characteristics of participants, i.e., while Drigotas and colleagues (1999) used a sample with women of health professions, Pereira and colleagues (2014) used a sample with college students. In attachment styles, was found a higher score for the anxious. This result is corroborated by the different existing studies, although there are sample differences (e.g., Paiva & Figueiredo, 2010; Rosa-Mendes, Pires, & Ferreira, 2019). This may demonstrate that attachment does not depend on sample characteristics (e.g., culture, age, education levels).

The analysis of the relationship between intimate partner violence, infidelity, and attachment styles in adulthood, show positive and significant relationships between the various forms of abuse in intimate relations and attachment styles. Other researches corroborated these data (e.g., Doumas et al., 2008; Velotti, Zobel, Rogier, & Tambelli, 2018). Bonache and colleagues (2016) concluded that anxious and avoidant attachment is associated with sexual coercion and emotional abuse, as verified in our data. In addition, with our sample, we confirm that physical abuse has an association with both attachment styles.

Sandberg and colleagues (2016) partially concluded this result, showing that individuals with anxious attachment are more likely to be physically abused; however, they did not find a link between physical abuse and avoidance. This difference may be due to the type of study used since the authors performed a prospective study only with women. In our study, we can also verify the relationship between infidelity and attachment styles in adulthood, being this data partially corroborated by other researches, once the results indicate that only avoidance attachment styles increase the occurrence of infidelity and the literature suggests that both attachment styles increase the likelihood of infidelity (e.g., Ong et al., 2014; Weiser & Weigel, 2015).

Some of our results could not be corroborated in the literature, such as the relationship between harassment and attachment styles. Other researches focus the relationship between attachment styles and other types of abuse (e.g., physical, psychological) and don't give information about harassment. Another of our results that could not be confirmed in the literature is the nonexistence of the relationship between intimate partner violence and infidelity. Authors reported that the occurrence of infidelity can increase the probability of intimate partner violence, especially, sexual coercion (Utley, 2017). These data can be due to researchers report that these results occur mainly when a female is unfaithful, and this behavior was a factor of risk to men's violence. Thus, these results could occur in our study, because our sample is a composite majority by women. Another possible explanation for these results is that the literature reports that the increase of IPV could be due to the perception or occurrence of partner infidelity, but in our study, participants admit being unfaithful and not perceiving their partner as being unfaithful.

This study comprises some limitations, once the majority of the sample are women and we have a small percentage of infidelity and victims of intimate partner violence. These facts do not permit the generalization of the results. Thus, in future researches, we suggested the inclusion of males in the sample. Also, the lack of distribution within the various groups of sociodemographic variables does not allow comparisons between groups with regard to the subscales used. The inexistence of significative correlations between the subscales of the CAS and the IS, can indicate that this relationship can be influenced by other variables, being necessary to insert more sociodemographic variables. For example, we know that the concept of violence and infidelity can range from individual to individual, mainly from culture to culture, religion to religion.

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## Conclusion/ Discussion

This thesis contributes to the study of the relationship between intimate partner violence (IPV), infidelity, and attachment in adulthood. In our study, we also adapted instruments to measure the IPV and the infidelity. To assess the IPV, we used The Composite Abuse Scale (CAS; Hegarty, Bush, & Sheehan, 2005). This scale is important since, the existent ones evaluate essentially beliefs (Beliefs of Conjugal Violence: Machado, Matos, & Gonçalves, 2006), a few different types of abuse (Revised Tactics Scale: Alexandra & Figueiredo, 2006), and many of these instruments are intended only for violence in the marital context. Thus, it was necessary to use a scale that assesses the various types of abuse that occur in the different contexts of an intimate relationship, namely infidelity relationships or dating relationships. To fill this gap, we resort to CAS.

To measure infidelity, it was necessary to resort to international studies, considering that the existing instruments in Portugal show some limitations: only allow to evaluate specific behaviors such the physical and the emotional infidelity, not giving information about the degree of involvement between partners of an infidelity relationship (Sexual and Emotional Infidelity Scale: Pinto & Arantes, 2016) or the attitudes and beliefs about infidelity (Attitudes Toward Infidelity Scale: Silva, Saraiva, Albuquerque, & Arantes, 2017; Perceptions of Dating Infidelity Scale: Wilson, Mattingly, Clark, Weidlen, & Bequette, 2011). Thus, it was necessary to use instruments that assess the degree of involvement among partners in a relationship of infidelity. In this way, we used the Infidelity Scale (Drigotas, Safstrom, & Gentilia, 1999). Considering that the IS was not validated for the Portuguese population; it was necessary to carry out the validation study. In order to evaluate the attachment in adult, was used the Experiences in Close Relationships Scale (ERP; Paiva & Figueiredo, 2010). This measure is, widely studied and recognized for its psychometric properties and that allows evaluating the anxious and avoidant attachment.

The validity study of the CAS aims to analyze the psychometric qualities and factorial structure of this measurement scale. We obtained four factors explaining 71.61% of the total variance. Unless the analyzes show a poor fit of the model since the values of GFI and CFI <.90, the instrument has good psychometric characteristics, in terms of validity and reliability. It is necessary to interpret the results with caution. These results may be due to the size and characteristics of the sample (e.g., a sample comprised mostly of women), once according to Satorra and Bentler (2001) samples with less than 250 participants can lead to a

poor adjustment of the model, which can explain the absence of multivariate normality. Despite the bad adjustment of the model, we verified that our data are congruent with the existing literature. For example, our study showed higher averages for emotional abuse factor compared to physical abuse. According to the literature (e.g., Pazos, Oliva, & Hernando, 2015; Rui-Pérez et al., 2017), there is a greater probability of occurrence of psychological violence, compared to physical violence. However, in general victimization, the means obtained in our study are lower compared to other studies (e.g., Hegarty et al., 2005; Lokhmatkina, Kuznetsova, & Feder, 2010). The difference in results may occur due to the sample and due to cultural issues.

Regarding the validity of the IS, the instrument has a satisfactory quality of adjustment, however, it is important to take into account that the value of RMSEA indicates an insufficient adjustment, which can be due that only 83 participants reported infidelity in their current or past relationships. Regarding the psychometric characteristics, the existence of validity indicates that this instrument assesses the construct to which it is proposed. Also in reliability, there are good alphas, both for the full scale and for all the subscales. These results indicate that infidelity is a good measure to assess infidelity. Through descriptive analyzes, we concluded that the means are superior to those of other studies (e.g., Pereira, Taysi, Orcan, & Fincham, 2014; Reich & Kalantar, 2018). This can be due to the sample differences, considering that participants between the different studies present disparate characteristics (e.g., at the cultural level). For example, Kuperberg and Padgett (2016) concluded that culture, religion, and race influence intimate relationships. Thus, each culture, race or religion should have norms that dictate rules for relationships and which in turn have an influence on attitudes and behaviors related to infidelity. Consequently, since this is a factor that according to the literature, influences relationships, it would be important to include these variables in the IS socio-demographic questionnaires in future studies.

Finally, concerning to the article that analyzes the relationship between IPV and infidelity, and attachment in adulthood, data shows relationships between the various forms of abuse, which occur in the context of intimate relationships and anxious and avoidant attachment styles. Our results are similar to those reported in the literature, (e.g., Dumas, Pearsons, Elgin, & McKinley, 2008; Bonache, Gonzalez-Mendez, & Krahé, 2016; Velotti, Zobel, Rogier, & Tambelli, 2018). Although, the relationship between harassment and attachment styles, found in our study, could not be corroborated in the literature, once studies focus the relationship between attachment styles and other types of abuse (e.g., physical, psychological) and don't give information about harassment. It is also possible to verify the

existence of a positive and significant relationship between physical and total score of infidelity and adult attachment. These data are also corroborated by the literature (e.g., Pereira et al., 2014, Ong, Poon, Sibya, & Macapagal, 2014). However, it is important to emphasize that studies indicate the avoidant attachment style as the most related to the increase in the probability of occurrence of infidelity (Ong et al., 2014; Parker & Campbell, 2017), whereas in our study it was the most significantly related style with infidelity is the anxious.

An unexpected result was the lack of a significant relationship between IPV and infidelity. Contrarily to what we found in our study, the literature referred that the occurrence of infidelity increases the probability of every type of IPV (e.g., Nemeth, Bonomi, Lee, & Ludwin, 2012; Utley, 2017) mainly the sexual coercion (Goetz & Shackelford, 2009). One of the explanations for these differences may have to do with the fact that researchers report that these results occur mainly when a female is unfaithful, and this behavior was a factor of risk to men's violence. Thus, these results could occur in our study, because our sample is a composite majority by women. In this way, it is important to extend the sample to both the level of victimization and the level of infidelity. It's also important to refer that the literature reports that the increase of IPV could be due to the perception or occurrence of partner infidelity, but in our study, participants admit being unfaithful and not perceiving their partner as being unfaithful.

In summary, the study stands out for its relevance at multiple levels, namely, it contributes to the development of instruments to measure the IPV and the infidelity. In addition, it shows the relationship between the three variables that have been little studied together, contributing to the development of this area of research.

### **Limitations**

Our research shows several limitations that should be considered in future studies. One of the first limitations relates to the sample. First, in spite of a total number of participants of 604, we verified that the number of participants who have been victims and who at some point in their life have been unfaithful is reduced to perform better analysis. So, it is necessary to increase the sample for future studies. Second, the sample is mostly composed of women, which does not allow the generalization of the results for both sexes. In addition, according to literature, men are more likely to be unfaithful than women, so that more men in the sample may lead to different results, like better adjustment of the model. Regarding victimization, studies and statistics indicate that the phenomenon of IPV does not

occur exclusively in women, so it is relevant to include more men in this sample. Another limitation of the study is the bad adjustment of the CAS. Despite this, the instrument has values of validity and reliability satisfactory, which indicates that the instrument measures what it is proposed to evaluate. One possible explanation for these results it's the absence of multivariate normality, especially higher values of kurtosis. Concerning the IS validation, although the results of the adjustment of the model are satisfactory, some caution is required in interpreting the results, since the sample is small and not representative of the Portuguese population and RMSEA indicate a poor fit of the model.

In addition to these aspects, the study had some results that do not corroborate the literature, and it is necessary to evaluate whether these results are maintained in other studies carried out a posteriori or if there are other variables (e.g., culture, religion, sex) influencing relations between variables.

The fact that the study is online has some limitations. On the one hand, there is a greater facility of disclosure of research, on the other, there are issues to which researchers do not have any control, namely the fact that the same person responds several times to the study or to ensure that the participant does 18 years. Moreover, it is necessary to consider social desirability, which is a particularly sensitive aspect when we talk about themes such as infidelity that remains a taboo subject in society.

### **Implications for Practice**

The first implication for the practice that emerges with the accomplishment of this work is the validation for the Portuguese population of the CAS, which will allow evaluating the victimization through a scale with only 30 items. In addition, it makes it possible to generalize the evaluation of victimization in the various contexts of intimate relationships. In addition, the way the scale is structured allows women and men to respond, being able to integrate risk assessment protocols, unless it is necessary to interpret the results with caution.

Second implication it's the adaptation of an instrument that allows to evaluate the degree of intimacy between partners of infidelity relationship, not focus exclusively on behaviors, giving a new perspective of infidelity. These could also be part of the risk assessment protocols in cases that exist violence in relationships of infidelity, contributing to the better knowledge of this relationship.

This study is also important for practice, in that it creates a new perspective for the study of victimization in intimate relationships, being pertinent for the study of risk factors for the occurrence of IPV, namely infidelity and attachment in adulthood. The discovery of

these potential risk factors may be essential for the creation of intervention programs. In addition, this study may open other lines of investigation, still little explored, namely the study of violence that occurs within the relationships of infidelity.

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## Appendices

### Appendix A

#### Escala de Abuso – Versão Standard

##### Os seus relacionamentos

Nesta secção, colocamos questões acerca dos seus relacionamentos, porque é uma parte importante da sua vida que pode influenciar a sua saúde. Colocamos questões acerca das suas experiências nas relações íntimas adultas. Referimo-nos a marido/mulher, parceiro ou namorado/namorada com duração superior a 1 mês.

1. Já alguma vez esteve numa relação íntima? (Após os 16 anos)

Sim <sub>1</sub> Não <sub>0</sub> *(Passar para a Seção Seguinte)*

2. Esteve numa relação íntima nos últimos 12 meses? (Após os 16 anos)

Sim  Não  *(Passar para a Questão 6)*

3. Atualmente encontra-se numa relação íntima?

Sim  Não  *(Passar para a Questão 5)*

4. Atualmente tem medo do/a seu/sua parceiro/a?

Sim  Não

5. Teve medo do/a seu/sua parceiro/a nos últimos 12 meses?

Sim  Não

6. Já alguma vez teve medo de algum/a parceiro/a?

Sim  Não

7. Gostaríamos de saber se experienciou algumas das ações da lista abaixo e com que frequência ocorreram nos últimos 12 meses. Caso não tenha tido um/a parceiro/a nos últimos 12 meses, por favor responda com base na última relação que teve. Por favor

selecione a caixa apropriada que corresponde à frequência, durante um período de 12 meses, que aconteceu consigo.

*(Por favor escolha uma caixa para cada linha)*

Ações	Com que frequência aconteceu ...					
	Nunca	Apenas uma vez	Diversas vezes	Uma vez por mês	Uma vez por semana	Diariamente
Disse-me que não era bom/boa o suficiente	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Privou-me de cuidados médicos	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Seguiu-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Tentou colocar a minha família, amigos ou filhos contra mim	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Fechou-me no quarto	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Esbofeteou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Violou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Disse-me que era feio/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Tentou impedir-me de ver ou falar com a minha família	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Empurrou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Andou à volta da minha casa	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Culpou-me de ser a causa do seu comportamento violento	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Assediou-me por telefone	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Assustou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Tentou violar-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Assediou-me no trabalho	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Puxou-me, agarrou-me ou empurrou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Usou uma faca, uma arma de fogo ou outra arma	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Ficou chateado/a por o jantar/tarefas domésticas não estarem feitas quando ele/a pensou que	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

deveriam estar						
Disse-me que eu era maluco/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Disse-me que nunca ninguém me vai querer	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Levou a minha carteira e abandonou-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Bateu-me ou tentou bater-me com algo	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Não queria que eu socializasse com as minhas amigas	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Coloca objetos estranhos na minha vagina/ânus	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Recusa-se a deixar-me trabalhar fora de casa	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Bateu-me, machucou-me ou magoou-me com o punho	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Tentou convencer os meus amigos, família ou filhos que eu era maluco/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Disse-me que eu era estúpido/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Bate-me	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

## Appendix B

### Escala de Infidelidade

(Versão portuguesa: Fernandes & Almeida, *in press*)

Há momentos numa relação amorosa em que somos atraídos por outras pessoas. Faz parte do ser humano estar consciente de ser atraído por pessoas. Por vezes esta atração é mútua e por vezes não. Quando é mútua, leva muitas vezes a certos comportamentos de sedução/*flirt*. Queremos que pense numa pessoa que desde o primeiro momento **mais** o/a atraiu para além do/a seu/sua parceiro/a. **Não** queremos que nomeie a outra pessoa, mas por favor, responda às seguintes perguntas gerais sobre essa outra pessoa pela qual estava/está atraído/a.

1) Quão atraente considerou/considera esta pessoa?

Nada atrativo/a 0 1 2 3 4 5 6 7 8 Extremamente atrativo/a

2) Quão atraente pensa que esta pessoa o/a considerou/considera?

Nada atrativo/a 0 1 2 3 4 5 6 7 8 Extremamente atrativo/a

3) Quanta excitação você sentiu/sente na presença desta pessoa?

Sem excitação 0 1 2 3 4 5 6 7 8 Grande excitação

4) Quanto tempo gastou/gasta a pensar sobre esta pessoa?

Nenhum tempo 0 1 2 3 4 5 6 7 8 Muito tempo

5) Quanta sedução/*flirting* ocorreu/ocorre entre vocês?

Sem sedução/*flirting* 0 1 2 3 4 5 6 7 8 Muita sedução/*flirting*

6) Quem iniciou a atração mútua entre vocês?

0=A Outra pessoa; 1=Igual; 2=Eu

7) Com que frequência você e esta pessoa faziam/fazem “coisas de casal” juntos (por exemplo, passar tempo juntos, falar ao telemóvel)?

Nunca 0 1 2 3 4 5 6 7 8 Muitas vezes

8) Quão tentado/a ficou/fica para estar emocionalmente íntimo/a com esta pessoa (por exemplo, partilhar sentimentos, emoções)?

Nada tentado/a 0 1 2 3 4 5 6 7 8 Extremamente tentado/a

9) Quão emocionalmente íntimo/a estava/está com esta pessoa?

Nada emocionalmente íntimo/a 0 1 2 3 4 5 6 7 8 Extremamente emocionalmente íntimo/a

10) Quão tentado/a você ficou/fica para estar fisicamente íntimo/a com esta pessoa (por exemplo, beijar, atividade sexual)?

Nada tentado/a 0 1 2 3 4 5 6 7 8 Extremamente tentado/a

11) Quão fisicamente íntimo/a estava/está com esta pessoa?

Nada fisicamente íntimo/a 0 1 2 3 4 5 6 7 8 Extremamente fisicamente íntimo/a

## Appendix C

### Escala de Relações Próximas (ERP)

(Versão portuguesa: Paiva & Figueiredo, 2010)

Cada uma das seguintes afirmações descreve o modo como se pode sentir nas suas relações íntimas. Estamos interessados em saber como se sente geralmente, e não apenas como se sente no seu relacionamento atual. Responda, indicando o quanto concorda ou discorda com cada uma das afirmações.

	1	2	3	4	5	6	7
	Discordo Fortemente						Concordo Fortemente
1. Prefiro não mostrar ao/à meu/minha parceiro/a como me sinto no meu íntimo.							
2. Preocupa-me ser abandonado/a.							
3. Sinto-me muito à vontade em ser íntimo/a com o/a meu/minha parceiro/a.							
4. Preocupo-me muito com as minhas relações afetivas.							
5. Dou por mim a afastar-me no momento em que o/a meu/minha parceiro/a começa a tornar-se íntimo/a.							
6. Preocupa-me que o/a meu/minha parceiro/a não se preocupe tanto comigo como eu me preocupo com ele/a.							
7. Sinto-me desconfortável quando o/a meu/minha parceiro/a quer ser muito íntimo/a.							
8. Preocupo-me bastante com a possibilidade de perder o/a meu/minha parceiro/a.							
9. Não me sinto à vontade ao abrir-me com o/a meu/minha parceiro/a.							
10. Desejo muitas vezes que os sentimentos							

do/a meu/minha parceiro/a por mim sejam tão fortes como os meus sentimentos por ele/a.							
11. Quero tornar-me próxima/o do/a meu/minha parceiro/a, mas estou sempre a afastar-me.							
12. Muitas vezes quero fundir-me totalmente com o/a meu/minha parceiro/a e isso afasta-o/a de mim.							
13. Fico nervoso/a quando o/a meu/minha companheiro/a se torna demasiado próximo/a de mim.							
14. Preocupa-me estar sozinho/a.							
15. Sinto-me à vontade em partilhar pensamentos e sentimentos mais íntimos com o/a meu/minha parceiro/a.							
16. O meu desejo de estar muito próximo/a, algumas vezes afasta as pessoas.							
17. Tento evitar tornar-me demasiado próximo/a do/a meu/minha parceiro/a.							
18. Preciso de muitas provas de que sou amado/a pelo/a meu/minha parceiro/a.							
19. Sinto que é relativamente fácil tornar-me próximo/a do/a meu/minha parceiro/a.							
20. Algumas vezes sinto que forço o/a meu/minha parceiro/a a mostrar mais sentimentos, mais compromissos.							
21. Acho difícil permitir-me depender do/a meu/minha parceiro/a.							
22. Ser abandonado/a não me preocupa muitas vezes.							
23. Prefiro não ser demasiado íntimo/a com o/a meu/minha parceiro/a.							
24. Fico transtornado/a ou zangado/a se não consigo que o/a meu/minha parceiro/a mostre							

interesse por mim.								
25. Conto praticamente tudo ao/à meu/minha parceiro/a.								
26. Acho que o/a meu/minha parceiro/a não quer tornar-se tão íntimo/a como eu gostaria.								
27. Costumo falar dos meus problemas e preocupações ao/à meu/minha parceiro/a.								
28. Sinto-me um pouco ansioso/a e inseguro/a quando não estou envolvido/a numa relação.								
29. Sinto-me confortável ao depender do/a meu/minha parceiro/a.								
30. Fico frustrado/a quando o/a meu/minha parceiro/a não está comigo tanto tempo como eu gostaria.								
31. Não me importo de pedir conforto, conselhos ou ajuda ao/à meu/minha parceiro/a.								
32. Fico frustrado/a se o/a meu/minha parceiro/a não está disponível quando preciso dele/a.								
33. Ajuda-me poder contar com o/a meu/minha parceiro/a nas situações difíceis.								
34. Sinto-me muito mal comigo mesmo/a quando o/a meu/minha parceiro/a me desaprova.								
35. Recorro ao/à meu/minha parceiro/a para muitas coisas, incluindo conforto e segurança.								
36. Fico ressentido/a quando o/a meu/minha parceiro/a passa tempo longe de mim.								