Final Year Project

Sex differences in jealousy directed towards infidelity involving an ex-partner or a stranger

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Dissertation submitted in partial fulfilment of the requirements of Cardiff Metropolitan University for the degree of Bachelor of Science
# DECLARATION

I hereby declare that this dissertation is the result of my own independent investigation under the supervision of my tutor. The various sources to which I am indebted are clearly indicated. This dissertation has not been accepted in substance for any other degree, and is not being submitted concurrently for any other degree.

_________________________, Candidate.
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❖

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❖

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Abstract

Psychologists have been largely interested in jealousy directed towards infidelity, and sex differences in jealousy mechanisms have been observed. Men experience greater distress towards sexual infidelity, whereas women are said to be more distressed by emotional infidelity. The rise of social media has provided a solid, contemporary basis to explore concepts and evolutionary derived theories of jealousy, particularly in the modern day where both past and present lovers stay connected in the online world; cyber-activity between ex-partners has previously been found to increase paranoia in current relationships. The present study displayed realistic, unambiguously sexual and emotional conversational messages to both men (n = 37) and women (n = 94), which had hypothetically been discovered on their partners Facebook account from either an ex-partner, or a stranger. Perceived distress scores were measured in response to these messages, on a linear scale of 0-10. Sex differences were not observed. However, salient findings were uncovered as women were found to be more distressed by the emotional compared to sexual messages, particularly when these messages were sent to and received from a current partners ex-lover. The results are deliberated based upon previous findings, and with consideration of relationship attitudes and domestic violence.
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Chapter 1 – Introduction

Jealousy, a complex universal phenomenon described as a fluctuation of depression, anger and fear, is often exaggerated in romantic relationships (Buss, Larsen, Westen & Semmelroth, 1992; Daly, Weghorst & Wilson, 1982). Romantic jealousy was previously defined as “a state that is aroused by a perceived threat to a valued relationship” (Daly, Weghorst & Wilson, 1982, p.11). A common example of a ‘perceived threat’ to relationships is infidelity, often known as ‘cheating’ (Atwood & Schwartz, 2002; Rydell, McConnell & Bringle, 2004); statistics have identified that 50-60% of men and 45-55% of women participate in some form of sexual or emotional affair whilst married or in a long-term relationship (Atwood & Schwartz, 2002). The occurrence of romantic jealousy and relationship paranoia appears to have been intensified due to the ever-increasing use of social media sites, such as Facebook (Clayton, Nagurney & Smith, 2013; Muise, Christofides, & Desmarais, 2009). Currently, there are a staggering 2.13 billion active Facebook users worldwide (Facebook, 31 January 18), with 1.4 billion of these users active daily (Facebook, December 17), highlighting how social media networks have grown to become a predominant feature of contemporary life. However, as social media platforms allow greater accessibility to meet and communicate with alternate partners, a substantial upsurge in the engagement of online infidelity has been observed along with their growth (McDaniel, Drouin & Cravens, 2017; Wysocki & Childers, 2011). In a sample of married couples in the United States, it was discovered that 12% had experienced cyber-infidelity of some form (McDaniel et al. 2017). Due to this increase, romantic jealousy itself has surged (Bevan, 2017), with research suggesting that the amount of time a partner spends on Facebook positively correlates to the level of paranoia and jealousy within the relationship (Muise et al. 2009).

When romantic jealousy forms in a relationship, it now often manifests itself in modern-day partner-monitoring behaviours (Bevan, 2017). A common example of such a behaviour is ‘snooping’, the act of checking a partner’s mobile phone or social media messages without permission (Clayton et al. 2013; Dunn & Mclean, 2015). In fact, in a sample of undergraduate students, 66% acknowledged participating in this behaviour (Derby, Knox, & Easterling, 2012). Contemporary romantic jealousy may also be exhibited as frequent, obsessive surveillance of a partner’s online activity, such as observing the partners addition of new ‘friends’ on Facebook (Bevan, 2017;
Fox, 2016; Muise, Christofides, & Desmarais, 2014). The luxury of this form of jealous behaviour is that it is virtually undetectable and is therefore not an obvious violation of trust in the relationship (Muise et al. 2014; Utz & Beukeboom, 2011). Nevertheless, monitoring of this type potentially leads to further jealousy and relationship conflict (Orosz et al. 2015), as misinterpretation of online activities may lead an individual to, for example, misconstrue a partner's new Facebook ‘friend’ as a potential love rival (Bevan, 2017). An increase in relationship jealousy due to the addition of a Facebook friend is particularly common when involving ex-partners or former spouses (Clayton et al. 2013; Fox, 2016; Thompson, Zimmerman, Kulibert & Moore, 2017). Clayton et al. (2013) found that relationship conflict frequently arose due to Facebook activity between former-partners, such as the addition of each other as a ‘friend’, the viewing of an ex-partner’s online photographs, or communication via Facebook chat. Conflict of this nature was shown to ultimately lead to heightened suspicion of infidelity and distrust towards the former partner (Clayton et al. 2013).

Jealousy in response to hypothetical online infidelity has been widely studied since the boom in social media use, with much of the research posing a Darwinian approach to investigate whether evolved, sex-specific, jealousy mechanisms still stand in the contemporary world (Dunn & McLean, 2015). Evolutionary theorists claim that men and women will be provoked differently to threats of sexual or emotional infidelity due to opposing jealousy mechanism’s (Buss et al. 1992; Dunn & McLean, 2015; Trivers, 1972). Men are expected to experience enhanced jealousy towards sexual infidelity, whereas women are said to be more jealous over emotional infidelity (Buss et al. 1992; Shackleford, Buss & Bennett, 2002; Schützwohl, 2005; Trivers, 1972). Trivers (1972) Parental Investment (PI) theory attempts to explain these mechanisms, proposing that men experience more distress from sexual infidelity due to possible issues with reproductive success (cuckoldry) (Dunn & Billett, 2017; Schützwohl, 2005), paternity uncertainty, and time investment towards a child which is not his own. On the other hand, women are said to have evolved intense emotional jealousy mechanisms as a diversion of devotion towards another woman threatens the resources the man provides, such as commitment and a decline in father investment (Schützwohl, & Koch, 2004). A variety of previous research supported Trivers (1972) PI theory, namely Buss et al. (1992) pivotal study. Jealousy was induced through forced choice scenarios and participant’s responding
physiological arousal was measured. The robust findings of this ground-breaking study uncovered strong evidence of sex differences in jealousy mechanisms, as results demonstrated that men typically experienced higher levels of jealousy and distress in response to infidelity that was sexual in nature. Women, however, conveyed higher levels of jealousy when the infidelity was emotional.

Additional research supported Buss et al. (1992) findings. A similar study carried out by Shackelford, Buss, & Bennett (2002) further established these sex differences when results displayed that 49.6% of men found imagining their lover trying different sexual positions more distressing than imagining their lover falling in love. Conversely, 88.2% of women found the thought of their lover falling in love much more distressing. In the online world, these sex differences are still seemingly apparent (Dunn & Billett, 2017; Dunn & McLean, 2015; Groothof, Dijkstra & Barelds, 2009). A considerable body of research has used social media sites such as Facebook to create imagined ‘snooping’ scenarios and the discovery of hypothetical infidelity, to compare jealousy between the sexes in a realistic contemporary setting (Dunn & McLean, 2015; Dunn & Billett, 2017). Dunn & Billett (2017) used this imagined ‘snooping’ scenario in their research, creating Facebook messages which were either emotional or sexual in nature and either sent (hypothetically by the participants partner) or received (by an imagined same-sex ‘rival’). Participants were required to ‘rate’ their distress levels in response to the different messages, on a scale of 0-10 (10 being very distressed). The findings were in line with evolutionary theory and past research, such as Buss et al. (1992), as significant sex differences were observed between the two-differing infidelity-revealing message types. Men were more distressed by sexual infidelity-revealing messages, whilst women found the emotional infidelity-revealing messages to be more hurtful. Alongside this, results demonstrated that women were more distressed when an infidelity-revealing message was received rather than sent. These findings are indicative of an inclination for women to place blame of infidelity towards the female ‘rival’ and not the unfaithful partner (Dunn & Billett, 2017). However, research has suggested that men more typically direct their jealousy towards the partner involved in the infidelity (Schützwohl, 2008).

It is said that the individual in which ‘blame’ is directed towards, is the ‘intentional object of romantic jealousy’ (Schützwohl, 2008). According to (Schützwohl, 2008), ‘blame’ or jealousy is established to confront the person
perceived to be most responsible for damaging the relationship, with hopes of the threat to the relationship to be diminished. When examining this from a female perspective and applying Trivers (1972) PI theory once more, it makes sense for the ‘blame’ or jealousy to be apportioned to the same-sex ‘rival’ as the ‘threat’ to the relationship is that the partner will fall in love with the other woman (Schützwohl, 2008). Likewise, as women are the more selective, ‘choosy’ sex and the most valuable sex regarding reproduction (Trivers, 1972), then a man’s ‘blame’ or jealousy is most logically expressed towards the woman (the jealousy provoking partner) rather than a same-sex ‘rival’ (Dunn & Billett, 2017; Schützwohl, 2008). The ‘rival’ involved in infidelity and the perceived threat in response to those involved has been examined by various studies. Thompson, Zimmerman, Kulibert & Moore (2017) observed the effects of rival characteristics on adult’s judgements of imagined infidelity, comparing suspiciousness of a stranger, friend, and lover’s ex-partner. Overall, results demonstrated that ex-partners were perceived as a stronger threat to imagined infidelity than a stranger or a friend. As mentioned previously, activity on Facebook between former partners has been shown to increase relationship paranoia and jealousy (Clayton et al. 2013), and so these findings are unsurprising. Interestingly, despite the common occurrence of conflict resulting from communication between previous partners, 40% of young adults keep in contact with an ex-partner even whilst in a new relationship (Rodriguez, Øverup, Wickham, Knee & Amspoker, 2016). The frequency of communication between former partners is also proposed to correlate with the strength of feelings left over from the past (Spielman, Joel, MacDonald, & Kogan, 2013), possibly suggesting that online infidelity involving an ex-partner is moderately common.

In the case of young adults, jealousy surrounding an ex-partner may be exacerbated (Mod, 2010). The phenomenon of ‘relationship churning’ (on and off again relationships), is commonly prominent in this period of life, and some may ‘yo-yo’ between partners (Dailey, Pfiester, Jin, Beck, & Clark, 2009; Halpern-Meekin, Manning, Giordano, & Longmore, 2013). Therefore, young adults involved in relationship churning may be warier of their lover’s former partner, as trust and relationship security are harder to establish due to these on again/off again attitudes (Norona & Olmstead, 2017). Many young adults also engage in sexual relations with ex-partners even after they break-up (Halpern-Meekin et al. 2013; Manning, Giordano, & Longmore, 2006), and so it is suggested that new partners may find it
harder to judge whether their partners previous relationship is truly over (Norona & Olmstead, 2017). This in turn can potentially lead to increased jealousy towards the ex-partner, and feelings of ‘rivalry’ could emerge (Mod, 2010). Despite of this known jealousy directed towards a partner’s ex-lover, very little research has explored jealousy in response to infidelity involving an ex-partner. When applying an evolutionary perspective (such as Trivers (1972) PI theory), it is unsurprising that ex-partners may cause increased jealousy, particularly in the case of women. As a previous romantic bond had already occurred between the two ex-lovers, the perceived risk of the relationship being re-established and for the former couple to fall in love or form an attachment has a greater chance than that involving a stranger (Meskó & Láng, 2013; Thompson et al. 2017). Therefore, an ex-partner would be deemed more of a ‘threat’ to the relationship and would become the ‘intentional object of jealousy’ (Meskó & Láng, 2013; Schützwohl, 2008; Thompson et al. 2017).

Evolutionary inspired research carried out by Meskó & Láng (2013) explored this concept, examining attitudes to partners imagined sexual relations with an ex-partner compared to a prostitute. A questionnaire consisting of statements such as ‘Which one of the following situations would be more likely to upset and break you down?’ was used in the study, with two choice answers; A: ‘Imagining your partner cheating on you with his former girlfriend or wife’ or B: ‘Imagining your partner cheating on you with a prostitute’. The questionnaire was designed to measure three different aspects; negative emotional responses to the sexual betrayal, willingness to forgive, and evaluation of the infidelity as a threat to the current relationship. 1,562 women participated. It was found that significantly more emotional distress was experienced by the women when they imagined sexual infidelity with an ex-partner rather than a prostitute. Findings also demonstrated that the participating women were more likely to forgive the infidelity if it involved a prostitute rather than a former partner, likely due to the lesser amount of emotional turmoil associated with this. Predictably, hypothetical infidelity involving an ex-partner was also viewed as more of a threat to the women’s current relationships than a betrayal involving a prostitute. A downfall of the study, however, is that both emotional infidelity and men’s responses were not considered and so the full extent of evolutionary theory was not investigated.

The current study seeks to address past criticism of research, such as Meskó & Lang (2013) lack of exploration of distress relating to both sexual and emotional infidelity involving an ex-partner. Criticisms of Buss et al. (1992) seminal research
are also addressed; it was claimed that the forced choice scenarios presented in the study were ambiguous and not clearly specified to be sexual or emotional in nature. The research at hand, however, ensures that imagined scenarios are unambiguously sexual or emotional by stating that sexual intercourse has not yet taken place, or that romantic feelings are not involved. The aim of the current research was to investigate sex differences in perceived jealousy and distress of emotional and sexual infidelity involving either an ex-partner or a stranger, to further explore evolutionary derived theories of the ‘intentional object of jealousy’ (Schützwohl, 2008). As online infidelity is on the rise (Dunn & Billett, 2017; McDaniel, Drouin, & Cravens, 2017) and contributes hugely to distrust and jealousy over former partners (Clayton et al. 2013), the current study also aims to explore responses to infidelity in a prevalent contemporary setting; imagined online snooping (Clayton et al. 2013; Dunn & Mclean, 2015). Research has suggested that the message composer (sent/received messages) matters (Dunn & Billett, 2017). In response to this, conversational Facebook messages of both sent and received were formed in the current study to heighten jealousy further and to indicate that the online infidelity was mutual on both the current partner’s and the interloper’s behalf.

Based on previous research and literature, it is predicted that sex differences will be observed in the perceived levels of distress towards the type of infidelity (sexual/emotional) and the interloper involved in the infidelity (ex-partner/stranger). Men are expected to report greater levels of distress in response to sexual infidelity-revealing messages than emotional messages for both ex-partners and strangers, but experience even distress levels between the two rivals. Put simply, regarding men, the interloper involved in infidelity is not expected to considerably effect perceived distress. On the other hand, women are expected to report higher levels of distress for emotional infidelity-revealing messages than sexual messages, particularly when involving an ex-partner rather than a stranger; the interloper involved in the betrayal is predicted to influence the perceived levels of distress felt.
Chapter 2 – Methodology

2.1. Sample

Both male and female participants were recruited through opportunity sampling, on a voluntary basis ($n = 131$). The inclusion criteria stated that participants had to be over the age of 18 and heterosexual. The mean age of female participants ($n = 94$) was 23.1, with a standard deviation of 9.18. The mean age of male participants ($n = 37$) was 22.6, with a standard deviation of 2.88. Cardiff Metropolitan University’s psychology department participant panel and online social media sites, such as Facebook, were used to advertise the study and recruit participants.

2.2. Design

A mixed design was applied as there were 3 independent variables overall; 1 between independent variable and 2 within independent variables. The between independent variable was the sex of participant, which had 2 levels; male or female. The within independent variables also had 2 levels involved; the message type (sexual or emotional Facebook messages) and the interloper involved in the infidelity (an ex-partner or a stranger). The dependant variable was ‘imagined distress’, which was self-measured on a linear scale of 0-10 (0 being not at all distressed and 10 extremely distressed).

2.3. Ethical Considerations

Before data collection began, ethical approval was obtained and granted in December 2016 by Cardiff Metropolitan University. Participants were required to read a detailed information sheet (see appendix 1.1) concerning the current study and had to give their consent (see appendix 1.2) before they could begin the questionnaire. Details of anonymity and confidentiality were included in the information sheet; participants were informed their data would remain private and would be stored in a password protected PC. Although no serious risks were involved in the study, participants were warned that there would be slightly graphic language which some could potentially find upsetting. In case the participant had
their own experience of infidelity and experienced emotional distress resulting from this, relationship and infidelity support websites were also provided on the information sheet. These websites can be accessed from https://www.relate.org.uk/ and https://infidelity.supportgroups.com/.

2.4. Materials

A questionnaire made by the researcher through Qualtrics, an online survey programme, was used to measure the participants perceived distress in response to imagined infidelity scenario’s. Qualtrics was also used to record the data. An information sheet and consent form were included at the start of the questionnaire.

To induce jealousy, pre-made Facebook messages revealing infidelity were displayed in the survey and participants were told to imagine they had discovered the messages on a current partners account. These messages were created through Facebook and were unambiguously emotional or sexual (see Figure 2.1 and Figure 2.2). To signify that the infidelity was not one-sided and to equalise jealousy that may result from the differences in sender (Dunn & Billett, 2017), both sent and received messages were displayed. The messages were made to seem as realistic as possible, with the emotional Facebook messages including love heart emoticons and kisses (‘xxx’) to express emotion and a bond between the individuals sending and receiving the messages. The sexual Facebook messages included suggestive emoticons such as a winking face, to express flirtatious behaviour, and contained curse words such as ‘f*ck’ when describing the infidelity. The same use of profanity was also posed in the emotional Facebook messages, to ensure that results were not influenced by the language used. The questionnaire contained statements such as ‘Imagine you have discovered the Facebook messages displayed below between your current partner and their ex-partner (who they were involved with for a period of 6months or longer) containing evidence that they have been participating in a strictly sexual relationship with no further emotional attachments. Please indicate below the level of distress you would feel upon discovering this’. The same statements were posed for emotional infidelity, and for infidelity involving a stranger, meaning there were 4 statements in total. The Facebook messages were displayed below these statements, alongside a linear scale of 0-10 to record perceived distress levels. A
programmed software, SPSS, was used to statistically analyse the data after exportation from Qualtrics.

2.5. Procedure

The participants were asked to read an information sheet and give their consent on Qualtrics, at the beginning of the questionnaire, before commencing the study. If consent was not approved, Qualtrics would immediately display the end of the questionnaire. It was stated in the information sheet that participants had to be 18 years of age and heterosexual to partake. The questionnaire was provided through a hyperlink, which was accessed either from an anonymous hyperlink on social media sites such as Facebook, or through an email distributed to participants who were a member of the psychology department’s participant panel at Cardiff Metropolitan university. Once accessed and consent was given, the questionnaire asked for the
participants sex and age and consisted of 4 different imagined scenarios with corresponding emotional and sexual Facebook messages. Participants were asked to rate their perceived level of distress on a scale of 0-10 (0 not at all distressed, 10 extremely distressed) in response to the imagined scenarios and coordinated Facebook messages. The study on average did not last longer than 15 minutes and all data recorded was anonymous. Data was exported to SPSS once all participants had completed the questionnaire.

2.6. Method of Analysis

A three-way mixed 2x2x2 ANOVA was required for analysis. This method was necessary as it allowed determination of an effect of interaction between 3 independent variables or factors on a continuous dependant variable (Laerd Statistics, 2013). In this case, interactions were explored between the sex of participant (male/female), the message type (sexual/emotional), and the interloper involved (ex-partner/stranger) on a continuous dependant variable of perceived distress/jealousy. SPSS, a statistical software, was used to conduct the analysis.
Chapter 3 – Results

Mean distress scores for 131 participants (37 men, 94 women) were recorded via an online questionnaire containing emotional or sexual infidelity revealing Facebook messages (see figure 3.1 below). All data was analysed using SPSS Statistics.

![Figure 3.1: Displaying mean distress scores of men and women when imagining the discovery of sexual or emotional infidelity revealing Facebook messages between a current partner and either an ex-partner or a stranger. Values = mean ± SEM.](image)

Data was subjected to a 2x2x2 mixed ANOVA with a between-subject factor of sex, and within-subject factors of interloper type (ex-partner/stranger) and message type (sexual/emotional). Results showed no significant main effect of sex \( \left[ F_{1, 129} = .22, p > .05, \eta^2 = .002 \right] \), or significant main effect of message type \( \left[ F_{1, 129} = .51, p > .05, \eta^2 = .004 \right] \). However, analyses did reveal a statistically significant main effect of interloper type \( \left[ F_{1, 129} = 10.12, p < .01, \eta^2 = .07 \right] \). Analyses also displayed significant interactions between interloper type and sex \( \left[ F_{1, 129} = 4.78, p < .05, \eta^2 = .03 \right] \) and message type and sex \( \left[ F_{1, 129} = 6.00, p < .05, \eta^2 = .04 \right] \), although no significant interaction was
found between interloper type and message type \( [F_{1, 129} = 1.03, p > .05, \eta^2 = .008] \). No significant 3-way interaction was reported \( [F_{1, 129} = .43, p > .05, \eta^2 = .003] \).

Subsequent simple main effect analyses showed no significant sex differences in distress scores for infidelity with an ex-partner \( [F_{1, 129} = 1.61, p > .05, \eta^2 = .012] \) or for infidelity with a stranger \( [F_{1, 129} = .109, p > .05, \eta^2 = .001] \). However, when comparing within sex differences in distress regarding interloper type, although no difference was found for men \( [F_{1, 129} = .34, p > .05, \eta^2 = .003] \), a highly significant difference was reported for women as they clearly evidenced higher distress in response to messages sent to and received by an ex-partner compared to a stranger \( [F_{1, 129} = 25.5, p < .01, \eta^2 = .16] \). Likewise, when comparing within sex differences in distress regarding message type, no difference was reported for men \( [F_{1, 129} = 1.05, p > .05, \eta^2 = .008] \) however women showed significantly higher distress in response to emotional compared to sexual infidelity \( [F_{1, 129} = 8.86, p < .01, \eta^2 = .064] \). The results clearly demonstrated that a higher level of distress was experienced by women when imagining the discovery of emotional sent and received messages compared to messages which were sexual in nature. Overall, simple main effect analyses displayed no significant sex differences in distress scores for infidelity revealing messages which were sexual \( [F_{1, 129} = .602, p > .05, \eta^2 = .005] \). In respect of sex differences in distress scores for infidelity revealing messages which were emotional, no significant sex difference was observed \( [F_{1, 129} = 3.47, p > .05, \eta^2 = .026] \). However, this difference approximated rejection of the null hypothesis.


Chapter 4 – Discussion

The concept of jealousy has been a major topic of interest to many psychologist’s over the years, with evolutionary based research uncovering significant sex differences in the way jealousy manifests (Buss et al. 1992; Shackelford et al. 2002). The current study attempted to further this research, by exploring sex differences in jealousy resulting from online infidelity. Hypothetical, infidelity-revealing, unambiguously sexual or emotional messages were displayed to the participant, from an imagined stranger or ex-partner, to investigate whether the interloper involved in the infidelity would influence perceived distress levels. The use of Facebook has been discovered to increase relationship paranoia and jealousy (Bevan, 2017), particularly when online activity involves a former partner (Clayton et al. 2013), and so the infidelity-revealing messages were created using Facebook messenger. This formed a more realistic scenario and greater ecological validity; participants were told to imagine they had been ‘snooping’ through their partners social media, a contemporary behaviour which now commonly occurs in relationships due to jealousy (Bevan, 2017; Clayton et al. 2013; Dunn & Mclean, 2015). Hypotheses were formed based upon evolutionary derived theories, and it was predicted that men would be more distressed by sexual infidelity-revealing messages whereas women would find emotional infidelity-revealing messages more distressing. However, men were not expected to experience a significant difference in distress between the interloper involved in the infidelity (ex-partner or stranger), unlike women who were predicted to experience significantly greater distress if the infidelity involved an ex-partner.

The current study’s findings did not demonstrate significant sex differences in jealousy, and therefore did not fall completely in line with previous seminal research of this kind, such as Buss et al. (1992). Although, it is worth noting that sex differences in distress regarding the emotional messages approximated rejection of the null hypothesis and so were very nearly significant. Despite of the lack of significant sex differences, hypotheses were still met as women were found to be more distressed when observing the emotional infidelity-revealing messages compared to the sexual messages, as previously observed in research examining evolutionary evolved jealousy mechanisms (Buss et al. 1992; Dunn & Mclean, 2015; Dunn & Billett, 2017; Shackelford et al. 2002). A significant main effect of interloper
type was also found in the current study; women were significantly more distressed when imagining the messages were sent to and received from an ex-partner compared to a stranger, as expected. These findings are supportive of evolutionary derived theories and past research exploring perceptions of former partners (Clayton et al., 2013; Meskó & Láng, 2013). However, the current research delves further into evolutionary derived concepts regarding the interloper or ‘rival’ involved than previous studies, as it is one of the first of its kind to explore jealousy eliciting from both emotional and sexual infidelity involving an ex-partner. Meskó & Láng (2013) investigated distress and jealousy resulting from imagined infidelity involving an ex-partner or a prostitute and found that participants were more upset by imagined infidelity with a former lover, however only sexual infidelity was included. The research at hand both supported and furthered Meskó & Láng (2013) findings, examining both sexual and emotional infidelity involving an ex-partner and comparing responses from both men and women. The results demonstrated that men’s distress levels were not affected by the interloper involved in the infidelity, as hypotheses predicted.

Previous research has commonly used forced choice scenario’s and uncovered successful findings using this methodology (Buss et al. 1992; Meskó & Láng, 2013). However, the current study aimed to provide ecological validity by using Facebook messages for the participants to view, alongside a linear scale of 0 - 10 to determine the level of distress perceived (0 being not at all distressed and 10 being extremely distressed). An arising issue with this methodology was that it appeared that many participants (both men and women) rated their perceived distress as ‘10 – extremely distressed’ for each of the different scenario’s; a large percentage of the data was at ceiling and may be why no significant sex differences were found. Numerous explanations may account for this behaviour, such as boredom or the young adult mean age range of participants (22.9). Young adults have been shown to be more prone to jealousy (Shackelford, Voracek, Schmitt, Buss, Weekes-Shackelford, & Michalski, 2004) and to experience a higher level of distress in response to infidelity cues (Harris, 2002). The ceiling effects observed also demonstrate the realistic nature of the scenario’s and messages created, as strong feelings of jealousy were clearly provoked. The severity of the perceived distress indicated is likely to be somewhat caused by the conversational manner of the sent and received messages.
displayed to the participants; the infidelity appeared more ‘real’ and not one-sided on the current partner or the ex-partner/stranger’s behalf. Schützwohl (2005) previously proposed that jealousy has both a first and second ‘threshold’. The ‘second threshold’ was explained as the point of jealousy where feelings and emotions become overwhelming and intolerable (Schützwohl, 2005). As a large sample of participants in the current study rated their distress as 10 for each scenario, it could be concluded that the messages were realistic enough to evoke this ‘second threshold’ of jealousy for both men and women in all scenario’s, and therefore the sex differences were not as pronounced.

To overcome the ceiling effects observed in the current study, future research may consider using forced choice scenario’s whilst also incorporating Facebook messages to maintain the ecological validity and unambiguity. For example, statements may include ‘Imagine you have discovered the following Facebook messages on your current partners account, would you be more distressed if these messages were sent to and received from A: an ex-partner, or B: a stranger’ for both the emotional and the sexual Facebook messages. Statements such as ‘Imagine you have discovered Facebook messages between your partner and their ex-partner on your current partners account revealing they have been participating in a sexual relationship with no further emotional attachments. Indicate which message would cause you the most distress: A: the emotional infidelity-revealing message, or B: the sexual infidelity-revealing message’ could also be included. Criticisms of forced-choice scenarios were previously made due to ambiguity of the nature of the infidelity, i.e. if the infidelity was strictly sexual or emotional. However, if Facebook messages were included alongside forced choice statements of this kind past issues of unambiguity may be rectified.

Similarly, additional limitations of the current research include individual differences in perceptions of jealousy. For example, two individuals perceptions of ‘extremely distressed’ may be different to one another in terms of the severity of the emotional response. To counteract these individual differences, future research may not only contemplate the use of forced choice scenario’s, but also physiological arousal measures. Common examples of such measures are ECG (electrocardiogram) or EDA (electrodermal activity) recordings; when an individual becomes anxious or distressed, the autonomic nervous system is activated (Buss et al. 1992; Critchley, Mathias & Dolan, 2002; Levenson, 1988). Heart rate and
electrodermal activity are indicators of autonomic activation (Critchley et al. 2002; Levenson, 1988), and a plethora of research has had successful findings using jealousy/distress measures of this kind (Buss et al. 1992; Pietrzak, Laird, Stevens & Thompson, 2002). A sample of a wider population may also be beneficial to future research of this nature, to investigate the differences in both young and older generations. It was suggested that because some young adult’s may ‘yo-yo’ between partners due to ‘relationship churning’, paranoia and jealousy towards a current partner’s ex-lover may exist due to insecurity within the relationship (Dailey et al. 2009; Halpern-Meekin et al. 2013; Norona & Olmstead, 2017). The current study’s findings may be supportive of this notion regarding young adult women, however, in an older generation where these on/off relationship attitudes are not so prevalent it is possible that research outcomes may differ. Likewise, future research investigating differences in jealousy between the generations may be interesting to explore questions surrounding the impact of social media on both mental health and relationships. Studies have displayed a correlation between frequency of social media use and anxiety in adolescents (Muller et al. 2016); it is possible that in generations where social media has been accessible from a young age, jealousy and relationship insecurity is prevalent due to increased anxiety levels in general. Similarly, narcissism and possessive relationship traits may be on the increase as a result from frequent social media use (Andreassen, Pallesen, & Griffiths, 2017; Schwartz et al. 2013; Utz & Beukeboom, 2011), leading to the possibility that increased possessive traits resulting from frequent social media use could account for young adult’s caution of former lovers. A comparison between age groups may provide insight into these concepts.

The understanding of jealousy mechanisms, cyber-infidelity, and the way the interloper involved in the infidelity impacts these mechanisms is important for several reasons. Firstly, domestic abuse resulting from either real or assumed infidelity is a common occurrence, and research examining the motives behind intimate partner homicides in Australia found that 40% of cases were motivated by jealousy (Parker & Ferguson, 2018). Secondly, social media has unfortunately exacerbated the occurrence of domestic violence, as online activity can easily be misconstrued and elicit strong feelings of jealousy and possessiveness (Bevan, 2017). Research has indicated towards an increase in negative relationship outcomes resulting from
frequent social media use, particularly when online activity involves a former partner (Clayton et al. 2013). Also, it has been demonstrated that there is potential for increased relationship conflict and violence due to a lack of trust surrounding a current partner’s ex-partner (Clayton et al. 2013). This is an important contemporary issue in a day and age where former lovers stay connected through media technology even whilst in a new relationship, whether that be through active messaging or simply by being Facebook friends; prior to the rise of social media networks, once a relationship was over, contact between ex-partners was less likely and so may also have been deemed less threatening to a current partner (Clayton et al. 2013). An increased understanding of how jealous behaviours manifest and the ways in which cyber-infidelity and the interloper involved provoke anger may help to aid the prevention and management of relationship dissolution and abuse.

To conclude, the results of the present study did not completely fall in line with previous evolutionary inspired research, as no significant sex differences were observed. However, important findings were revealed as women were found to be significantly more distressed by infidelity involving an ex-partner compared to a stranger, and by emotional infidelity compared to sexual betrayal. Results also displayed that men’s distress levels were not significantly impacted by the interloper involved in the infidelity. These findings are supportive of past research and evolutionary derived theories regarding the intentional object of jealousy (Schützwohl, 2008), and offer a way forward for future research in a current, yet partially understudied, topic area. Limitations of the study were considered, and suggestions for future research contemplated; comparisons of generational jealousy in response to cyber-infidelity and the interloper involved were proposed, to examine whether social media and inconsistent commitment or ‘relationship churning’ attitudes may be enhancing the severity of jealousy, insecurity, and possession in relationships. Methodological suggestions were also posed, such as the use of physiological measures of distress to counteract individual differences and ceiling effects.
Chapter 5 – References


Chapter 6 – Appendices

Appendix 1.1. Participant information sheet

Project Title: Sex differences in jealousy directed towards infidelity involving an ex-partner or a stranger

PARTICIPANT INFORMATION SHEET

This study is investigating the differences in perceived jealousy/distress levels between males and females when emotional or sexual infidelity occurs with either a stranger or an ex-partner.

- If you agree to participate:

You will be asked to carry out a self-measure questionnaire containing Facebook messages. You will be asked to imagine you have discovered these messages on your partner’s account. The questionnaire will provide statements to which you will rate your level of distress from 0 – not at all to distressed, to 10 – extremely distressed.

The study is not expected to take longer than 15 minutes.

- Exclusion criteria:

You must be at least 18 years old and heterosexual to participate.

- Potential Risk:

Although there are no serious risks involved, it is possible emotional distress in response to your own personal experiences of infidelity may occur. There will also be some graphic language, which may find upsetting.

- Withdrawal, anonymity and confidentiality:

All data from this study will be kept strictly confidential, and will be stored in a password protected PC. Anonymity will be ensured throughout.

You will be able to withdraw from the study and exit the questionnaire at any point, however once completed the data will not be able to be removed.

If you have any questions about the study, please contact [Contact Information]

If you experience any emotional distress after the study related to privacy or issues within a relationship, support can be accessed from [Support Resources]

A consent form will be displayed on the next page.
Appendix 1.2. Participant consent form

Consent Form.

By consenting to your participation in this study, you are confirming that:

- You have read and understood the information sheet for the present study
- You understand your data will be kept confidential and anonymity will be ensured throughout
- You understand that once the questionnaire is completed, your data will not be able to be removed
- You are happy to take part in this study

Please indicate your consent below:

☐ I consent
☐ I do not consent
Appendix 1.3. Example of questions/scenarios displayed to participants via Qualtrics
Word Count Statement

Abstract 198

Introduction 2,370
Methodology 960
Results 485
Discussion 1,869

TOTAL 5,684

Signed: [Signature]

Date: 19<sup>th</sup> April 2018