Sexual Seeking Strategies:

Life History Theory predicts male online seeking behaviour

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Abstract

Internet interactions are ubiquitous. As our lives become entwined in virtual interactions, it may be necessary to adjust fundamental adaptive strategies in order to accomplish our mating goals. Recently, the realm of cyberpsychology has captured the interest of evolutionary psychologists who question whether distal mechanisms of behaviour (e.g., sexual strategies that seek to maximize mating opportunities), which are present in the real world and which drive adaptive behaviour in those environments, still exist (or exist in the same form) in virtual environments. The objective of this study was to explore whether men with different life history strategies (LHS) would display the same mate-seeking strategies in a virtual world as Life History Theory (Figueredo, Vásquez, Brumbach, & Schneider, 2004) predicts they would in the real world. I used a two-phase quasi-experimental study design. In Phase One, the *Mini-K Short Form* measured participants' LHS. In Phase Two, we hosted 10 separate 1-hour online chat sessions, each featuring 4 males and 4-5 females. Male data from the chat sessions were coded for *visibility* (number of posts during the chat session), *sexual seeking style* (number of direct addresses toward specific females in the chat room, and number of generalised addresses toward the group in the chat room), and *post-chat popularity* (number of requests made by females for further contact post-chat). General linear models indicated interaction effects between Mini-K scores, generalised addresses, and visibility when predicting the number of females spoken to and post-chat popularity. The results are consistent with predictions that males with different LHS display different and specific patterns of sexual seeking behaviours in a short-term anonymous online environment, and that those patterns mirror the patterns theory predicts they might follow in real-world social transactions.

Sexual Seeking Strategies:

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Over the course of human evolution, specific sexual strategies have developed to accommodate successful mating and reproduction in different environments. Observable sexual and relational behaviour is generally the focus of areas such as social psychology; however, these perspectives offer only proximal explanations for this behaviour. The assumption of an evolutionary psychological perspective allows researchers to explore underlying, or distal, mechanisms of such behaviour.

Sexual and life history strategies are examples of distal mechanisms, arising from evolutionary theories, which might explain human mate preferences. Within this theoretical framework, both males and females prefer prospective mates to possess specific qualities, depending on whether mating goals are short-term (i.e., there is no intention to commit an exclusive relationship) or long-term (i.e., there is an intention to invest in an exclusive and stable relationship).

The environment in which sexual strategies will manifest can call for adaptation of these strategies. The Internet provides a relatively new social environment where the usual visual and auditory cues are often lacking and a limited range of behaviour is on display. Thus, if an individual encounters a prospective mate in this virtual environment, strategies employed to find a mate (i.e., *sexual seeking strategies*) often need to be adjusted. For example, the strategy that an individual might assume in a face-to-face interaction could be an explicit display of physical characteristics; in contrast, in an online environment placing emphasis on intellectual resources might be an effective approach to attract a mate.

The current study adopted evolutionary and cyberpsychological theoretical frameworks to investigate whether males with different life history strategies display the same sexual seeking strategies in a virtual world as Life History Theory (Figueredo, Vásquez, Brumbach, & Schneider, 2004) predicts they would in the real world.

Hence, the review below will explain evolutionary psychological concepts of Life History Theory and life history strategies. It will argue that an individual's LHS is the distal mechanism that motivates proximal mechanisms of self-presentation in order to ward off intrasexual competitors and to attract a mate successfully.

Life History Theory (LHT)

LHT posits that, in order to optimize their survival fitness, individuals[1] are required to make adaptive choices or "trade-offs" when allocating available resources. These trade-offs involve deciding whether and when to invest in somatic effort or reproductive effort (Brumbach, Figueredo, & Ellis, 2009; Dunkel, Mathes, & Decker, 2009). *Somatic effort* requires resources that are spent towards the growth, maintenance, and longevity of one's body and mind. These resources may include time and money spent on education, or on the development of skills and of self. *Reproductive effort* involves investing in activities aimed at producing offspring that possess copies of parents' genes. These efforts may be divided further into a trade-off between mating effort and parental effort if resources are scarce (Figueredo et al., 2006). The aim of *mating effort* is to produce quantity over quality of offspring, whereas the aim of *parental effort* is to direct resources toward the growth and development of one's own children. Because an individual's needs differ throughout developmental stages, optimal resource allocations will vary across the lifespan (Griskevicius, Delton, Robertson, & Tybur, 2011).

The ways in which an individual decides to allocate resources are known, collectively, as one's *life history strategy* (*LHS*; Brumbach et al., 2009; Dunkel et al., 2009; Griskevicius, Delton, et al., 2011). An individual's LHS is determined by a set of biological, behavioural, and cultural life history traits that predict rates of reproduction, patterns of growth, parental investment, and aging. Life history traits are clustered together and lie on a continuum running from slow to fast (Brumbach et al., 2009; Ellis, Figueredo, Brumbach, & Schlomer, 2009).

A *slow life history strategy* is usually associated with a high somatic effort and a reproductive effort focusing on parenting (Dunkel et al., 2009). Individuals with a slow LHS are more likely to dedicate their resources to long-term relationships that might eventually include parenting, and are less likely to pursue short-term relationships that require a high amount of mating effort. Slow *cultural life history traits* in Westernised human societies may be manifest through the use of contraception, for example, or through developing skills for the future, saving monetary resources in a bank account, or owning a home. Slow life history

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[1]Although LHT is hypothesized to apply to all organisms, in this review I refer specifically to humans.

traits are usually associated with a longer lifespan, long-term investment in resources and relationships, and long-term child rearing (Brumbach et al., 2009).

On the other end of the continuum are *fast life history strategies*. These are defined by a life trajectory favouring reproductive effort and mating (Dunkel et al., 2009). Individuals with a fast LHS strategy usually experience accelerated physical development and early sexual maturation in order to produce as many children as possible. Due to the unpredictable environments in which these individuals usually find themselves, this strategy is often accompanied by short-term, unstable relationships and a lower level of parental care (Brumbach et al., 2009; Griskevicius, Delton, et al., 2011).

Research suggests that humans monitor current and expected environmental pressures and determine their LHS according to specific cues (Griskevicius, Delton, et al. 2011). The conditions that a child or adolescent is exposed to through the developmental stages of his/her life are likely to influence the LHS employed throughout young adulthood. Hence, LHS is persistent over at least part of the lifespan (Brumbach et al., 2009). If children are exposed to adverse conditions, such as, for example, high mortality rates, or they have grown up in a home where their father has been absent or very minimally present, they are more likely to adopt an opportunistic, fast LHS (Ellis et al., 2009; Figueredo et al., 2007). Consequently, they take reproductive opportunities when these present themselves (Bereczkei & Csanaky, 2001; Chisholm, 1993).

For these men, however, reproductive opportunities may be relatively scarce. Having grown up in high-stress environments with disturbed family situations, they often have difficulty accumulating resources and, hence, achieving high status. As a result, these low-status men are likely to be ill-equipped in the face of intrasexual competition, and they are likely to have lower possibilities of reproductive success (Buss & Schmidt, 1993). To compensate for their shortcomings, fast LHS men who have few resources and who live in unpredictable environments are likely to have high rates of sexual risk behaviours and to make risky economic decisions (Griskevicius, Tybur, Delton, & Robertson, 2011).

Sexual Strategies Theory

Evolved sexual selection preferences and their associated behaviours are known as *sexual strategies* or *mating strategies* (Buss & Schmidt, 1993). *Sexual strategies theory* states that men possess three adaptations toward short-term mating. These adaptations include a stronger desire for non-exclusive sexual relationships; preference for a greater number of sexual partners over time; and less stringent requirements before consenting to sex (Piazza & Bering, 2009, p.1262). However, these sexual adaptations adjust according to the temporal

mating context (i.e., long-term or short-term mating) and the environment in which the individual's resources will be displayed (Buss, 1994).

The theory posits further that a failure to accumulate resources reduces the probability of finding a mate (Buss & Schmidt, 1993). Thus, consistent with the predictions made by LHT, males with fewer resources and a fast LHS are (a) more likely to pursue short-term mating strategies than men with a slow LHS, and (b) less likely to be as selective as their slow LHS counterparts when approaching a mate with the intention of initiating a short-term relationship (Piazza & Bering, 2009; Toma, Hancock, & Ellison, 2008). Otherwise stated, fast-LHS males tend to devote more of their resources toward reproductive and mating effort, and fewer resources toward self-development (i.e., they tend toward somatic effort; Dunkel et al., 2009). In contrast, slow-LHS males are more likely to adopt long-term mating strategies. Furthermore, slow-LHS males with a slow LHS prefer women with a physical appearance that displays fertility and a high reproductive value (Buss, 1994). Thus, these men are more likely to focus on obtaining women with the requisite quality, rather than on obtaining a higher quantity of women.

Regarding females, sexual strategies theory states that they seek, generally, to develop long-term relationships with males who are able to provide adequate resources and parental investment for their children (Buss & Schmitt, 1993). Hence, women tend to favour traits such as ambition, industry, income status, generosity, and a good physical condition. Together, these traits signal a high somatic effort, and they may be indicative of a slow LHS and a willingness to invest (Stieger, Eichinger, & Honeder, 2009).

Both sexes are aware of mate selection preferences. Thus, when intrasexual competition occurs, as it would in a bar or in a nightclub, men and women display their more attractive features purposively and with the intention of finding a mate. Women are likely to enhance their appearance (e.g., by dressing seductively or wearing make-up) and to derogate the physical appearance and sexual reputation of competitors (e.g., by criticising or insulting them). In contrast, men are more likely to display their wealth of resources (e.g., by boasting about their job or car; Buss, 1994; Buss & Schmitt, 1993; Piazza & Bering, 2009; Stieger et al., 2009).

Features such as physical appearance and fitness, health, and age are all visually observable, non-verbal cues that help attract a mate. However, in contemporary times, these cues are not always available in environments where intrasexual competition takes place. Many personal and social interactions that originally occurred face-to-face, and among

people with similar LHS, have now moved to virtual domains where verbal cues dominate and where people with different LHS can interact freely.

Mating Strategies in Online Environments

In their seminal paper, Piazza and Bering (2009) suggest applying "an evolutionary framework to Internet behaviour" (p. 1266). Consistent with sexual strategies theory, they suggest that distal mechanisms, including male adaptations for short-term mating, can explain, at least partially, male behaviour online. That is to say, males interested in pursuing short-term mating goals, such as those associated with a fast LHS, may employ specific strategies to capture the attention of, and gain popularity with, females. They predict that men who enter chat rooms with the short-term goal of sexual gratification (cybersex) are likely present their ideal selves online and to interact with women with whom they would not usually engage in the real world (Toma & Hancock, 2010).

On the other hand, Piazza and Bering (2009) predict that men with slow LHS, who prefer to pursue long-term mating goals, will enter chat rooms with the intention of building trust and intimacy with a single partner. Thus, they are likely to establish rapport, identify similarities, and share personally identifying information in order to demonstrate their commitment to a relationship. This self-presentational strategy suggests that those men seeking long-term, and potentially offline, relationships are likely to present their true rather than their ideal selves online (Ellison et al., 2011; Piazza & Bering, 2009).

Anonymity in online chat rooms. Anonymity is a key feature of online communication that allows people to increase control over their interactions and over the impressions they create (Walther, 2007). Two categories of anonymity exist in virtual environments. There is *technical anonymity*, which involves the removal of all possible meaningful identifying information (e.g., an individual may be referred to as a number and include no gendered cues); and there is *social anonymity*, which allows an individual to portray him/herself anonymously by removing cues to his/her identity (e.g., changing his/her birth name). Social anonymity presents an advantage to those who might lack the kind of visible real-world resources that are used to attract potential mates in ordinary (real-world, face-to-face, in-person) interactions. In an online chat room, visible embodied cues such as eye contact, smiling, and touching are replaced by verbal and textual cues (Toma & Hancock, 2010). These anonymous cues may be used to simplify the portrayal of an individual's more attractive qualities, and may permit one to euphemise or discard those features that might be undesirable (Toma & Hancock, 2010).

Because the Internet provides an anonymous platform for self-presentation and self-

expression, some individuals who feel that they do not possess desirable characteristics, or who are interested primarily in finding a sexual mate, might be likely to misrepresent themselves strategically (Piazza & Bering, 2009). Thus, LHT predicts that those with a fast LHS and those who lack desirable resources (such as physically desirable characteristics), might misrepresent themselves through a strategy called compensation. *Compensation* is a type of strategic deception that involves "enhancing a different aspect of the self than the one that is deficient" (Toma & Hancock, 2010, p. 339). Thus, if an online user feels deficient in, for example, physical resources, he might decide to enhance other valuable characteristics or to display more abstract resources (e.g., temporal resources) which are highly valued by potential mates.

Social anonymity allows individuals to establish a "new" identity by removing social cues that might usually carry competitive disadvantages. Furthermore, anonymity in the virtual world is hypothesized to promote 'status equalisation', as status cues usually valued in face-to-face social interactions are downplayed (Dubrovsky, Kiesler, &Sethna, 1991).

Thus, in an anonymous online environment, men who have had difficulty achieving high status and who have not accumulated many resources, perhaps because they were raised in high-stress enviroments, may have an opportunity to engage in successful interactions and to find a mate.

Summary and Conclusion

The literature reviewed above focused on life history strategies and self-presentation in virtual environments. An individual's LHS is influenced by the nature of their lived past, and has an impact on their present and future sexual strategies and behaviour. Thus, the mate-seeking strategies of males with different LHS will manifest in varied ways as they adapt to online social behaviour. The feature of anonymity allows individuals with fast LHS to present themselves in a dynamic and intrasexually competitive manner. In contrast, slow LHS males who, in the real world, do not encounter as many competitive barriers are more likely to present themselves in a stable manner. Thus, males with different LHS are predicted to display different and specific patterns of sexual seeking behaviours in a short-term anonymous online environment, and those patterns will likely mirror the patterns theory predicts they might follow in real-world social transactions.

Rationale, Aims and Hypotheses

Although some previously published studies (Toma & Hancock, 2010; Walther, 2007; Whitty, 2004) have shed light on how gender-specific online behaviours can be explained through an evolutionary psychological lens, those studies have assessed online self-presentation strategies using only qualitative and correlational designs that employ observational techniques and post-hoc self-reports and interviews. Hence, previous studies in this field are limited to factor relationships rather than to assessing a direction of causality. To date, there are no published experimental or quasi-experimental studies examining causal relationships between distal evolutionary mechanisms (e.g., sexual strategies and LHS), and online, ongoing self-presentation in a dynamic and interactive virtual environment. Specifically, no study has addressed the question of whether online sexual seeking strategies vary in accordance with the LHS one is predicted, on the basis of sociocultural, socioeconomic, demographic, and environmental factors, to employ in the real world.

 To address this knowledge gap, I used an evolutionary psychological theoretical framework and a quasi-experimental design in a cyberpsychological environment.

Life history strategy is a theoretical concept that is difficult to measure accurately in real-world enviroments. In principle, researchers have the ability to measure an individual's LHS using self-report scales. They are, however, unable to conduct experimental studies of LHS operating in real-world, face-to-face interactions because it is difficult to record reliably whether or not individuals behave according to their self-reported LHS when pursuing sexual strategies in such interactions.

Social interactions no longer exist only in the real world, however; many of them take place in a virtual world. This is the world of the Internet and social media. Every day, more and more real-world behaviours, including sexual and relational behaviours, are adapted to occur in online environments. For psychological scientists, one advantage of behaviour occurring in a virtual world is that it requires we interact by means of an interface. This juncture between real- and virtual-world interactions is what renders verbal cues and sexual strategies measurable.

Hence, online environments provide an interesting context in which to explore relational and sexual behaviours pertaining to LHS. By measuring the socio-demographic variables and LHS of individuals and subsequently observing their behaviour using online media, researchers are able to record, in reliable ways, sexual-seeking strategies and behaviours that those individuals present. Ultimately, in line with Piazza and Bering's (2009)

suggestion, this line of work will allow us to apply an evolutionary framework to Internet behaviour.

The primary objective of this study, then, was to explore how the sexual seeking strategies of men with different life history strategies manifest in a virtual environment. The main hypothesis was that men with different life history strategies would employ identifiable sexual seeking strategies specific to their LHS. To examine this association, I explored the interactions between a male's LHS and (a) his visibility (i.e., the degree to which he made himself known) in online chat rooms, and (b) his seeking style (i.e., seeking behaviour characterized by generalised or specific address) in online chat rooms.

Because this research was conducted online, and because the participants interacted in the online chat rooms from their homes, I was unable to monitor which individuals were actively chatting. Therefore, a lack of participation would make any relationship between LHS and the outcome variables more difficult to detect. In order to control for this effect, I tested interaction terms between LHS and visibility. By definition, participants with higher visibility scores were involved more actively in the chat. Hence, I hypothesized that the number and type of social exchanges in which males engaged would depend on their Mini-K score, and that those social exchanges would be associated with:

1. The number of females addressed directly (i.e., males with a fast LHS were predicted to address more females specifically than males with a slow LHS), and

2. The post-chat popularity of males with females (i.e., whether or not male seeking behaviour was successful). Specifically, I predicted that (a) those males who did not behave in a manner consistent with their LHS (e.g., fast LH strategists who displayed specific seeking behaviour or slow LH strategists who displayed generalised seeking behaviour) would be unpopular, (b) fast LH strategists who behaved consistent with their LHS (i.e., who displayed generalised seeking behaviour and who addressed many females directly) would be the most popular, and (c) slow LH strategists who behaved consistent with their LHS (i.e., who displayed specific seeking behaviour and addressed fewer females directly) would be popular amongst those females with whom they interacted, but would, overall, be less popular than fast LH strategists who behaved consistent with their LHS.

Methods

Design and Setting

The study employed a quasi-experimental design and consisted of two phases. Phase One was a screening process, with the aim of identifying and grouping participants according to their current LHS. Phase Two involved allocating groups of participants to an online chat session, and observing their interactions during that session. Both phases took place over the Internet. Post-study data coding and analysis were conducted in the Department of Psychology at the University of Cape Town.

Participants

Participants were recruited using the Department of Psychology's Student Research Participation Programme (SRPP). All undergraduate psychology students between the ages of 18 and 21 were invited, using the SRPP website, to participate in a study that explored "the use of social media among young adults in South Africa". Potential participants were informed that in order to take part they would require access to the Internet via a computer or via an Internet-enabled mobile device. They were also informed that the study would consist of two phases: first, an online questionnaire, and, second, a chat room-based study where they would have the opportunity to interact with other students. They were informed that participation in Phase Two was dependent on their responses to the Phase One questionnaires.

Measures and Instruments

Pre-screening survey. *Zoomerang* (www.zoomerang.com) is online survey software that allows users to create custom electronic surveys and polls. The survey created for this study began with questions about general sociodemographic characteristics (see Appendix A). It then moved on to the Mini-K Short Form questionnaire.

The Mini-K Short Form. This Likert-type scale is a component of the Arizona Life History Battery (ALHB; Figueredo et al., 2010). It consists of 20 items, with responses to each ranging from -3 ("disagree strongly") to +3 ("agree strongly"); a response of 0 indicates "not applicable" (see Appendix B). Hence, possible scores range from -60 to 60.

The Mini-K is scored directionally to indicate a slow (high-K) LHS on the fast-slow (r/K) continuum[2] (Olderbak & Figueredo, 2012). A score of -60 indicates an extremely fast

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[2]The K-factor is determined by positive associations among an assortment of sexual reproductive, parental, familial, and social behaviours (Figueredo, Vásquez, Brumbach, & Schneider, 2007). The LHS continuum runs

LHS, whereas a score of 60 indicates an extremely slow LHS. In this study, as in Dunkel and Decker (2010), the instrument was used as a self-report measure of LHS.

Regarding reliability, the Mini-K Short Form appears to be internally consistent, with alpha values ranging from .70 to .77 (Figueredo et al., 2010; Olderbak & Figueredo, 2012). Regarding validity, the Mini-K correlates strongly, and can be used interchangeably, with other measures of LHS, such as the High-K Strategy Scale (HKSS; Dunkel & Decker, 2010; Giosan, 2006). The Mini-K is favoured, however, when examining behavioural traits associated with LHS; hence, we used it in this study.

Online chat room. *Chatzy* (www.chatzy.com) is an online instant messaging application that allows users to join or create virtual chat rooms. These chat rooms can be shared with multiple users by invitation from the website, or by following a hyperlink.

In this study, participants accessed this chat room, from an Internet-enabled computer or mobile device, by following a hyperlink sent to them by the experimenters. Each participant was assigned a unique username. In the chat room, participants could communicate via short text messages and emoticons (emotive faces).

Procedure

Phase One. All undergraduate Psychology students with access to the SRPP website received an email stating that this study was available. From the SRPP site, students were able to click on a hyperlink that redirected them to the Zoomerang survey. The first page of the survey asked for informed consent (see Appendix C) and gave instructions for filling out the questionnaire.

At the end of the questionnaire, participants were asked if they would like to continue their involvement in the research. If they consented, they were asked to provide follow-up contact details. Those males who met the screening criteria (i.e., who were between the ages of 19 and 23 years, who self-reported that they were heterosexual, and who scored within appropriate ranges on the Mini-K Short Form), and who had consented to further participation, were selected for Phase Two. The screening criteria for females were that they were between the ages of 19 and 23 years and self-reported that they were heterosexual.

Phase Two. The selected individuals were emailed informing them that they had been chosen to participate in the second phase of the study. The email stated that this phase

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from fast to slow (r to K) where extreme "r" (fast LHS in this study) represents evolved clusters of traits associated with unstable and unpredictable environments, such as high reproductive rates, little parental care, and a relatively a short amount of time between generations. Extreme "K" (slow LHS in this study) represents evolved clusters of traits associated with predictable and stable environments such as low reproductive rates, elaborate parental care, and longer intergenerational times (Figueredo et al., 2007).

involved taking part in a 1-hour, anonymous, online chat session with up to 9 other participants (4 males and 4-5 females). (The researchers gave no further details about other participants from that point onwards.) The potential participants were asked to confirm, via SMS or email, whether or not they would be able to take part in the designated session. If they did not confirm within 24 hours, they were contacted by telephone and asked to confirm or decline participation in a future chat session. Once participation had been confirmed, they were sent an email that included a neutral designated username (e.g., A1) and detailed instructions on how to log in to the chat room from their landline computer or mobile device (see Appendix D). In this email, they were also instructed that, in the chat session, they would have the task of getting to know someone new.

Each chat session took place from 8-9pm, and each took place on a different date. One of two female postgraduate researchers facilitated each chat session by giving four generic prompts throughout the session (see Appendix E). Aside from the prompts, the chat room was largely uncensored. The researcher only intervened in the session (e.g., by blocking a user or by deleting content) if it appeared that the anonymity of a user, and therefore the integrity of the study, was at risk.

At the end of the chat session, participants were asked to email the researcher with screen names of other users whom they would have liked to "get to know better" or with whom they would have liked to "have a private chat."

Ethical Considerations

This study is a component of a larger research project that was granted ethical approval by the UCT Department of Psychology's Research Ethics Committee. The following ethical considerations were important for this study.

Consent and confidentiality. Participants were required to sign an informed consent document before commencing Phase One of the study. At the end of Phase One, they were requested to either confirm or deny consent for involvement in Phase Two. Participants were informed that all sociodemographic and other information they provided would be held completely confidential, and anonymity was emphasised throughout Phase Two. We kept in mind that the nature of this research encourages (anonymous) participant interaction. Thus, there was a possibility that the reciprocal interaction between participants might promote or develop personal interest. However, we decided that at no stage, and under no circumstances, would any participant's personal or contact information be disclosed to other participants.

Incentives. Students recruited through SRPP were awarded one research participation credit for Phase One and two such credits for Phase Two. Participation in psychological

research is a duly performed course requirement for all undergraduate psychology courses at UCT, but at no stage was any individual required to participate in research against his/her will.

Debriefing. Because this study involved multiple phases, participants in both phases were debriefed, via e-mail (see Appendix F), after all data collection was complete in order to avoid contamination of results. In this email, the researchers also provided their contact details in case participants required any additional information or had any further questions about the study.

Data Management and Statistical Analysis

To conduct statistical analyses on the data, the research team developed a coding system to transform raw behavioural (textual) data from the chat rooms into quantitative data (see Appendix G). Two independent raters (the same researchers who facilitated the chat sessions) coded the data. When the coders found inconsistency in the coding schedules (e.g., in cases where seeking behaviour was ambiguous, or where there was disagreement between the researchers), these inconsistencies were identified and corrected through consultation and consensus. After this correction of possible discrepancies, inter-rater reliability ranged from .83 to 1.00 across all outcome variables.

The variables measured in this study were:

1. *Life history strategy* (LHS): This variable, which was derived from scores on the Mini-K Short Form, was measured on a continuum, with lower scores indicating a *fast LHS* and higher scores indicating a *slow LHS*.

2. *Visibility:* This variable represented the number of chat-room comments posted by each participant. It was calculated as a percentage, dividing the total number of posts by each participant by the total number of posts by all participants throughout the chat session in which the participant himself was involved.

3. *Popularity:* This variable represented the number of times each male participant was chosen by female participants for potential post-chat interaction (i.e., as someone female participants indicated, post-chat, that they would have liked to get to know better, or that they would have liked to chat with privately).

4. *Seeking Style*: This variable was categorized as either *specific* or *generalised*. A direct address sought the attention of a single participant, whereas a generalised address sought the attention of the group.

I conducted general linear model analyses on the data to measure both main and interaction effects. To recap, I conducted this analysis in order to examine the association, in

a virtual environment, between male sexual seeking behaviour of men and LHS. Specifically, the predictor variables, *Number of Females Directly Addressed, Visibility, Number of Generalised Interactions,* and *Mini K Score,* and interactions among them, were entered into two separate GLMs to test the various hypotheses above. Variables were entered in this order so as to control for any possible effects that visibility and generalised interaction scores may have had on Mini-K scores.

Results

Sample Characteristics

More than 400 undergraduate students participated in Phase One of the study. Of that number, 36 male and 40 female undergraduate students were selected, and agreed, to participate in Phase Two. All of these individuals were between the ages of 18 and 23 years ($M = 19.81$, $SD = 1.33$), and all had completed 12-14 years of education.

Descriptive Statistics for Variables of Interest

Table 1 presents descriptive statistics for all of the measures of interest in this study. Of note here is that Mini-K scores were used as a continuous measure of LHS, rather than as a means to assign males to fast- and slow-LHS groups or categories. Hence, participants who scored closer to 0 (the minimum score in this sample) were considered to have a faster LHS and those who scored closer to 44 (the maximum score in this sample) were considered to have a slower LHS.

Regarding number of posts made in the chat room, some males were hardly visible and occupied only 1% of the total number of posts in their chat rooms, whereas others were very visible and were responsible for up to 37% of the total number of chat room posts.

Regarding number of generalised addresses, each male participant posted approximately 4 posts to the general group in the chat room (rather than directly to one person); however, some participants preferred to take part only in direct seeking behaviour while others preferred mainly generalised seeking behaviour.

Regarding number of females addressed directly, the pattern here was similar to that of generalised seeking, with distinct patterns of behaviour one way or the other in some males: Some did not address any females directly, whereas others spoke directly, at least once, to each of the females present in the chat room.

Regarding post-chat popularity, 8 out of 36 participants were not chosen for post-chat interaction at all. Three of the 36 males were very popular in that they were chosen by 3 females for potential future interaction.

Table 1

Male Participants: Descriptive statistics for variables of interest (N =36)

Variable	Minimum	Maximum	M	SD
Mini-K Score	0	44	27.72	11.96
Visibility	1	37	11.17	6.9
Number of Generalised Addresses	0	11	4.47	2.73
Number of Females Addressed Directly	0	4	2.19	1.43
Post-chat popularity	0	3	0.94	1.01

Note. The variable *Visibility* refers to the number of chat-room comments posted by each participant. The variable *Number of Generalised Addresses* refers to the number of addresses that sought the attention of the group. The variable *Number of Females Addressed Directly* refers to the number of separate females who were directly addressed. The variable *Post-chat Popularity* refers to the number of different times the participant was chosen by at least one female for potential future interactions.

Regression Analyses

I created two separate general linear models (GLMs). For both models, there was no multicollinearity between variables, residuals were normally distributed and homoscedasticity was present; hence, all assumptions underlying this particular form of multivariate statistical analysis were upheld.

The first GLM sought to determine whether there was an association between the predictor variables *Visibility*, *Number of Generalised Addresses* and *Mini-K Score*, and the outcome variable *Number of Females Addressed Directly*. I entered Visibility into the model first, because it was important to control for the possibility that males who were inactive in the chat room would have a large and confounding effect on the model. I entered Number of Generalised Addresses second and Mini-K Score third to ensure that the latter was solely responsible for its main effect on the outcome variable. I then entered two- and three-way interactions between these variables. In the final model, however, only the interaction between Mini-K Score and Number of Generalised Addresses was included because it was the only one that contributed significantly to the outcome variance.

Table 2 shows results pertaining to this first model. Male Visibility and Number of Generalised Addresses both positively predicted the number of females that they addressed directly. Although Mini-K Score on its own did not significantly predict the number of females addressed directly, the interaction between Mini-K Score and Number of Generalised Addresses did significantly predict that outcome. Specifically, as Mini-K Score decreased and Number of Generalised Addresses increased, Number of Females Addressed Directly

increased significantly. Conversely, as Mini-K Scores decreased and Number of Generalised Addresses decreased, Number of Females Addressed Directly decreased significantly. As Mini-K Scores increased and Number of Generalised Addresses decreased, Number of Females Addressed Directly increased significantly. Conversely, as Mini-K Scores increased and Number of Generalised Addresses increased, Number of Females Addressed Directly decreased significantly. Figure 1 presents this pattern of data.

When all significant main and interaction effects were considered together, they created a statistically significant model that explained 40% of the variance in the outcome.

Table 2
General Linear Model: Predicting Number of Females Addressed Directly (N = 36)

Predictor	B	SE B	F	t	p
Visibility	.12	.04	11.09	3.33	.002**
Generalised Addresses	.55	.22	6.05	2.46	.02*
Mini-K	.06	.04	2.15	1.47	.15
Mini-K x Generalised Addresses	-.02	.01	7.61	-2.76	.01*

Note. R^2 = .40. Adjusted R^2 = .33. Degrees of freedom were (1, 36) in each case.
*p < .05. **p < .01.
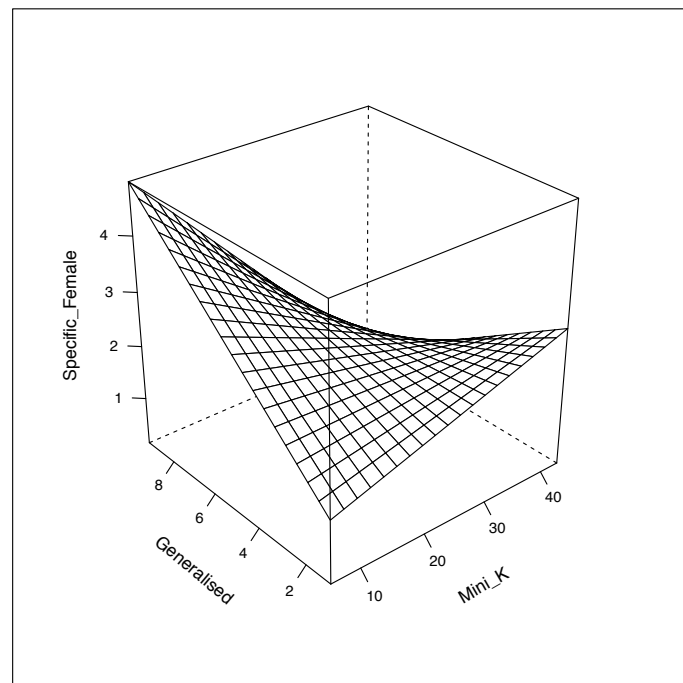
Adjusted to: Visibility=10

Figure 1. Interaction between Mini-K Score and Number of Generalised Addresses predicts Number of Females Addressed Directly. As Mini-K Score decreased, Generalised Addresses increased and the Number of Specific Females Addressed increased.

The second GLM included the same predictor variables as the first, but added Number of Females Addressed Directly as an additional predictor. I entered the latter into the model first, again to ensure that Mini-K was solely responsible for its main effect on the outcome variable. I then entered the rest of the predictors in the same order as they had been entered in the first GLM. This model, then, sought to determine whether there was an association between these predictor variables and the outcome variable *Post-Chat Popularity Among Females*.

Table 3 shows results pertaining to the second regression model. Number of Females Addressed Directly, as well as Number of Generalised Addresses, both positively predicted Post-Chat Popularity. Additionally, there was a significant negative association between Visibility and Post-Chat Popularity. Although Mini-K Score on its own did not significantly predict Post-Chat Popularity, two interactions involving Mini-K Score were significant.

First, the interaction between Mini-K Score and Number of Generalised Addresses, predicted the outcome significantly. Specifically, as Mini-K Score decreased and Number of Generalised Addresses increased, Post-Chat Popularity among females increased significantly. Conversely, as Mini-K Score decreased and Number of Generalised Addresses decreased, Post-Chat Popularity decreased significantly. As Mini-K Score increased and Number of Generalised Addresses decreased, Post-Chat Popularity increased significantly. Conversely, as Mini-K Score increased and Number of Generalised Addresses increased, Post-Chat Popularity decreased significantly. Figure 2 presents this pattern of data.

Table 3
General Linear Model: Predicting Post-Chat Popularity (N = 36)

Predictor	B	$SE\ B$	F	t	p
Direct Addresses	.29	.11	6.62	2.57	.015**
Generalised Addresses	.60	.21	8.67	2.94	.006**
Visibility	-.26	.10	6.38	-2.53	.017*
Mini-K	.00	.03	0.00	.06	.95
Mini-K x Generalised Addresses	-.02	.01	7.43	-2.73	.011*
Mini-K x Visibility	.01	.00	7.93	2.82	.009**

Note. R^2 =.55. Adjusted R^2 = .46. Degrees of freedom were (1, 36) in each case.
*p < .05. **p < .01.
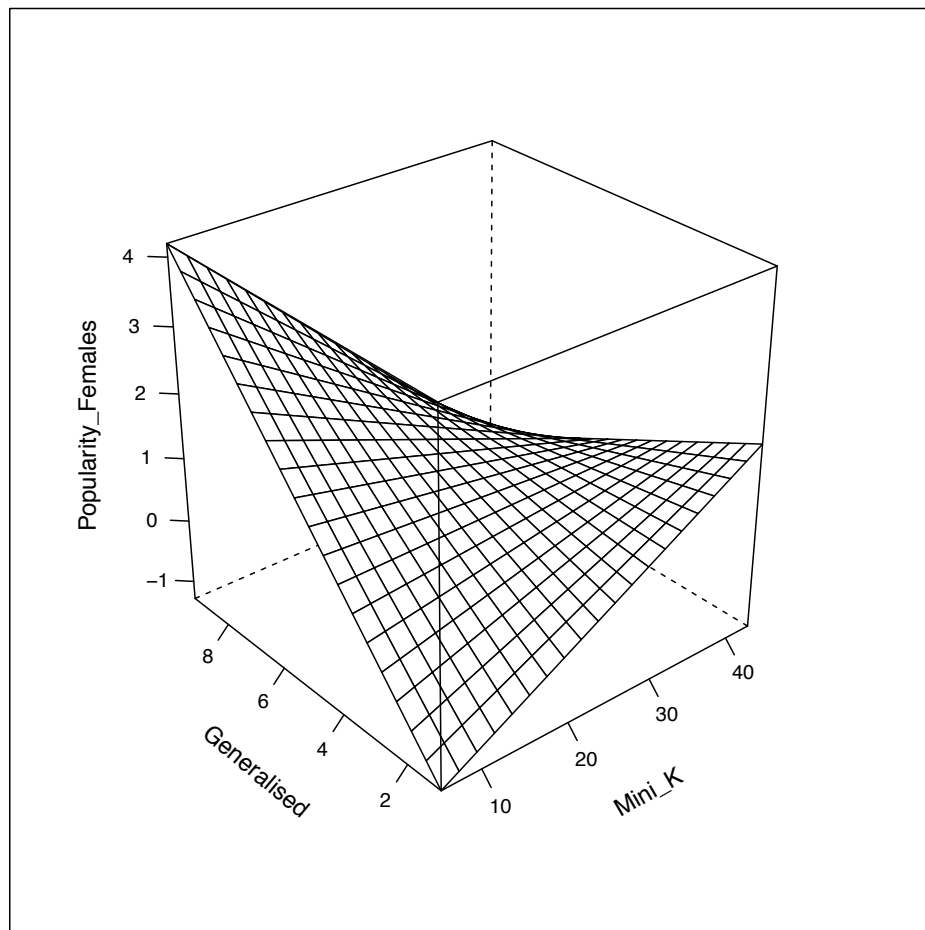
Adjusted to: Visibility=10

Figure 2. Interaction effect between Mini K Scores and Number of Generalised Addresses predicts Post-chat Popularity Among Females. As Mini-K Scores decreased and Generalised Addresses increased, Post Chat Popularity increased.

Second, the interaction between Mini-K Score and Visibility also predicted the outcome significantly. However, this finding will require additional interpretation, as there are interesting findings for both low and high Mini-K individuals. Specifically, as Mini-K Score decreased and Visibility increased, Post-Chat Popularity decreased significantly. Conversely, as Mini-K Score increased and Visibility decreased, Post-Chat Popularity increased significantly. As Mini-K Score increased and Visibility decreased, Post-Chat Popularity decreased significantly. Conversely, as Mini-K Score increased and Visibility increased, Post-Chat Popularity increased significantly. Figure 3 presents this pattern of data.

When all significant main and interaction effects were considered together, they created a statistically significantly model that explained 55.6% of the variance in the outcome.

Adjusted to: Generalised=4
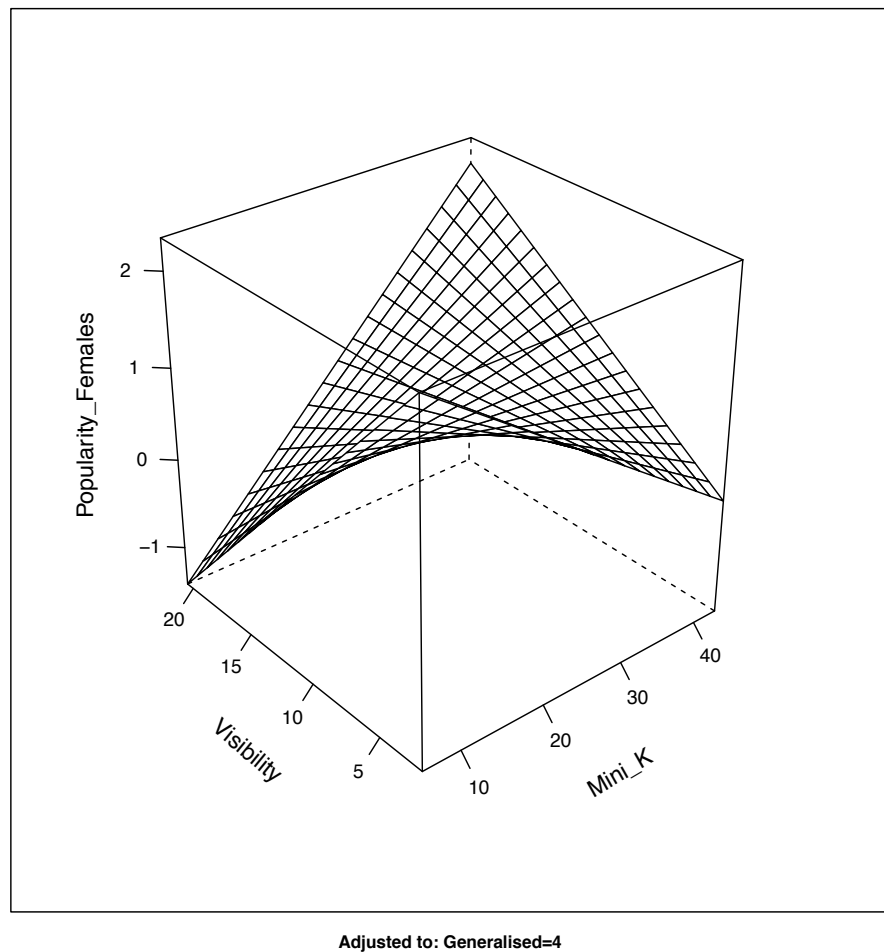
Figure 3. Interaction effect between Mini-K Scores and Visibility predicts the Post-chat Popularity Among Females. As Mini-K Scores increased and Visibility increased, Post Chat Popularity Increased.

Discussion

The primary objective of this study was to describe the mate-seeking strategies of men with different life history strategies (LHS) in a virtual environment. That is to say, I sought to determine if fast or slow LHS men exhibit mate-seeking strategies as predicted by Life History Theory. Moreover, I sought to determine the "success" of fast and slow LH mate-seeking strategies as measured by Post-Chat Popularity of men with women in the chatroom.

Overall, results demonstrated that men with fast LHS (measured according to their Mini-K scores) displayed high reproductive and high mating efforts, and men with slow LHS displayed low mating and high parental efforts in this short-term anonymous online environment. As predicted, fast LH men were more likely to exhibit short-term mating strategies than slow LH men. fast LH men showed a generalized mate-seeking pattern,

whereas slow LH men showed a specific mate-seeking pattern: That is, fast LH men engaged and interacted with the group in the chat room more often than slow LH men did. Fast LH men also directly and specifically addressed more women than did slow LH men in this environment.

Finally, in this short-term anonymous environment, women preferred men who expressed a generalised seeking strategy but displayed a lower level of visibility (i.e., men who were not hyperactive in the chat room) and men who expressed a specific seeking strategy but displayed a higher level of visibiliy (i.e., men who invested a high level of resources on a specific female).

Model 1: LHS and Specific Seeking Behaviour

These findings are consistent with mating strategies theory. It is predicted that the mate seeking strategy of a fast LH male would manifest in terms of high mating effort and an interest in multiple short-term mating opportunities in a short term online envirnoment; whereas the mate seeking strategy of a short LH male would manifest in high parental effort long-term mating (Dunkel et al., 2009) . The current data suggested that, in a short-term online environment, a fast LHS male is likely to engage with multiple potential mates simultaneously, and in doing so behaves as his LHS would predict. Thus, a male's generalised seeking behaviour in this virtual environment is a tactic to attract the attention of as many females as possible in order to increase mating opportunities (Bereczkei & Csanaky, 2001; Chisholm, 1993).

However, some fast LH strategists did not behave as their LHS would predict. These males presented low levels of generalised seeking behaviour as well as low levels of specific seeking behaviour. LHT states that in order for a male with a fast LH to be successful, he needs to seek out potential mates (Dunkel et al., 2009). Therefore, when both specific *and* generalised seeking behaviours are scarce, he is unlikely to be actively involved in the chat (i.e. he displays low levels of visibility). If a male with a fast LH *is* involved in the chat, but does not actively display specific or generalised seeking behaviour (i.e., he displays high visibility but low general or specific addresses), he is likely to be presenting unnecessary and inappropriate behaviour in an attempt to gain popularity. The data suggest that behaviour either fails to successfully attract the attention of participants, or may attract their attention but due to their incongruous nature may decrease his popularity.

The mating strategy of a slow LH male is to expend energy on long-term relationships, and high parental effort (Dunkel et al., 2009). In the real world, this trait is predicted to manifest through self-development and long-term mating, usually with one

partner. In a short-term online environment, this slow LHS was manifest in adopting a more conservative approach. In the chat rooms, slow LH males used specific rather than generalised seeking behaviours, thus investing time in getting to know one or two partners intimately. This tactic is consistent with Piazza and Bering's (2009) prediction that men with slow LHS will enter chat rooms with the intention of building trust and intimacy with a single partner. Thus, males with a slow LHS are likely to establish rapport, identify similarities, and share personally identifying information in order to demonstrate their commitment to a relationship (Ellison et al., 2011).

However, not all slow LH males engaged in specific one-on-one interactions with females in the chat rooms. Some of these males were more likely to engage in generalised seeking behaviour. There are a number of possible explanations for this behaviour.

One of these explanations centres on the role of relationship status. In the quasi-experimental design of this study, we did not control for this factor. LH Theory suggests that slow LH males who are already involved in a relationship may not be interested in investing additional resources in another mate due to the increased somatic and parental effort this strategy requires (Buss, 1994). Alternatively, slow LH males may not be interested in investing in a mating relationship as they may be expending current resources on somatic effort (e.g., education) and/or are focused on directing their resources toward increased somatic effort (Dunkel et al., 2009). Thus, these males take part in generalised seeking behaviour that may be directed towards either males or females, perhaps with the intention of forming friendships or alliances due to common interests, rather than as an attempt to increase their mating effort.

Sexual strategies theory states that in order to find a mate, men are likely to display their wealth of resources (Buss, 1994; Whitty, 2004). Thus, in a short-term online environment, where there is an inability to display physical resources, slow LH males are disinterested in engaging in specific seeking behaviour. This is due to increased intrasexual competition they now face, from fast LH males who are used to engaging in intrasexual competition without the benefit of such resources.

Model 2: LHS and Post-Chat Popularity

In this study, a male participant's strategy within the chat room was considered successful if he was selected post-chat, that is, as someone that a female participant would have liked to get to know better or chat privately with. Thus, I measured the success of each male's strategy in terms of post-chat popularity.

I hypothesised that (1) those males who did not behave as their LHS would predict should be less popular; (2) fast LH strategists who behaved in accordance with their strategy would be the most popular; and (3) slow LH strategists who behave in accordance with their strategy would be popular among those females with whom they interacted, but would be less popular than fast LH strategists.

The first of these hypotheses was confirmed: Those males who did not behave as their LHS predicted they should were less favoured for post-chat interaction. As expected, those males with a fast LHS who displayed specific mate-seeking behaviour (i.e., low generalised behaviour) and those with a slow LHS who displayed generalised seeking behaviour (i.e., low specific behaviour) were less popular.

This result was expected as LHT predicts that in order to be successful (in this case, popular) in a short-term anonymous online environment, males with a fast LHS need to take advantage of possible mating opportunities when they present themselves (Bereczkei & Csanaky, 2001). Fast LH males are required to approach females in order to capture their attention. Mating strategies theory predicts that when a fast LH male approaches a group of women it creates a sense of intrasexual competition among these women (Buss & Schmitt, 1993; Piazza & Bering, 2009). Thus, when these women then receive the attention from the fast LH male they infer that this is an indicator that he is willing to invest significant temporal resources in any future relationship he will form with them.

The temporal resources that males with a fast LHS display in a short-term online environment may compensate for physical resources that they may lack in the real world (i.e., these individuals may take advantage of compensation in order to enhance an aspect of the self that is deficient; Toma & Hancock, 2010).

The second hypothesis listed above was also confirmed: Fast LHS males who behaved in accordance with their LHS were popular. Specifically, those males with a fast LHS who displayed generalised seeking behaviour and who specifically sought many different females were most popular. Aside from the explanations above (i.e., that these males seek general attention from females), these males are also found to approach more females directly than slow LHS males. In this way, they not only gained popularity among a group of females, but increased popularity with specific individuals.

In the same way, the third hypothesis was confirmed: Slow LH strategists who behave in accordance with their strategy were popular among those females with whom they interacted, but were less popular than fast LH strategists.

Visibility in Online Chat Rooms

With regard to visibility, the interaction effect between LHS and visibility was counter-intuitive. It was found that the more visible a fast LH strategist, the less popular he was likely to be and the more visible a slow LH strategist, the more likely he was to be successful in gaining post-chat popularity. This finding is interesting, as literature by Cillessen (2011) states that popularity among peers is defined by two main characteristics; these are *visibility* and *prestige*. Although these findings are consistent with some aspects of this theory Cillissen's (2011) prediction is incomplete, as it is not informed by LHT.

Limitations and Directions for Future Research

The main limitation of this study was the fact that I did not engage in extensive content analysis of the textual data gathered in the chat room. Although this was a descriptive study, we used a simple coding system that categorised and calculated frequencies of raw behaviour. Clearly, a more complex coding system is required to analyse conversational content in more detail. By including detailed, descriptive content analysis we will be able to assess how the self-presentation, deception, and compensation of males (and females), differs according to LHS. Requesting more sociodemographic information from participants as well as adding self-reported personal biographical information as a possible variable might also aid the study of deception and LHS.

Another limitation of the current study is that we measured the construct of LHS in male participants from a university sample. According to LHT, individuals who attend university are those who are currently investing in somatic effort. Therefore, although a sample drawn from the population of South African university-going males is likely to contain individuals with a diverse set of backgrounds, our sample's Mini-K Scores are still likely to be positively skewed. This limitation should be addressed in future research by obtaining data from a larger and more diverse sample of males and females.

Finally, we did not control for our sample's relationship status. Although an individual's LHS should be relatively consistent across different developmental stages, sexual strategies theory states that a male's LHS is likely to vary according to the temporal mating context and the environment in which the individual's resources will be displayed. Therefore, male adaptations toward short-term mating are likely to manifest in a short-term anonymous online environment (Buss, 1994).

Summary and Conclusion

This study explored whether men with different life history strategies (LHS) display the same mate-seeking strategies in a virtual world as Life History Theory predicts they would in the real world. A quasi experimental design was used to conduct descriptive research on behavioural data from a short-term anonymous online chat room.

The feature of anonymity present in this environment provides males with different LHS an equal playing field because status cues, which give an individual the "upper hand" in the real world, do not exist in an anonymous environment (Dubrovsky, Kiesler, &Sethna, 1991). Thus, fast LH males have the opportunity to interact freely, as the pressures and the fear of rejection that result from intrasexual competition in the real-world are relieved (Buss & Schmidt, 1993).

In an anonymous short-term environment, valuable resources of time and information exist to display equally. Mating strategies theory states that females prefer males who possess adequate resources, as these are necessary for future investment in parental effort (Buss, 1994). Therefore, by investing in temporal and attentional resources with a number of different females simultaneously, fast LH men can capitalise on mating opportunities that present themselves in this short-term anonymous online environment, and hence increase their popularity. In short, if an individual with a fast LHS takes advantage of mating preferences and opportunities then his effective management of these resources should lead to increased success and popularity (Buss, 1994).

The significance of this study is that it contributes to our understanding of natural human behaviour, as predicted by evolutionary theory, within the contemporary setting of an artificial online environment. The ability to capture the modification of fundamental human adaptive behaviours, for these environments, illuminates the intricacy of otherwise hidden motivational and behavioural states.

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Appendix A

Zoomerang Survey

Social Media in South Africa

Hello!

This survey is part of a study that explores the use of social media in South Africa.

Thank you for participating. Your help is invaluable, and we appreciate it.

Please read the following page VERY carefully:

✱1. INFORMED CONSENT

Please read the information below carefully regarding informed consent to participate in this study. At the end, please select whether or not you give your consent to participate. Thank you!

Dear Participant,

We are conducting research on the use of social media among young adults in South Africa. Please complete the questionnaires below, which shouldn't take you more than roughly 20 or 30 minutes for 1 SRPP point. Your responses will be kept completely confidential so please reply as honestly as possible.

There are no right or wrong answers, so please respond honestly. You are first required to fill out some biographical details on the next page. Please note that we need your correct student number in order to award you course credit. All personal information will be kept separate from your survey responses, so that those survey responses remain completely confidential.

You will also be asked on the final page of the questionnaire if you would like to participate further, in the second phase of the research. If you respond YES, we require you to provide us with your name and contact details. These details will be used for the sole purpose of the research and will be confidential.

NB
If you are selected to participate in the second phase of the research, you will required to log onto a chat room with a chat name provided by the researcher. Once in the chat room, you will be asked to chat to the other students, with the aim of meeting new people and inviting another chatter to chat privately. You will be asked to keep a record (the chat name) of whom you wished to get to know further, and chatted privately with. To ensure the anonymity of all the participants, no personal details such as names will

Social Media in South Africa

be discussed.

You will be asked to chat for 2 chat sessions, roughly 30-45mins in length and will be awarded a further 2 SRPP points.

I have read and understood the above:

○ I agree to participate

○ I do not agree to participate

*2. Student Number:

3. What is the course code you would like your SRPP points to be allocated to?

*4. Sex:

○ Male

○ Female

*5. What is your sexual orientation?

○ Heterosexual

○ Homosexual

○ Not sure

*6. Age:

*7. Race:

○ Black

○ Coloured

○ Indian

○ White

○ Other

Social Media in South Africa

*8. Where did you spend most of your childhood and teenage years? (Area and City/Town) E.g: Claremont, Cape Town

*9. What term best describes the neighborhood you live in?

- ○ Urban
- ○ Suburban
- ○ Township
- ○ Intermediate

*10. How many people live(d) in your parental home?

*11. Do you own a cell phone?

- ○ Yes
- ○ No

*12. Are you familiar with Mxit?

- ○ Yes, I use Mxit and currently have it on my cell phone
- ○ Yes, but I currently do not have Mxit on my cell phone
- ○ No

*13. Do you access your email from your mobile phone?

- ○ Yes
- ○ No

*14. Do you meet new people via social media, (such as Mxit, BBM, FaceBook, Google)?

- ○ Yes
- ○ No

15. What proportion (or percentage) of your time on social media do you spend talking to friends you know in real life?

0%   100%

○   ○   ○   ○   ○   ○   ○   ○   ○   ○   ○

Social Media in South Africa

✱16. What proportion (or percentage) of you time on social media do you spend meeting new people?

0%   100%

O   O   O   O   O   O   O   O   O   O   O

✱17. In South Africa, there remain vast differences in individual wealth and status.

In the following question, wealth and status (social standing in relation to others) is represented on a 1-10 rating scale.

The higher the rating, the more wealth and social status one has.

	In Poverty with no status									Very Wealthy and have status
In terms of status and wealth, where do you feel your peers and fellow class mates are on the following rating scale?	O	O	O	O	O	O	O	O	O	O
In terms of status and wealth, where do you feel you and your family are on the following rating scale?	O	O	O	O	O	O	O	O	O	O
Where do you think you and your family SHOULD be on the rating scale?	O	O	O	O	O	O	O	O	O	O

✱18. The following section asks you to think about your ratings given in the previous section, and the feelings you may have about answers.

✱When you think about your peers and fellow class mates in relation to yourself and your family, do you feel:

	Definitely No	No	Yes	Definitely Yes
Anger	O	O	O	O
Frustration	O	O	O	O
Satisfaction	O	O	O	O
Helplessness	O	O	O	O
Anxiety	O	O	O	O

Social Media in South Africa

*19. When you think about your current position on the rating scale, and what you think you deserve, do you feel:

	Definitely No	No	Yes	Definitely Yes
Anger	O	O	O	O
Frustration	O	O	O	O
Satisfaction	O	O	O	O
Helplessness	O	O	O	O
Anxiety	O	O	O	O

*20. Please indicate how strongly you agree or disagree with the following statements.

For any item that does not apply to you, please select the "Not Applicable" option.

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Dont Know or Not Applicable	Agree Slightly	Agree Somewhat	Agree Strongly

I can often tell how things will turn out.

O O O O O O O

I try to understand how I got into a situation to figure out how to handle it.

O O O O O O O

I often find the bright side to a bad situation.

O O O O O O O

I dont give up until I solve my problems.

O O O O O O O

I often make plans in advance.

O O O O O O O

I avoid taking risks.

O O O O O O O

While growing up, I had a close and warm relationship with my biological mother.

O O O O O O O

While growing up, I had a close and warm relationship with my biological father.

O O O O O O O

I have a close and warm relationship with my own children.

O O O O O O O

I have a close and warm romantic relationship with my sexual partner.

O O O O O O O

I would rather have one than several sexual relationships at a time.

O O O O O O O

I have to be closely attached to someone before I am comfortable having sex with them.

O O O O O O O

I am often in social contact with blood relatives.

Appendix B

The Mini-K Short Form (Taken from the Arizona Life-History Battery)

Please indicate how strongly you agree or disagree with the following statements. Use the scale below and write your answers in the spaces provided. For any item that does not apply to you, please enter "0".

Disagree Strongly	Disagree Somewhat	Disagree Slightly	Don't Know / Not Applicable	Agree Slightly	Agree Somewhat	Agree Strongly
-3	-2	-1	0	+1	+2	+3

	I can often tell how things will turn out.
	I try to understand how I got into a situation to figure out how to handle it.
	I often find the bright side to a bad situation.
	I don't give up until I solve my problems.
	I often make plans in advance.
	I avoid taking risks.
	While growing up, I had a close and warm relationship with my biological mother.
	While growing up, I had a close and warm relationship with my biological father.
	I have a close and warm relationship with my own children.
	I have a close and warm romantic relationship with my sexual partner.
	I would rather have one than several sexual relationships at a time.
	I have to be closely attached to someone before I am comfortable having sex with them.
	I am often in social contact with my blood relatives.
	I often get emotional support and practical help from my blood relatives.
	I often give emotional support and practical help to my blood relatives.
	I am often in social contact with my friends.
	I often get emotional support and practical help from my friends.
	I often give emotional support and practical help to my friends.
	I am closely connected to and involved in my community.
	I am closely connected to and involved in my religion.

Appendix C
Informed Consent

INFORMED CONSENT

Please read the information below carefully regarding informed consent to participate in this study. At the end, please select whether or not you give your consent to participate. Thank you!

Dear Participant,

We are conducting research on the use of social media among young adults in South Africa. Please underline complete the questionnaires below, which shouldn't take you more than roughly 20 or 30 minutes for 1 SRPP point. Your responses will be kept completely confidential so please reply as honestly as possible.

There are no right or wrong answers, so please respond honestly. You are first required to fill out some biographical details on the next page. Please note that we need your correct student number in order to award you course credit. All personal information will be kept separate from your survey responses, so that those survey responses remain completely confidential.

You will also be asked on the final page of the questionnaire if you would like to participate further, in the second phase of the research. If you respond YES, we require you to provide us with your name and contact details. These details will be used for the sole purpose of the research and will be confidential.

NB
If you are selected to participate in the second phase of the research, you will required to log onto a chat room with a chat name provided by the researcher. Once in the chat room, you will be asked to chat to the other students, with the aim of meeting new people and inviting another chatter to chat privately. You will be asked to keep a record (the chat name) of whom you wished to get to know further, and chatted privately with. To ensure the anonymity of all the participants, no personal details such as names will be discussed.

You will be asked to chat for 2 chat sessions, roughly 30-45mins in length and will be awarded a further 2 SRPP points.

I have read and understood the above:

◯

I agree to participate
I do not agree to participate

Appendix D

Instructions for Chat Room Interaction

Hi there, thank you again for participating in the chat room phase of the study. You will be rewarded with a further 2 SRPP points if you successfully complete this phase of the study on Social Media in South Africa.

Below are some instructions to help you access the chat room and familiarize yourself with how it all works.

Firstly, you will make use of the link- http://www.chatzy.com/45464966109836 at the date and time given to you.

The link will open the following window:

If you select the MOBILE version of the chat room, your chat room will look like this:

If however, you are accessing the chat room from a computer, and keep your chat room on the CLASSIC version, the chat room will look like this:

Please remember to not give out ANY identifying information about yourself, even in private chat. We would like everyone participating in the study to remain ANONYMOUS.

Have fun, and feel free to express yourself. If you have any questions at all, or have difficulty accessing the chat room, please email Tarah or Thalia:

Tswanepoel.uct@gmail.com
Thalia1003@gmail.com

Appendix E
<Autobot> Generic Prompts

Prompt 1a: Welcome to the second phase of the Social Media in South Africa study.

<Autobot>:   Please note we want to **maintain STRICT anonymity**, at no time are you allowed to give your real name. We want you to be able to chat as freely as possible. Chat and have fun, and remember you are required to get to know <u>at least</u> one other chatter. Record the screen names of those you successfully chat with and email them to <u>thalia1003@gmail.com.</u>

Prompt 1b: <You are welcome to start, the time is not rigid, you are just required to chat for the hour in order to be awarded your SRPP points>

Prompt 2:   <Please Note: ASL = Age / Sex / Location>

Prompt 3:   <We apologize for the inability to chat privately, but as this is an anonymous space, please feel free to ask and discuss the things you may have chatted about in a private room within the open forum>

Prompt 4:   <Remember you are required to email the screen names of those you wished to get to know better - email the chat name to thalia1003@gmail.com. You are welcome to continue using this chat room for the evening. **Just no real names!>**

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Appendix F
Debriefing Sheet

Debriefing Information Form

Study: Social Media in South Africa
Conducted by: Tarah Swanepoel & Thalia Ferreira

Dear Participant,

Earlier this year, you took part in a study in the University of Cape Town's Psychology Department entitled " Social Media in South Africa". We appreciate your participation in the study, as without participants the research is not possible. We feel it is our ethical duty to tell you a few things regarding the purpose of the study.

The study we are still conducting currently aims to examine online behaviour in an anonymous and real-time interaction platform, such as the *Chatzy* chat room you would have been asked to join.

Further, in the study in which you participated we wanted to examine the ways in which individuals chatted with one another within an environment that had no non-verbal cues (such as tone of voice, facial expression) and no physical cues (such as race, gender and so forth).

We hypothesised that the complete anonymity of the chat room would allow individuals to present themselves in ways they may not be able to in the real world. By asking participants to select someone they wished to get to know better or to chat privately with, we wanted to determine how successful individuals were in engaging with others when they could present themselves in any way they chose.

This task you were asked to complete also allowed us to see the ways in which people successfully engaged with one another across races and across genders without these cues being physically evident in the interaction.

We hope you enjoyed the study. If you wish to give us any feedback, or if have any further questions, please do not hesitate to contact us via email.

Kind Regards

Tarah Swanepoel   (tarahswanepoel.uct@gmail.com)
Thalia Ferreira   (thalia1003@gmail.com

Appendix G
Coding System

Variable	Definition
Visibility	The visibility of a participant was measured by tallying the total number of comments or posts made by an individual participant in the chat (regardless of content), and then converting this number into a percentage out of the total comments or posts in the chat.
Seeking Style – Direct Address	A specific interaction or *direct address* was defined as an interaction where, for example, participant A sought attention from participant B by initiating a dialogue with him/her. Asking a question or giving a lengthy response in reaction to a post which then called for a response was considered a specific interaction.
Seeking Style – Generalised Address	A *general interaction* or *general address* by one participant to the group of participants was defined as a comment or question that called for a response from the group. Generalised interactions included the words: (you) *guys, peeps, you (guys), anyone, everyone, we, us, all, who (all)* or any plural form of address to the group.
Popularity	A participant was defined as popular if they were selected for post-chat interaction (i.e., getting to know someone better or would like to chat privately with) by another participant in the group. For the purpose of this study only popularity of males with females was considered.