



Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

Does personality moderate the link between women's testosterone and relationship status? The role of extraversion and sensation seeking

Rui Miguel Costa^{a,*}, Mónica Correia^b, Rui F. Oliveira^{a,c,d}^a ISPA – Instituto Universitário, Unidade de Investigação em Eco-Etologia, Rua do Jardim do Tabaco 34, 1149-041 Lisbon, Portugal^b ISPA – Instituto Universitário, Rua do Jardim do Tabaco 34, 1149-041 Lisbon, Portugal^c Champalimaud Neuroscience Program, Champalimaud Center for the Unknown, Neurosciences – 2nd floor, Av. Brasília, Doca de Pedrouços, 1400-038 Lisbon, Portugal^d Instituto Gulbenkian da Ciência, Integrative Behavioural Biology Lab, Rua da Quinta Grande 6, 2780-156 Oeiras, Portugal

ARTICLE INFO

Article history:

Received 28 September 2014

Received in revised form 3 December 2014

Accepted 3 December 2014

Keywords:

Testosterone

Relationship status

Parental care

Extraversion

Sensation seeking

Human mating

ABSTRACT

Research shows that testosterone (T) is lower among partnered women, but not for women with a more unrestricted sociosexuality. There are fundamental personality traits, which are indices of mating effort and might moderate the association between T and relationship status. Two such traits are extraversion (E) and sensation seeking (SS). The present study tests if E and SS moderate the association of women's T with relationship status and parental care. Seventy-three Portuguese women completed a short form of the NEO-FFI and the Sensation Seeking Scale (SSS-V). Salivary T was assayed using luminescence immunoassays. Being involved in a committed relationship was related to lower T for the total sample, and for the subgroups low in E and SS, but not for the subgroups high in E and SS. Parental care was related to lower T in the subgroup low in E, and marginally in the subgroup low in SS. In multivariate analyses, only relationship status predicted T in the total sample and in the subgroups low in E and SS. The results were not confounded by age and oral contraception. These results provide support for lower T being important for monogamous pair bonding rather than for being partnered *per se*.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Research reveals that men in committed relationships tend to have lower testosterone (T) than uncommitted men or men involved in multiple relationships (Alvergne, Faurie, & Raymond, 2009; Burnham et al., 2003; Gettler, McDade, Feranil, & Kuzawa, 2011; Gray, Kahlenberg, Barrett, Lipson, & Ellison, 2002; Gray et al., 2004; Hooper, Gangestad, Thompson, & Bryan, 2011; Pollet, van der Meij, Cobey, & Buunk, 2011; Sakaguchi, Oki, Nonma, & Hasegawa, 2006; van Anders & Goldey, 2010; van Anders, Hamilton, & Watson, 2007; van Anders & Watson, 2006, 2007). Moreover, lower T levels have been associated with better marital adjustment (Booth & Dabbs, 1993; Edelman, van Anders, Chopik, Goldey, & Wardecker, 2014; Gray et al., 2002). These findings have been interpreted as higher T levels favoring allocation of resources to mating effort, whereas lower T levels facilitate greater allocation of resources to pair bonding and parental care; a bidirectional

causal nexus is also plausible (Gettler et al., 2011; Mazur & Michalek, 1998), in which positive relationship and parental interactions may also lower T (van Anders, Goldey, & Kuo, 2011). This interpretation is consistent with several studies showing that fathers have lower T than non-fathers, independently of the latter being committed or not (Berg & Wynne-Edwards, 2001; Gettler et al., 2011; Gray, Yang, & Pope, 2006; Kuzawa, Gettler, Muller, McDade, & Feranil, 2009), and that T is inversely related to the amount of male parental investment (Alvergne et al., 2009; Gettler et al., 2011; Kuzawa et al., 2009; Muller, Marlowe, Bugumba, & Ellison, 2009).

A smaller number of studies in women have pointed in the same direction, but the results are more mixed. In a study done in the Philippines, mothers had lower T than non-mothers, and married women or women living with a partner had lower T than women who were unmarried or not living with a partner (Kuzawa, Gettler, Huang, & McDade, 2010). In a Norwegian study, mothers had lower T than non-mothers, but there was only a trend towards married women having lower T than their non-married counterparts (Barrett et al., 2013). In a series of North American studies, inconsistencies in studies with women continue to arise. In a study with heterosexual and homosexual women, being in a relationship was only related to lower T in the female homosexual group (van

* Corresponding author at: ISPA – Instituto Universitário, Unidade de Investigação em Psicologia e Saúde, Rua do Jardim do Tabaco 34, 1149-041 Lisbon, Portugal. Tel.: +351 218811700; fax: +351 218860954.

E-mail addresses: rcosta@ispa.pt (R.M. Costa), mariamonicacorreia@hotmail.com (M. Correia), ruiol@ispa.pt, rui.oliveira@neuro.fchampalimaud.org, roliveira@igc.gulbenkian.pt (R.F. Oliveira).

Anders & Watson, 2006). Although polyamorous women (committed to more than one partner) had higher levels of T than unpartnered or monogamous women, the two latter groups did not differ (van Anders et al., 2007). In a study with heterosexual couples, whereas men's T was inversely related to partner's satisfaction and commitment, the associations of women's T with their partners' satisfaction and commitment just approached significance in statistical analyses controlling for the interdependence of measures within couples (Edelstein et al., 2014). However, in the same study, zero-order correlations revealed that women's T was related to own and partner's satisfaction and commitment (Edelstein et al., 2014). Interestingly, another investigation showed that unpaired women had higher T than partnered women whose partner lived in the same city, but not than partnered women whose partner lived in a different city (van Anders & Watson, 2007). Because, in the same study, unpaired men were found to have higher T than partnered men, regardless of where their partner was living, the results were interpreted as relationship interactions being more relevant for lowering T in women than lower T predisposing women to enter monogamous long-term relationships. In the case of men, the opposite was proposed to be a more relevant factor in the link between T and partnerships, that is, lower T *a priori* might predispose men to establish monogamous long-term relationships (van Anders & Watson, 2007). This view was strengthened by findings that, whereas unpartnered and casually partnered men had higher T than long-term partnered men, unpartnered women had higher T than both casually partnered and long-term partnered women (albeit in the latter case, at trend level) (van Anders & Goldey, 2010). The findings appear to support that women's T is more likely to decrease with relationship interactions than is the case of men, who seem more prone to establish long-term partnerships, when their T is lower (van Anders & Goldey, 2010; van Anders & Watson, 2007). In a sample of elderly Americans, T was unrelated to marital or relationship status: however, remarriage was associated with T in men, but not in women.

Individual differences in sociosexual orientation vary from preferentially investing resources in one single partner and in a committed relationship (more restricted sociosexuality) to a marked willingness to engage in casual and uncommitted sex (more unrestricted sociosexuality). However, since it is possible that some persons are committed and at the same time predisposed to casual sex, it is plausible that more sociosexually unrestricted people enter committed relationships with higher T levels and/or their T levels do not diminish with relationship interactions or parental care. Thus, it is likely that for more sociosexually unrestricted persons, relationship commitment is not associated with lower T. Indeed, this prediction has been confirmed for both sexes. A study by Edelstein and colleagues used a revised version of the Sociosexual Orientation Inventory (SOI-R), which has three dimensions: desire to have casual sex, attitudes to casual sex, and actual past frequency of casual sex (Edelstein, Chopik, & Kean, 2011). This study found that the association between T and relationship status was moderated by desire for casual sex in men, and by actual frequency of casual sex in women (Edelstein et al., 2011). These findings might be due to women being able to find casual sexual partners with less difficulty than men, even if men can generally feel more desire for casual sex. Moreover, McIntyre and collaborators using the Sociosexual Orientation Inventory (SOI) found that more unrestricted sociosexuality was associated with T levels among partnered men, but not among unpartnered men (McIntyre et al., 2006). These results were interpreted as men in committed relationships, but who are interested in casual extra-pair sex, maintaining higher levels of T. (McIntyre et al., 2006).

However, it is still untested if fundamental personality traits in influential models of personality moderate the association between T and relationship status. Two such traits that can index

greater mating effort are extraversion (E) and sensation seeking (SS). An unrestricted sociosexual orientation is more likely among persons high in E and SS (Penke & Asendorpf, 2008; Schmidt & Shackelford, 2008), which are fundamental personality traits in widely studied models of personality (Costa & McCrae, 1992; Zuckerman, 2010). Both E and SS have been related to other indices of greater mating effort, such as greater lifetime number of sexual partners (Bancroft et al., 2004; Bogaert & Fisher, 1995; Nettle, 2005), lack of relationship exclusivity and mate poaching (Schmidt & Shackelford, 2008). Some research has also found positive correlations between T and both E and SS. (Aluja & Torrubia, 2004; Alvergne, Jokela, Faurie, & Lummaa, 2010; Campbell et al., 2010; Daitzman & Zuckerman, 1980; Daitzman, Zuckerman, Sammelwitz, & Ganjam, 1978; Guerra et al., 1999; Kerschbaum, Ruemer, Weissshuhn, & Klimesch, 2006). Extraversion is weakly and inconsistently related to infidelity (Schmidt, 2004), but people more extraverted and more dissatisfied with their relationships are more likely to engage in extra-dyadic sex (Barta & Kiene, 2005). These findings suggest that in the case of committed extroverts, casual sex or extra-dyadic relationships might be more frequently attempted to initiate a new exclusive relationship than interest in casual sex *per se*. In contrast, more introverted people might be more resilient to relationship problems, in the sense that, when there are relationship problems, more introverted people will not be so prone to look for other partners. In this regard, there is less research on sensation seeking, but there is some evidence that it is related to infidelity (Lalasz & Weigel, 2011). Interestingly, T was found to be lower in fathers low in sensation seeking than in fathers high in sensation seeking, further suggesting that more sensation seeking fathers might engage in greater mating effort (Perini, Ditzen, Hengartner, & Ehlert, 2012).

Thus, the aim of the present study is to test the hypotheses that T levels are lower in women involved in committed relationships or providing parental care, but E and SS moderate these associations, in a way that it is hypothesized that lower T levels are related to being in a committed relationship or providing parental care in women low in E and SS, but not in women high in E and SS.

2. Methods

2.1. Participants

Seventy-three women participated in the study (age range: 18–38); 32 were unpaid community volunteers, and 41 were undergraduates who received course credits in exchange for their participation. Table 1 depicts sample characteristics. The study was done according to the Declaration of Helsinki; all participants gave informed consent; anonymity, confidentiality, and ability to discontinue participation at any time were assured. The undergraduate students were recruited from the psychology participant pool of the university, and provided their data in the psychology laboratory. The community volunteers were recruited among a variety of workers of a supermarket who volunteered for the study. They provided the saliva samples and completed the questionnaires in a quiet, undisturbed, place.

2.2. Personality and relationship measures

Extraversion was measured with the respective four-item subscale of the NEO-FFI-20 (Bertoquini & Ribeiro, 2006), a validated Portuguese short version of the NEO-PI-R (Costa & McCrae, 1995). In the present study, Cronbach's alpha for the extraversion subscale was .69. Sensation seeking was measured with a Portuguese version (Mendes & Queirós, 2005) of the Sensation Seeking Scale form V (SSS-V) (Zuckerman, Eysenck, & Eysenck, 1978). In

Download English Version:

<https://daneshyari.com/en/article/7251688>

Download Persian Version:

<https://daneshyari.com/article/7251688>

[Daneshyari.com](https://daneshyari.com)