Sensitivity to punishment, sensitivity to reward and sexuality in females

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Abstract

The aim of this work is to study the relationships between several sexual variables (experiences, excitement, anxiety, satisfaction and curiosity in sexual events in the media) and the personality variables proposed by Gray: sensitivity to reward and punishment. Results showed that women who are more sensitive to reward, with more sexual experiences and more curiosity in sexual topics in the media, have higher sexual excitability and satisfaction levels than women more sensitive to punishment, who in turn, show higher levels of sexual anxiety.

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1. Introduction

Eysenck (1976), found empirical relationships between personality and sexual behavior. High Extraversion scorers were characterized by promiscuity plus high satisfaction and lack of nervousness. High Neuroticism scorers were characterized by low satisfaction and high feelings of guilt. Correlations between sexual behaviors and Extraversion were generally positive and negative with Neuroticism. These results were corroborated by Barnes, Malamuth, and Check (1984). Gray (1982) posits that the Anxiety and Impulsivity dimensions represent roughly a 45° rotation of the Eysenck axis. The Impulsivity axle would go from the high Neuroticism/high Extraversion quadrant (highest Impulsivity), to the low Neuroticism/low Extraversion quadrant (lowest Impulsivity). The Anxiety dimension would represent a high susceptibility to punishment while...
the Impulsivity dimension would imply a high susceptibility to rewards. Subsequently, Gray (1987) proposes two neural systems responsible for behavioural regulation: (a) the Behavioural Inhibition System (BIS), which regulates behaviour in response to cues for punishment and cues to frustrated non-reward and (b) the Behavioural Activation System (BAS), which regulates behaviour in response to cues for reward and cues for omission of punishment. Furthermore, BIS and BAS would be related to anxiety and impulsivity dimensions, respectively.

Sexual stimuli are typically rewarding, although sexual excitability and satisfaction variables depend on sexual experiences. The more satisfactory sexual experiences, the more sexual excitability and satisfaction (Kinsey, Pomeroy, Martin, & Gepharz, 1953). On the other hand, anxiety can inhibit sexual responses (Master & Johnson, 1970; Wolpe, 1958). Anxious behaviour towards sexuality has been negatively related with sexual experience. The more sexual experience, the less anxiety in response to sexual stimuli (Chambless & Lifshitz, 1984). It is expected that subjects reporting more sexual excitability and satisfaction, will show more sexual experience and interest in explicit sex films. Besides, if subjects show individual differences in anxiety and impulsivity, depending on the BIS and BAS activation, they will show sexual behaviour differences as well, since sexual behaviour is intrinsically rewarding. Consequently, the following hypotheses are formulated: (a) subjects more susceptible to reward, will claim more sexual experiences, excitability and sexual satisfaction than subjects more susceptible to punishment; (b) subjects more susceptible to punishment will report higher levels of sexual anxiety and lower levels of sexual excitability and satisfaction.

2. Method

2.1. Subjects

A sample of 325 women, with a mean age of 24.38 years old (SD: 3.94; range: 19–45) were asked to fill in anonymously a self-report questionnaire: 80.3% had university degrees, 11.1% Professional Training and High School certifications, 4% university technician certifications, 2.5% primary school certifications and 2.1% did not answer this aspect. They also reported that 62.2% were university students, 33.2% working full-time, and 4.6% did not answer. Regarding their marital status, 75.5% were single, 17.5% were married, 0.9% divorced, 2.5% widowed, 3.1% were living with somebody and 0.3% did not answer.

2.2. Instruments

Sexual Arousability Inventory-Expanded (SAI-E; Aluja & Torrubia, 1994; Aluja, Torrubia, & Gallart, 1990; Chambless & Lifshitz, 1984). This questionnaire has three subscales tapping sexual Excitability (SAI-Aro), Anxiety (SAI-Anx), and Satisfaction (SAI-Sat)—Bentler Sexual Behaviour Inventory (Female Heterosexual Behaviour) (BSBI; Aluja & Torrubia, 1994; Bentler, 1968). Curiosity about Sexual Events (CASE; Aluja, 2000; Aluja & Torrubia, 1995; Zuckerman & Little, 1986). Scale of Sensitivity to Reward (SR; Torrubia, Avila, Moltó, & Grande, 1995) and the Scale of Sensitivity to Punishment (SP; Torrubia & Tobeña, 1984). A modified version of these scales has just been published.
recently (Torrubia, Avila, Moltó, & Caseras, 2001). All these scales report adequate psychometric characteristics in Spanish versions. Subjects were also asked to report about how often they have watched a pornographic film: never (1), one time (2), between two and four times (3), between five and ten times (4), more than ten times (5).

3. Results

Means, standard deviations, ranks, kurtosis, skewness and Cronbach’s alphas of the several measures are shown in Table 1. The ratio of kurtosis can be used as a normality test. Normality is usually rejected if the ratio is less than −2 or greater than +2. A Skewness value higher than ±1 indicates a distribution that departs significantly from normality (Muthén & Kaplan, 1985). Kurtosis and skewness values indicated that all scales met distributional assumptions. The correlation matrix of the personality and sexual variables is shown in Table 2. SAI-Aro results are positively related to SR (0.31, \( P < 0.001 \)), frequency of watching pornographic films (0.27), CASE (0.25), BSBI (0.21), and SAI-Sa (0.81). The high correlation between SAI-Aro and SAI-Sa was also reported by Chambless and Lifshitz (1984). In samples of women without any sexual dysfunction, sexual arousal tends to be related to satisfaction. SAI-Anx is only related to SP (0.20, \( P < 0.01 \)), and SAI-Sat is related to SR (0.21, \( P < 0.001 \)), frequency of watching pornographic films (0.31, \( P < 0.001 \)), CASE (0.17, \( P < 0.01 \)), and BSBI (0.26, \( P < 0.001 \)). BSBI is related to SR (0.21, \( P < 0.001 \)) and frequency of watching pornographic films (0.25, \( P < 0.001 \)). CASE related to SR (0.18, \( P < 0.01 \)) and frequency of watching pornographic films (0.21, \( P < 0.001 \)).

Three stepwise regression analyses are shown in Table 3. Each SAI-E scale is entered as a dependent variable, and personality, sexual and frequency of watching pornography variables as the independent ones. In the first analysis, SR, BSBI and CASE predict SAI-Aro (multiple \( R: 0.40 \)). In the second one, SP is the only variable that predicts SAI-Anx (multiple \( R: 0.20 \)). Finally, BSBI and SR predict SAI-Sat (multiple \( R: 0.33 \)).

Table 1
Descriptives

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Range</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAI-Aro</td>
<td>85.63</td>
<td>21.58</td>
<td>11–132</td>
<td>0.01</td>
<td>−0.41</td>
<td>0.93</td>
</tr>
<tr>
<td>SAI-Anx</td>
<td>34.81</td>
<td>34.22</td>
<td>−28–121</td>
<td>−0.55</td>
<td>0.51</td>
<td>0.96</td>
</tr>
<tr>
<td>SAI-Sat</td>
<td>80.65</td>
<td>22.59</td>
<td>13–133</td>
<td>−0.24</td>
<td>−0.16</td>
<td>0.93</td>
</tr>
<tr>
<td>BSBI</td>
<td>16.44</td>
<td>8.72</td>
<td>0–28</td>
<td>−0.73</td>
<td>−0.87</td>
<td>0.95</td>
</tr>
<tr>
<td>CASE</td>
<td>3.37</td>
<td>2.85</td>
<td>0–10</td>
<td>0.92</td>
<td>0.39</td>
<td>0.72</td>
</tr>
<tr>
<td>SP</td>
<td>17.81</td>
<td>6.20</td>
<td>0–33</td>
<td>−0.40</td>
<td>−0.11</td>
<td>0.79</td>
</tr>
<tr>
<td>SR</td>
<td>16.39</td>
<td>4.76</td>
<td>0–27</td>
<td>0.37</td>
<td>−0.34</td>
<td>0.73</td>
</tr>
<tr>
<td>X-Films</td>
<td>1.83</td>
<td>0.98</td>
<td>1–5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Discussion

This study was designed to study the relationships between several sexual and personality variables according with the dimensions proposed in Gray’s theory. A sample of highly educational levels was selected in order to minimize the likely prejudices or negative attitudes towards sexual behavior. Furthermore, an adequate mean age was considered to provide subjects that had had sexual relations. Given that the study employs psychometric measures, validated instruments that had been normalized with Spanish speaking samples were considered. Descriptive statistics for the measures are similar to both English and Spanish studies in non-clinical samples, with fair distributional and internal consistency coefficients.

Table 2
Intercorrelation matrix

<table>
<thead>
<tr>
<th></th>
<th>SR</th>
<th>SP</th>
<th>X-Films</th>
<th>CASE</th>
<th>BSBI</th>
<th>SAI-Sat</th>
<th>SAI-Anx</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAI-Aro</td>
<td>0.31***</td>
<td>-0.07</td>
<td>0.27***</td>
<td>0.25***</td>
<td>0.21***</td>
<td>0.81***</td>
<td>0.14</td>
</tr>
<tr>
<td>SAI-Anx</td>
<td>0.10</td>
<td>0.20**</td>
<td>0.01</td>
<td>0.09</td>
<td>-0.14</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>SAI-Sat</td>
<td>0.21***</td>
<td>-0.09</td>
<td>0.31***</td>
<td>0.17***</td>
<td>0.26***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSBI</td>
<td>0.21***</td>
<td>-0.12</td>
<td>0.25***</td>
<td>0.17***</td>
<td>0.26***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CASE</td>
<td>0.18**</td>
<td>0.11</td>
<td>0.21***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-Films</td>
<td>0.15</td>
<td></td>
<td>0.15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


** P < 0.01.
*** P < 0.001.

Table 3
Multiple regression analysis

Independent variables: BSBI, SR, SP and CASE

<table>
<thead>
<tr>
<th>SAI-Aro</th>
<th>SAI-Anx</th>
<th>SAI-Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>SR</td>
<td>0.22</td>
<td>3.78***</td>
</tr>
<tr>
<td>BSBI</td>
<td>0.20</td>
<td>3.40***</td>
</tr>
<tr>
<td>CASE</td>
<td>0.20</td>
<td>3.40***</td>
</tr>
</tbody>
</table>

Multiple R: 0.40; R square: 0.16; F: 16.91***

Multiple R: 0.20; R square: 0.04; F: 11.44***

Multiple R: 0.35; R square: 0.12; F: 12.04***


* P < 0.05.
** P < 0.01.
*** P < 0.001.
The results of the relationships among sexual variables are as expected. Women with more sexual experiences (BSBI) report significantly more excitability (SAI-Aro) and sexual satisfaction (SAI-Sat) (Aluja and Torrubia 1994). Women who report more sexual curiosity have watched more sexual content films as informed by Aluja and Torrubia (1993). Similarly, women that show more sexual curiosity are more sensitive to rewards. Sexual curiosity has been related to sensation seeking, while sensation seeking has been positively related to sensitivity to rewards in non-clinical men and women (Torrubia et al., 2001), and more consistently in male offenders (Aluja & Torrubia, 1996).

Our hypotheses are intuitive and are derived from the relationship between Eysenckian personality dimensions and sexuality, given that to our knowledge there are no studies in regard to the relationship between sexual variables and Gray’s personality dimensions. If sexual behavior has been related to Extraversion and Neuroticism (Barnes et al., 1984; Eysenck, 1976), it is expected that if there is a relationship between Eysenck and Gray personality dimensions, the Gray’s Impulsivity and Anxiety will be related to sexual behavior. In the first hypothesis, it is predicted that subjects more susceptible to reward will claim more sexual experiences, excitability and sexual satisfaction than subjects more susceptible to punishment. The results give support to this prediction given that susceptibility to reward (SR) has been related to more sexual experiences also being the most predictive variable of sexual excitability (SAI-Aro), and the second most predictive variable of Sexual satisfaction (SAI-Sat). It is worth mentioning that the SR does not contain sexual items, although its predictive value in regard to sexual excitability in women is high, even above that of sexual experience (BSBI).

The second hypothesis is also confirmed given that Susceptibility to Punishment (SP) is the most predictive scale of Sexual Anxiety (SAI-Anx), indicating that women who are more susceptible to punishment show more anxiety towards sexual stimuli. Results show that individual differences in the Behavioural Inhibition and Activation Systems, BIS and BAS respectively, tended to relate to sexual responses. These results are specially relevant given that data have been obtained from a sample of women, because they tend to report somewhat lower levels of sexual responses and lower scores in SR than men (Torrubia et al., 2001). This finding provides some empirical support to our initial hypotheses formulated according to Gray’s theory.

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References


