Introduction  The revised Reinforcement Sensitivity Theory of Personality (rRST; Gray & McNaughton, 2000) postulates three major neuropsychological motivational systems underlying individual differences in reaction to aversive, appetitive, or conflicting stimuli, respectively: The Fight-Flight-Freeze System (FFFS, related to fear and defensive responses), the Behavioral Approach System (BAS, related to pleasure and approach responses), and the Behavioral Inhibition System (BIS, related to anxiety and cautious approach). The Jackson-5 (J5; Jackson, 2009) was the first attempt to develop new scales to measure rRST. In addition to the BIS and the BAS, the J5 was developed with the purpose of separately evaluating each of the three FFFS subsystems. That is why the J5 is composed of 30 items, equally distributed across five scales: BAS, BIS, Fight (FI), Flight (FL), and Freeze (FR). The answer format is a 5-point Likert-type scale (1 = completely disagree; 5 = completely agree).

Results  The Five-Factor Model of complete Spanish J5-30 items has a poor goodness of fit ($\chi^2 (395, N = 1,095) = 1065.969, p < .001$; CFI: .85; RMSEA: .068). The first model of the Spanish J5 with an acceptable fit is configured by 4-Factors (BAS, BIS, FI, and FL-FR) with five items each ($\chi^2 (164, N = 1095) = 1065.969, p < .001$; CFI: .92; RMSEA: .071 [.067, .075] 90% CI), in which the FI scale correlates negatively with FL-FR ($r = -.22$). The best-fitted Five-Factor Model of the Spanish J5 is configured by three items each (see Figure).

Descriptive statistics, Internal consistency, and Sex Differences for Facets and Motivational Systems in the revised Spanish J5 (15 Items)

<table>
<thead>
<tr>
<th>Spanish J5</th>
<th>Total sample (N = 1,095)</th>
<th>M</th>
<th>SD</th>
<th>$\alpha$</th>
<th>$r_u$</th>
<th>Males (n = 431)</th>
<th>Females (n = 664)</th>
<th>M</th>
<th>SD</th>
<th>$\alpha$</th>
<th>$r_u$</th>
<th>Male v. Female t(1009)</th>
<th>p</th>
<th>g</th>
<th>CI (95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS</td>
<td>3</td>
<td>9.93</td>
<td>2.72</td>
<td>.82</td>
<td>.60</td>
<td>9.90</td>
<td>2.64</td>
<td>.82</td>
<td>9.60</td>
<td>2.47</td>
<td>.77</td>
<td>9.53</td>
<td>2.45</td>
<td>.84</td>
<td>.09</td>
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<tr>
<td>BIS</td>
<td>3</td>
<td>10.09</td>
<td>2.51</td>
<td>.72</td>
<td>.46</td>
<td>10.23</td>
<td>2.47</td>
<td>.77</td>
<td>10.23</td>
<td>2.47</td>
<td>.77</td>
<td>9.75</td>
<td>2.47</td>
<td>.67</td>
<td>.41</td>
</tr>
<tr>
<td>FFFS</td>
<td>9</td>
<td>28.71</td>
<td>4.68</td>
<td>.48</td>
<td>.09</td>
<td>26.96</td>
<td>4.38</td>
<td>.49</td>
<td>26.96</td>
<td>4.38</td>
<td>.49</td>
<td>9.75</td>
<td>2.47</td>
<td>.67</td>
<td>.41</td>
</tr>
<tr>
<td>FFFS-FI</td>
<td>3</td>
<td>10.19</td>
<td>2.66</td>
<td>.68</td>
<td>.41</td>
<td>10.99</td>
<td>2.54</td>
<td>.70</td>
<td>10.99</td>
<td>2.54</td>
<td>.70</td>
<td>9.67</td>
<td>2.60</td>
<td>.64</td>
<td>.37</td>
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<tr>
<td>FFFS-FL</td>
<td>3</td>
<td>10.19</td>
<td>2.78</td>
<td>.67</td>
<td>.40</td>
<td>8.65</td>
<td>2.58</td>
<td>.66</td>
<td>8.65</td>
<td>2.58</td>
<td>.66</td>
<td>11.18</td>
<td>2.43</td>
<td>.55</td>
<td>.29</td>
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<tr>
<td>FFFS-FR</td>
<td>3</td>
<td>8.34</td>
<td>2.55</td>
<td>.54</td>
<td>.28</td>
<td>7.32</td>
<td>2.43</td>
<td>.58</td>
<td>7.32</td>
<td>2.43</td>
<td>.58</td>
<td>9.00</td>
<td>2.40</td>
<td>.42</td>
<td>.20</td>
</tr>
</tbody>
</table>

Note: M: Mean. SD: Standard Deviation. $\alpha$: Cronbach’s $\alpha$. $r_u$: Inter-item average correlation. t: Student’s t-test. g: Hedges’ $g$ effect size. * CI: Confidence Interval (95%) for Hedges’ $g$.

These estimates suggest that, except for the FR scale, the items of the Spanish J5 scales are very homogeneous, avoiding unnecessary redundancy. Women scored significantly higher than men in FL (large effect size) and FR (medium-large effect size), while men scored significantly higher than women in FI (medium effect size) and BIS (small effect size). All these sex differences replicate those of the original Jackson-5, except for the BIS.

Conclusions  The Spanish J5 reproduces the five factors of the original Jackson-5 with half the items. All the Spanish J5 scales have reasonable internal consistency, except for the FR scale. Moreover, the FI scale presents difficulties to be integrated into the FFFS, as proposed by the rRST.

Objectives  Analyze the psychometric properties of the Spanish J5 through the Factorial Analysis of items (Ferrando et al., 2022).

Methods  Participants: N = 1,095 volunteers of the community (60.6% women) between 17-87 years (M = 44.7, SD = 20.2).

Psychometric Analyses: Confirmatory Factor Analysis (CFA) of several models of the J5 scales using a mean and variance adjusted weighted least squares estimation (WLSMV) of the sample covariance matrix.
Psychometric properties of the Spanish Jackson-5 scales of revised Reinforcement Sensitivity Theory

Ruiz, J.a, Fusté, A.a, Gutiérrez-Maldonado, J.a, Gutiérrez, F.b, Torrubia, R.c & Jackson, C.J.d

a Dep. of Clinical Psychology and Psychobiology, Institute of Neuroscience, University of Barcelona, Spain
b Personality Disorder Unit, Institute of Neuroscience, Clinic Hospital of Barcelona, Spain
c Dep. of Psychiatry and Legal Medicine, Institute of Neuroscience, Autonomous University of Barcelona, Spain
d University of New South Wales, Australia

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Email: a jruizro@ub.edu

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