

# Graphing Jane Austen: Toward a New Humanities

- **Website questionnaire on 2,000 characters from 202 19<sup>th</sup> century British novels**
- **1470 protocols completed**
- **435 unique characters coded for**

**Joseph Carroll**

**John Johnson**

**Jonathan Gottschall**

**Daniel Kruger**

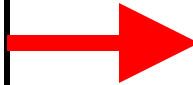
# **Working Hypotheses:**

- (1) Literature depicts human nature.**
- (2) Literature articulates and cultivates specific values.**
- (3) Values are mediated by positive and negative emotional responses to specific features of character—particularly to motives and personality.**
- (4) Positive and negative emotional responses correspond to the “agonistic” roles writers and readers assign to characters.**

# Three-Part Research Design

## *Content of Character:*

- Sex
- Age
- Attractiveness
- Personality
- Motives
- Mate Selection Criteria



## *Responses of Readers:*

- Emotional responses
- Do you want the character to succeed?
- Is the character's success a main feature of the story?



## *Role Assignment:*

Is the character:

a *protagonist*?

an *antagonist*?

or just a *minor character* (an associate of a protagonist or antagonist)?

# Categories Produced by Our Own Factor Analysis

## *Content of Character:*

- **Motives**
- **Mate Selection Criteria**

## *Responses of Readers:*

- **Emotional responses**

**Character Sets are constituted by combinations of three variables:**

**1. Sex (male/female)**

**2. Valence (good/bad)**

**3. Status (major/minor)**

**These three variables produce three character set pairs:**

**1. All males vs. all females**

**2. All good vs. all bad characters**

**3. All major vs. all minor characters**

**Combinations of the three variables produce  
eight agonistic character sets:**

- 1. Good major males (protagonists)**
  - 2. Good minor males**
  - 3. Good major females (protagonists)**
  - 4. Good minor females**
- 5. Bad major males (antagonists)**
  - 6. Bad minor males**
  - 7. Bad major females (antagonists)**
  - 8. Bad minor females**

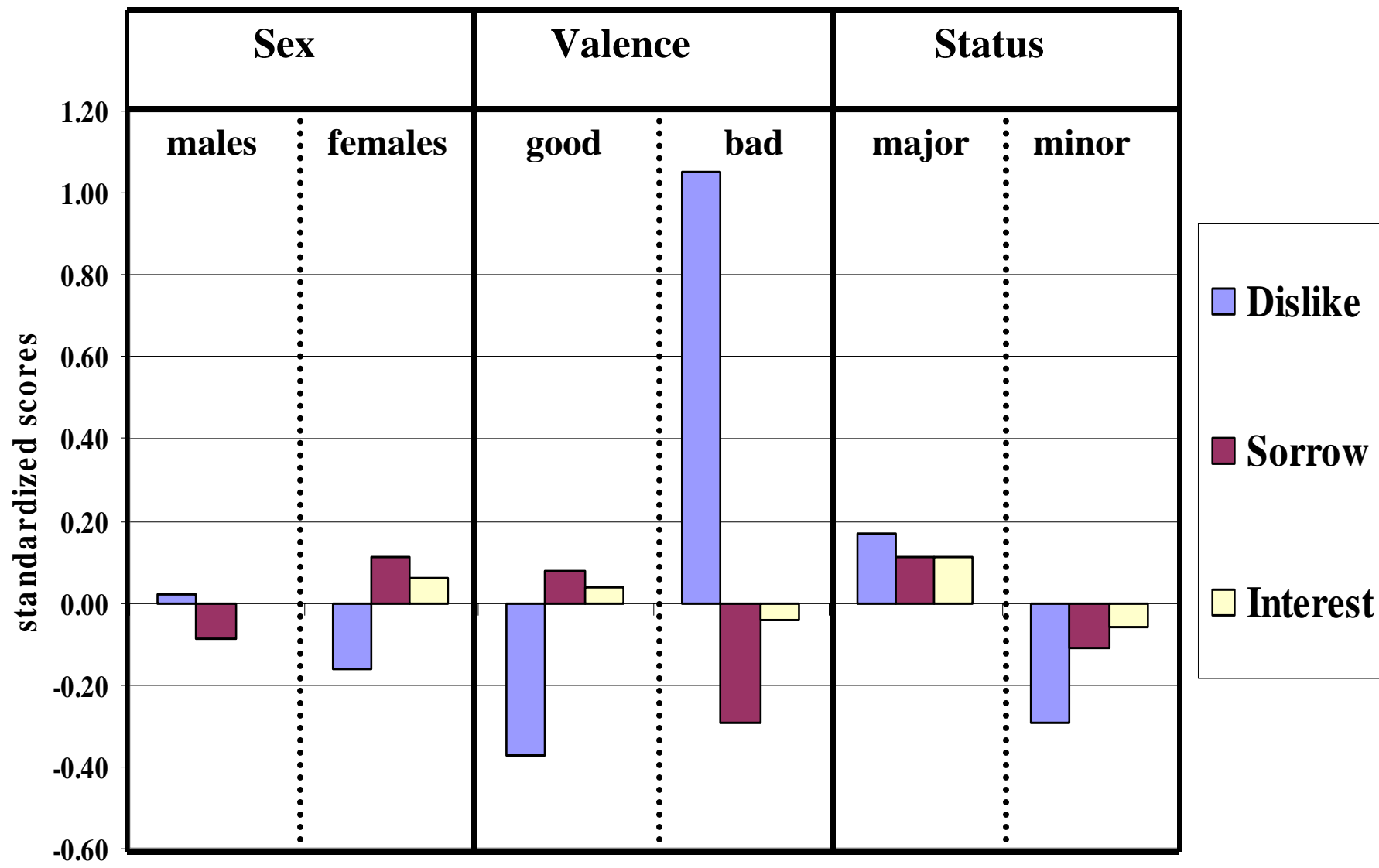
## **Chief Findings:**

- (1) Sex, Valence, and Status produce robust patterns of correlation and can thus be identified as central organizing features in the novels.**
- (2) Male and female characters are differentiated in motives and mate selection criteria. Differences in mate selection criteria reflect human universals.**
- (3) Valence is more important than Sex or Status in organizing reader responses to the novels.**
- (4) The chief constituent of positive valence is prosociality.**
- (5) The chief constituent of negative valence is a desire for social dominance—wealth, power, and prestige.**
- (6) Standing as a protagonist—a good major character—typically depends on a combination of prosociality and an active mental life.**
- (7) In personality factors and mate-selection criteria, female protagonists most fully exemplify the normative tendencies of good major characters. The norms of the novels are thus gynocentric or feminized.**

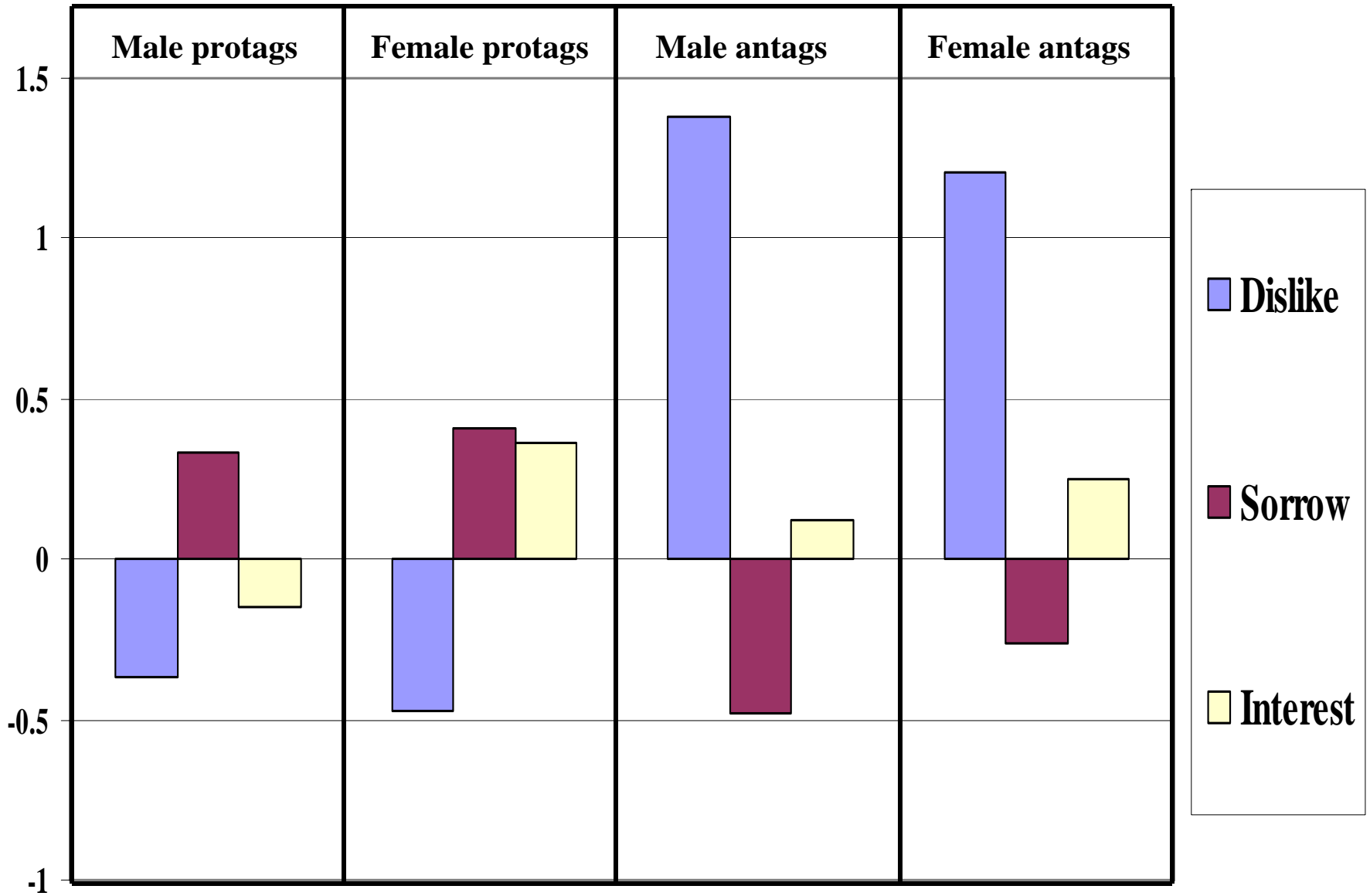
**10 Emotional Responses Reduced to Three Emotional Response Factors (loadings of .3 or greater).**

<i>Original Emotions</i>	<b>Dislike</b>	<b>Sorrow</b>	<b>Interest</b>
<b>Anger</b>	<b>0.86</b>		
<b>Disgust</b>	<b>0.89</b>		
<b>Contempt</b>	<b>0.83</b>		
<b>Fear of character</b>	<b>0.72</b>		
<b>Admiration</b>	<b>-0.73</b>		<b>0.30</b>
<b>Liking</b>	<b>-0.78</b>		<b>0.42</b>
<b>Fear for character</b>		<b>0.77</b>	
<b>Sadness</b>		<b>0.83</b>	
<b>Amusement</b>		<b>-0.67</b>	<b>0.47</b>
<b>Indifference</b>			<b>-0.86</b>

# Emotional Response Factors in the Three Character Set Pairs



# Emotional Response Factors for Protagonists and Antagonists

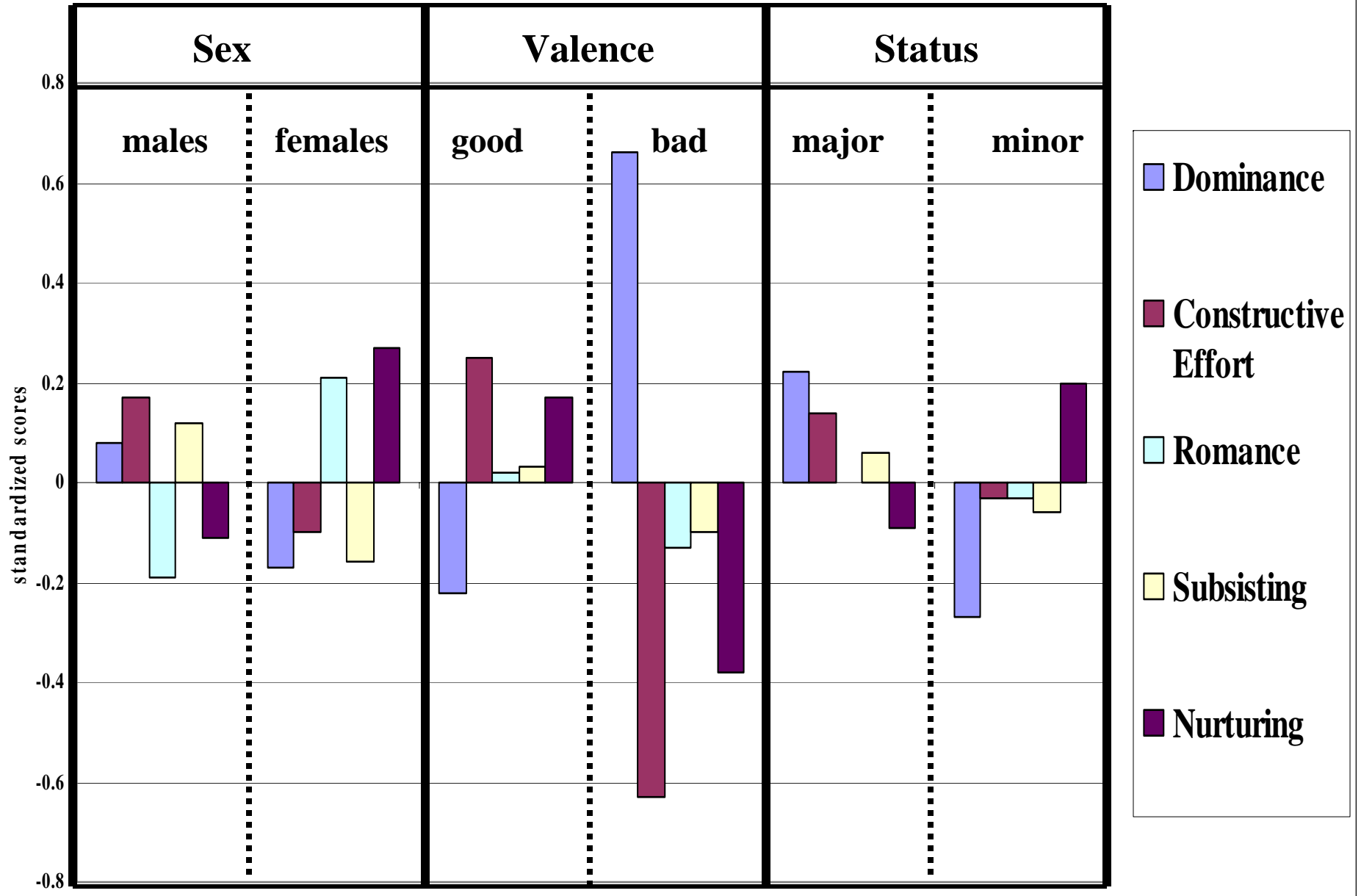


## 12 Motives Reduced to Five Motive Factors

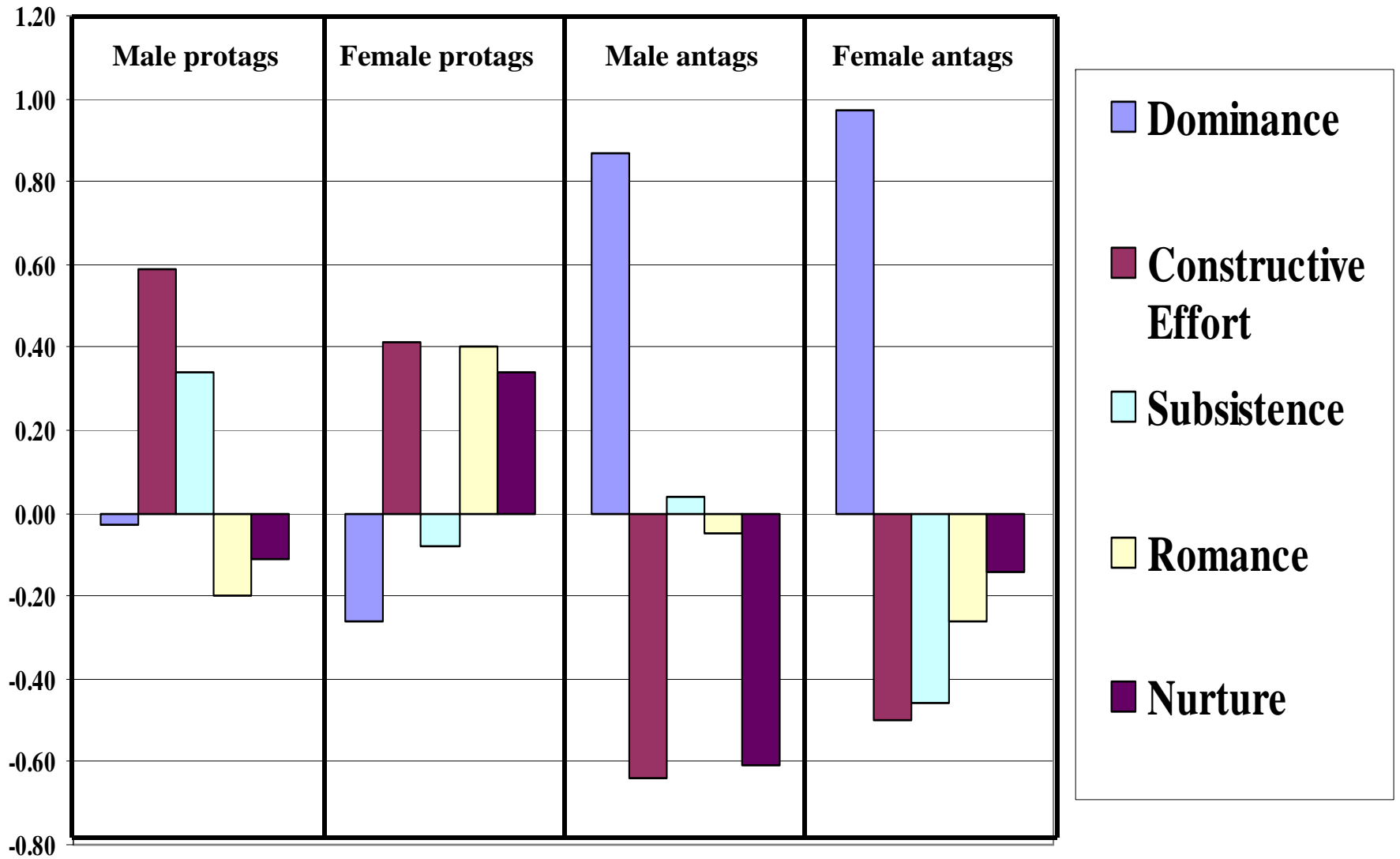
(loadings of .3 or greater)

<i>Original Motives</i>	<b>Dominance</b>	<b>Constructive Effort</b>	<b>Romance</b>	<b>Subsistence</b>	<b>Nurture</b>
<b>Survival</b>				<b>0.80</b>	
<b>Routine work</b>				<b>0.76</b>	
<b>Short-term mating</b>			<b>0.63</b>		<b>-0.56</b>
<b>Long-term mating</b>			<b>0.83</b>		
<b>Wealth</b>	<b>0.70</b>		<b>0.38</b>		
<b>Power</b>	<b>0.89</b>				
<b>Prestige</b>	<b>0.89</b>				
<b>Help non-kin</b>	<b>-0.34</b>	<b>0.56</b>			<b>0.41</b>
<b>Education</b>		<b>0.77</b>			
<b>Make friends</b>		<b>0.62</b>			
<b>Building/Creating</b>		<b>0.73</b>			
<b>Help offspring/kin</b>					<b>0.82</b>

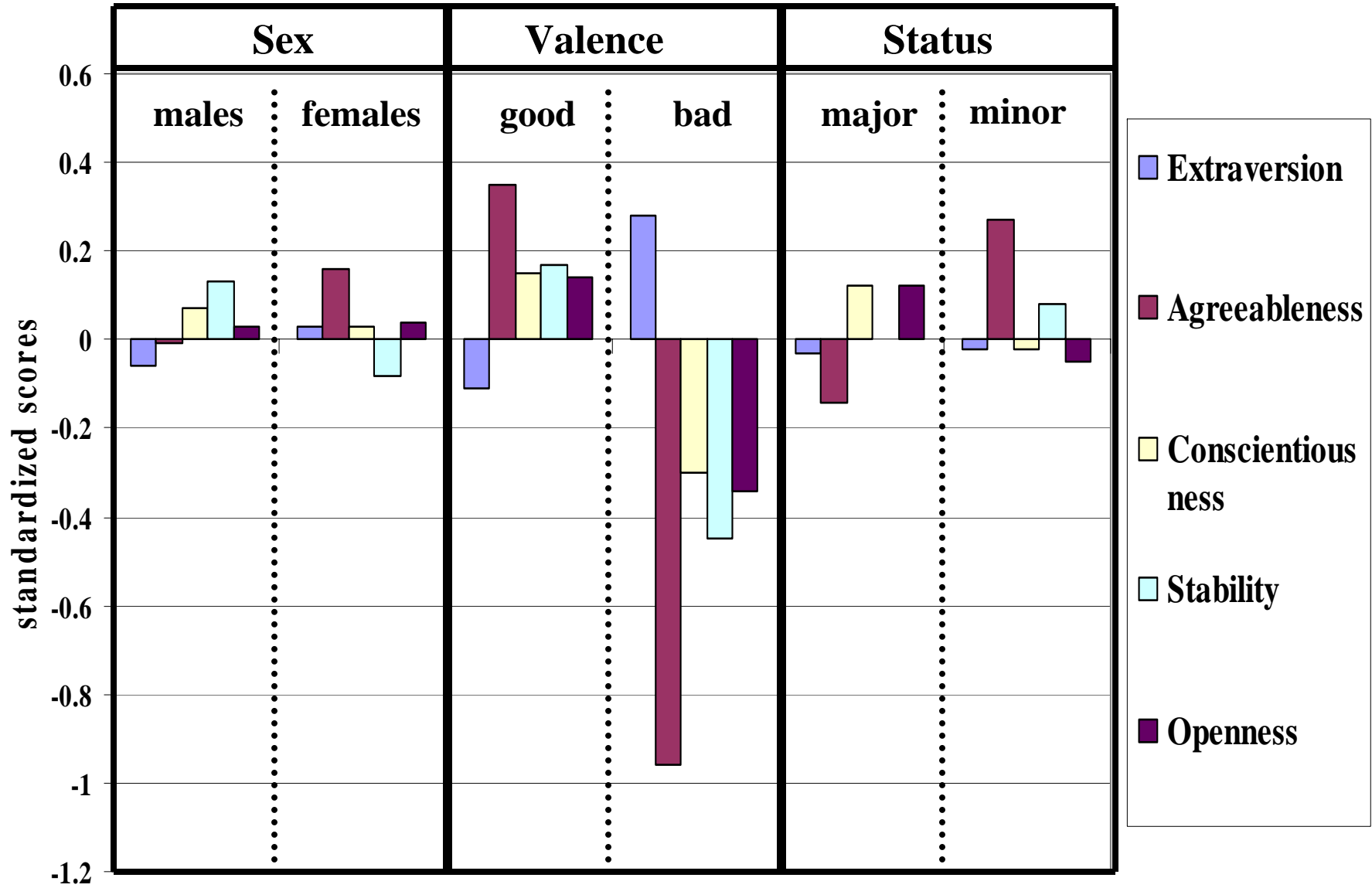
## Motive Factors: The Three Character Set Pairs



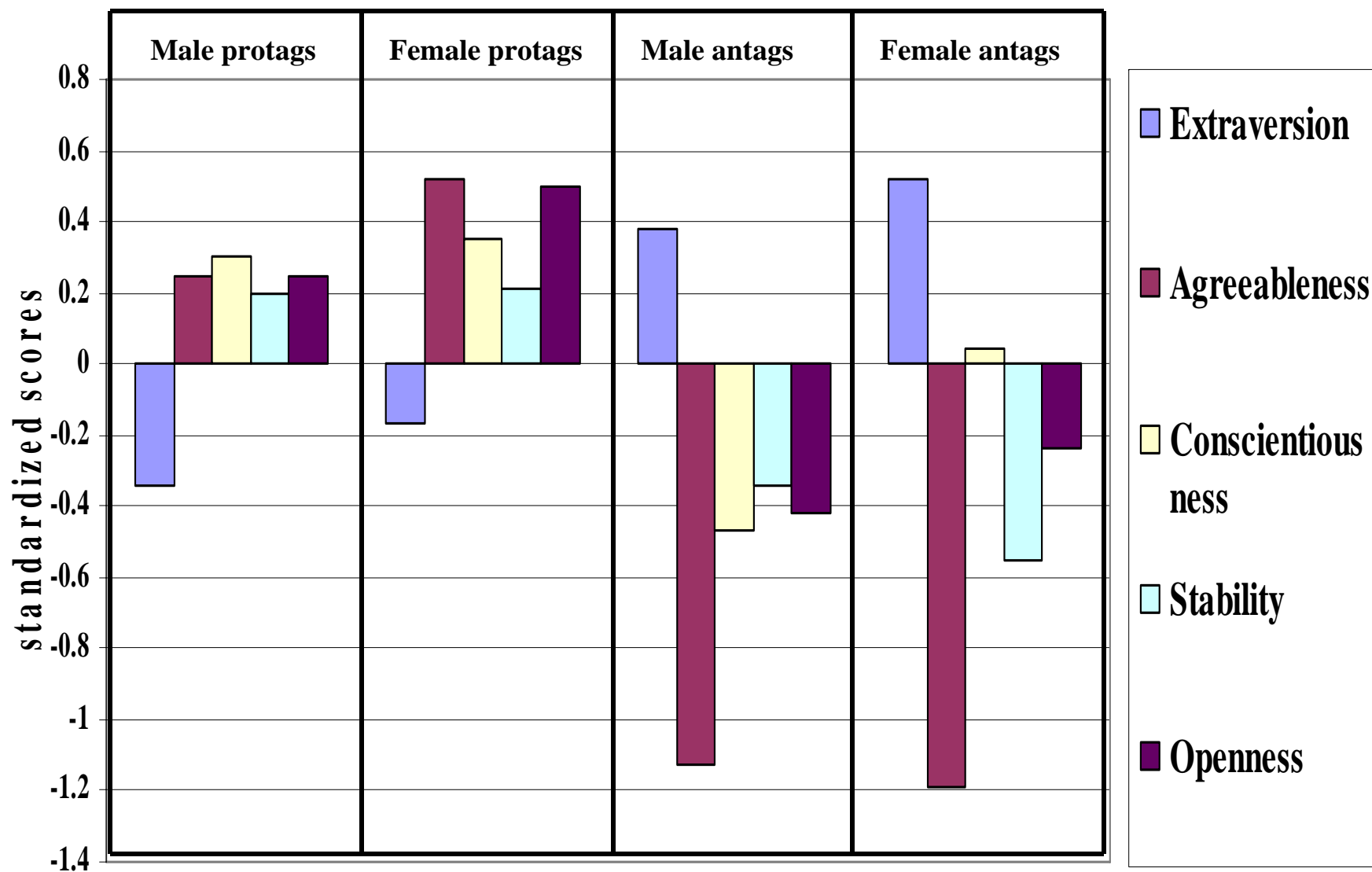
# Motive Factors: Protagonists and Antagonists



## Personality Factors: The Six Paired Character Sets



## Personality Factors: Protagonists and Antagonists

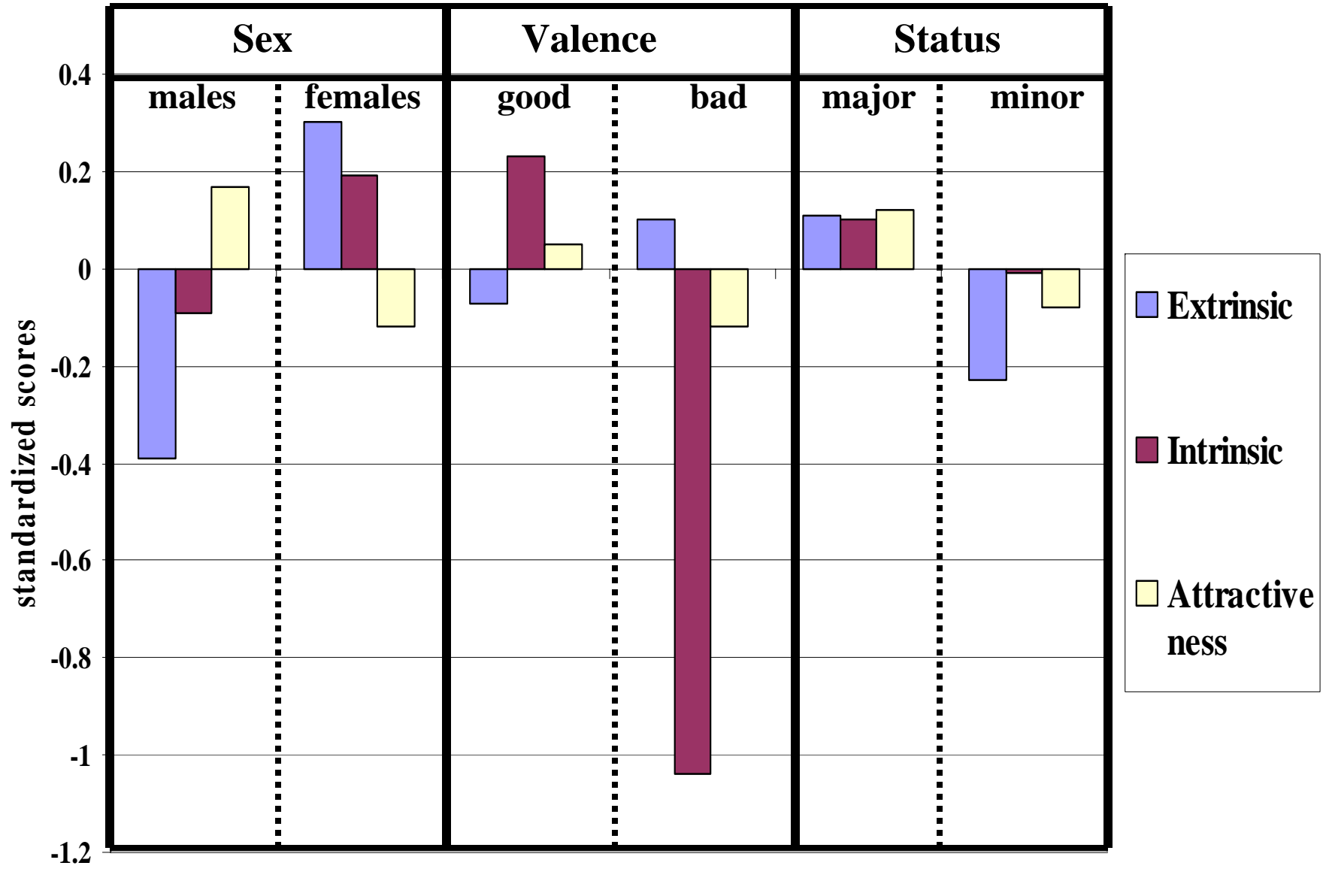


## Seven Long-Term Mate-Selection Criteria

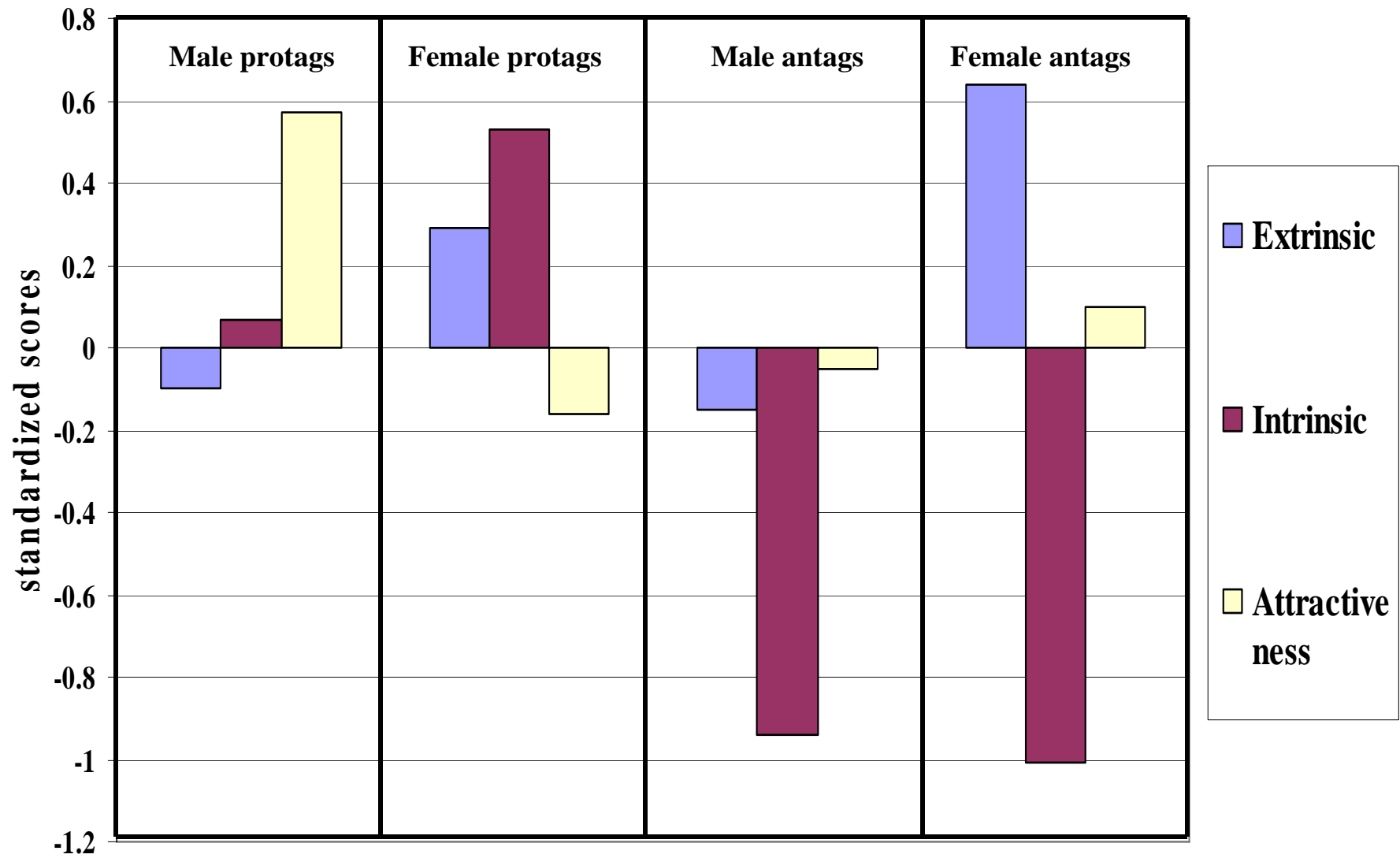
Reduced to Three Factors (loadings of .3 or greater)

<i>Original Criteria</i>	<b>Extrinsic Attributes</b>	<b>Intrinsic Qualities</b>	<b>Physical Attractiveness</b>
<b>Power</b>	<b>0.89</b>		
<b>Prestige</b>	<b>0.91</b>		
<b>Wealth</b>	<b>0.88</b>		
<b>Reliability</b>		<b>0.85</b>	
<b>Kindness</b>		<b>0.85</b>	
<b>Intelligence</b>		<b>0.78</b>	
<b>Physical Attractiveness</b>			<b>0.98</b>

# Long-Term Mate Selection in the Three Character Set Pairs



## Long-Term Mate Selection Criteria for Protagonists and Antagonists



## **CONCLUSION:**

**Dominance and affiliation are basic organizing elements in all social life. The central contrast in our study between good and bad characters reflects that opposition.**

**The emotional responses of readers to characters mirror the adaptively conditioned responses that people make when assessing other people as potential partners for social interaction.**

*Reading literature simulates the experience of emotionally responsive social judgment.*

**That simulation has an adaptive value in cultivating the emotionally charged social responses of readers, organizing their social attitudes, and thus ultimately in regulating their social behavior.**

## **Possible Further Study:**

**Our model for the analysis of character in literature is intended to be a comprehensive model of human nature.**

**That model is derived from evolutionary psychology and includes sex, age, attractiveness, motives, mate-selection criteria, personality, and emotional responses.**

**Using a comprehensive model of human nature makes it possible to compare the way the elements of human nature are organized in different individual persons and different individual cultures.**

**We have used the model for the analysis of literary texts in a single culture. We could also use the model for the analysis of texts in other cultures and other periods.**

**It would be possible to use a similar model for the comparative study of behavior and normative values within populations of actual people.**

**END**