Portrayal of personality in Victorian novels reflects modern research findings but amplifies the significance of agreeableness ☆

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ABSTRACT

All literature embodies an implicit theory of personality and human nature (Hogan, 1976). The research described here investigates the implicit personality theory embedded in the behavior of 435 characters in 143 canonical Victorian novels. Characters were rated on the Web by 519 scholars and students of 19th-century British literature. Ratings included the characters' goals, success in achieving goals, mate preferences and strategies, and personality according to the Five Factor Model. Results suggest that novels by Victorian authors largely reflect personality and human nature as understood by modern personality psychology, but Victorian authors amplify the significance of agreeableness and thus, whether intentionally or not, encourage cooperative impulses in readers.

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1. Introduction

A classic monograph by Hogan (1976) identified four historical traditions that influenced the study of personality: "the literary, the medical, the empirical, and the folk traditions" (p. 3). The present study is concerned with the first of these influences, the literary tradition. Hogan notes that all literature employs characters with recognizable personality traits and thus constitute case studies in personality. He also mentions several possible limitations on literature as a source of valid information about personality. Perhaps most importantly, story-tellers are not dispassionate scientists seeking to communicate facts about human nature. Rather, their goal is to evoke emotional reactions in the audience. In Hogan's (1976) view, "the goals of art and science are normally independent, if not actually contradictory" (p. 4).

The current research concerns itself with the portrayal of personality in a large and important body of literary texts: canonical British novels of the period extending from the early 19th century to the First World War (Jane Austen to E.M. Forster). The study first attempts to answer an empirical question: how closely does the functioning of personality as portrayed in novels reflect our modern understanding of personality as revealed by empirical research? A second question addressed in the current study is, to the degree that the depiction of personality in novels diverges from today's understanding, what does this say about what authors are accomplishing in their novels?

If personality as depicted in novels deviates from modern understanding, several possible reasons present themselves. Perhaps the writers were simply not perceptive; they got their facts wrong. Although possible, the idea that Victorian writers were imperceptive does not square well with the fact that many Victorian novels are considered classics today. Another possibility could be that some relations between personality variables and other life variables are specific to time and place. Perhaps the role of personality in human affairs was different in Victorian England.

To us, a more interesting possibility is that authors of narratives (whether oral, dramatic, or written) use enough realism to make their stories believable, but also exaggerate or understate the role of character traits in life outcomes to evoke thoughts and feelings that encourage certain behaviors in the audience. Consider the following hypothetical example. Modern research indicates that, of the five major personality factors, conscientiousness correlates most consistently with achievement across occupational groups, but at a very modest level, with a mean estimated true correlation of .22 (Barrick & Mount, 1991). If Victorian authors wrote narratives in which the correlation between conscientiousness and achievement was much stronger (say, $r = .70$), the stories might give readers the impression that conscientiousness is the key to success in life. This impression, in turn, might encourage readers to strive to be more conscientious. Although not as blatantly as in explicit morality tales, the successes and failures of characters who possess various traits make every novel prescriptive as well

as descriptive of social reality (Johnson, Carroll, Gottschall, & Kruger, 2008).

Our major hypothesis, then, was that Victorian authors were perceptive intuitive psychologists, implying that many of the relations between personality and other individual differences revealed by modern research would also be found in Victorian novels. At the same time, we expected that authors might exaggerate or understate associations between personality and other variables in the novels. We did not predict ahead of time which relations would be larger or smaller than those found in recent empirical research, but we did consider alternative explanations for why the relations differed from empirical findings.

2. Variables examined in the current study

With hundreds of available published studies of personality involving dozens of different variables, we had to be selective about the variables examined for the present study. We employed the *Five Factor Model* (FFM; McCrae, Terracciano, et al., 2005) as a framework for representing the realm of personality traits at a broad level. One universal feature of novels is that characters strive for goals and experience various degrees of success in achieving their goals. Therefore, individual differences in the *kinds of goals* characters strive to achieve and *their success in achieving goals* were examined in the novels. Of special interest to us, among all the goals that characters seek, was finding a mate. On this topic, in addition to examining the personality correlates of mate-seeking, we also examined *sex differences in mate preferences and mate-seeking strategies*. Finally, we examined *sex differences in personality*.

2.1. Personality

Over 50 years of factor analyses of personality trait ratings have repeatedly found five broad personality factors (Goldberg, 1993). The same five basic factors are also found in personality inventories of sufficient length (Johnson, 2000). The convergence of the adjective rating research and questionnaire research led to what has become known as the Five Factor Model (FFM; McCrae & Costa, 1987). The five factors can be described as follows. *Extraversion–Introversion* represents assertive, exuberant activity in the social world versus a tendency to be quiet, withdrawn and disengaged. *Agreeableness–Disagreeableness* signals a pleasant, friendly disposition and tendency to cooperate and compromise, versus a tendency to be self-centered and inconsiderate. *Conscientiousness–Unconscientiousness* refers to an inclination toward purposeful planning, organization, persistence, and reliability, versus impulsivity, aimlessness, laziness, and undependability. *Emotional Stability-Neuroticism* reflects a temperament that is calm and relatively free from negative feelings, versus a temperament marked by extreme emotional reactivity and persistent anxiety, anger, or depression. *Openness to Experience-Closedness to Experience* describes a dimension of personality that distinguishes open (imaginative, intellectual, creative, complex) people from *closed* (down-to-earth, uncouth, conventional, simple) people.

2.1.1. Goals
Many personality psychologists' schemes for assessing goals are idiographic (e.g. Emmons, 1986; Little, 1983), resulting in unique lists for each person that must be coded to yield general variables. Other approaches use vignettes appropriate for self-report but not easily used for rating others (e.g., Deci & Ryan, 1985). Our approach to assessing goals was to assemble a limited list of goals pre-structured by evolutionary life history theories of human variability (Figueredo et al., 2006; Kaplan & Gangestad, 2005). Life history theories hold that all living organisms expend energy in two

fundamental ways: *reproductive striving* and *somatic striving*. Reproductive striving includes attracting and retaining sexual partners, parenting, and nepotistic behaviors that promote the survival of offspring and other relatives. Somatic striving includes activities that build and maintain the soma (body) to enable individuals to eventually engage in reproductive effort. Examples of somatic effort include acquiring food, seeking shelter, avoiding danger, and warding off predators. Competitive and cooperative exchanging of resources with conspecifics is regarded as an indirect, social form of somatic striving (Hogan, 1996; Hogan & Roberts, 2004; Johnson, 1983).

Out of the overarching somatic and reproductive strivings described by human life history theories, we produced the following list of 12 more specific goals: (1) Survival (fending off imminent physical danger or privation); (2) finding a short-term romantic partner; (3) finding or keeping a spouse; (4) gaining or keeping wealth; (5) gaining or keeping power; (6) gaining or keeping prestige; (7) obtaining education or culture; (8) making friends and forming alliances; (9) nurturing/fostering offspring or aiding other kin; (10) aiding non-kin; (11) building, creating, or discovering something; and (12) performing routine tasks to gain a livelihood.

In a previous study that focused on differences between protagonists and antagonists, using the same data set employed in the current study (Johnson et al., 2008) we report that a principle component analysis of ratings of the importance of the 12 goals produced five factors accounting for 69% of the variance in the ratings: Social Dominance, Constructive Effort, Romance, Subsistence, and Nurture. Social Dominance reflects a preoccupation with competitive somatic effort or what Hogan and Roberts (2004) called "getting ahead," with strong positive loadings from seeking wealth, power, and prestige and a moderate negative loading from helping non-kin. Constructive Effort was defined by strong loadings from two cultural goals: seeking education or culture, and creating, discovering, or building something. It also had substantial loadings on two pro-social or affiliative goals: making friends and alliances and helping non-kin. This factor therefore represents a constructive, cooperative, somatic effort resembling what Hogan and Roberts (2004) called "getting along." The third factor, Romance, reflects the mate-seeking aspect of reproductive effort, defined by strong loadings from both seeking a short-term romantic partner and finding or keeping a spouse. Subsistence, the fourth factor, is defined by loadings from the two goals representing the most basic of somatic efforts: survival (fending off imminent physical danger or privation) and performing routine tasks to gain a livelihood. The final factor, Nurture, reflects the parenting aspect of reproductive effort, with strongest loadings from nurturing/fostering offspring or other kin. Helping non-kin also loads moderately on this factor, indicating altruism beyond just relatives. The Nurture factor also shows a significant negative loading from short-term mating, suggesting an incompatibility between romantic adventures and commitment to family and neighbors.

Associations between personality and both the five general goal factors and the twelve specific goals were examined in the study. The expected relations between personality and goal strivings/achievement arising out of life history theories that have been confirmed by empirical research are listed in Table 1. Space limitations preclude a detailed explanation of those expected relations. Readers interested in a detailed explanation are referred to documenting references in Table 1.

2.1.2. Sex differences in reproductive striving
Sex differences in mate preferences and strategies is one of the most heavily researched topics in evolutionary psychology. One consistent finding over decades of study is that men more than women tend to value physical attractiveness in a long-term mate, while women more than men tend to value a high-status mate

Table 1
Established personality correlates of goal striving and achievement.

Goals/achievement	Strongest personality correlates according to research
Overall goal achievement	Conscientiousness (Barrick & Mount, 1991; De Fruyt & Mervielde, 1996; Hogan & Roberts, 2004; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007)
Social Dominance	Extraversion (Barrick & Mount, 1991; Hogan & Blake, 1999; Hogan & Hogan, 1991; Holland, 1997)
Wealth	(same as for Social Dominance)
Power	(same as for Social Dominance)
Prestige	(same as for Social Dominance)
Constructive Effort	Agreeableness, Conscientiousness, Emotional Stability (Hogan & Roberts, 2004), Openness to Experience (McCrae & Costa, 1997)
Education or culture	Openness to Experience (Barrick & Mount, 1991; Furnham, Monsen, & Ahmetoglu, 2009; McCrae & Costa, 1997)
Friends and alliances	(same as for Constructive Effort)
Helping non-kin	(same as for Constructive Effort)
Creating, discovering	Openness to Experience (Costa, McCrae, & Holland, 1984; Hogan & Hogan, 1991; Holland, 1997)
Romance	Extraversion (Hendrick & Hendrick, 1999)
Short-term mating	Extraversion, low Agreeableness, low Conscientiousness (Hendrick & Hendrick, 1999; Miller et al., 2004; Schmitt & Shackelford, 2008; Simpson & Gangestad, 1992; Zuckerman, 2002)
Long-term mating	Low Extraversion, Agreeableness, Conscientiousness (Botwin, Buss, & Shackelford, 1997; Penke & Asendorpf, 2008)
Subsistence	Low Extraversion (Costa et al., 1984; Holland, 1997); low Openness to Experience (Costa et al., 1984; Holland, 1997)
Survival	Low Extraversion (Costa et al., 1984; Holland, 1997)
Routine work	Low Openness to Experience (Costa et al., 1984; Holland, 1997)
Nurture	Agreeableness (MacDonald, 1995; Prinzie, Stams, Deković, Reijntjes, & Belsky, 2009)
Helping kin	(same as Nurture)

who can provide resources (Buss, 1989; Shackelford, Schmitt, & Buss, 2005). We therefore had raters judge the importance of physical attractiveness, power, prestige, and wealth in prospective long-term mates. We predicted that a factor analysis of these preferences would place importance of physical attractiveness on one factor and importance of power, prestige, and wealth on a separate factor. We further predicted that male characters would value physical attractiveness in a prospective mate more than female characters, and that female characters would value power, prestige, and wealth in a mate more than male characters. Buss and Barnes (1986) found that some traits such as kindness and intelligence are valued highly by both sexes and ranked higher than physical attractiveness and resource provisioning. We therefore had raters judge the importance that characters placed on kindness, intelligence, and reliability in a long-term mate. We predicted that these three traits would define a third, separate factor in a factor analysis of all mate preferences and that there would be no sex differences in value placed on these characteristics.

Evolutionary psychologists have long distinguished between *short-term mating* (colloquially called brief affairs, one-night stands, or temporary liaisons) and *long-term mating* (formal alliances usually recognized by a marriage ritual and production of children) (Buss & Schmitt, 1993). Much of this research has focused on sex differences in preferences for the two strategies. Although both sexes employ both strategies to some degree, short-term mating represents a larger component of men's sexual strategy than of women's sexual strategy (Buss & Schmitt, 1993). This was tested in the current study by comparing male and female characters' mean scores on the goals "Finding a short-term romantic partner," and "Finding or keeping a spouse."

Research has also indicated that the relative emphasis that men and women place on physical attractiveness in a single sexual encounter may differ slightly from the importance of attractiveness in a long-term relationship. While not a high priority in a long-term relationship, for women physical attractiveness becomes extremely important in a single sexual encounter; for men, the desirability of physical attractiveness in a single encounter is even higher than it is for women (Li & Kenrick, 2006). A common explanation for the increase in the importance of attractiveness in a single encounter is that attractiveness is a sign of gene quality, which is all that a partner would be contributing should pregnancy occur. Although the present study did not limit the definition of short-term mating to one-night stands, we still compared male and female characters' desire for physical attractiveness in long-term versus short-term relationships, predicting that it would be higher in the latter.

According to life history theories, human females demonstrate greater parental investment than human males (MacDonald, 1995), so we also predicted that female characters would be rated as being more involved in parenting than male characters, scoring higher on the Nurture factor.

2.1.3. Sex differences in personality

Research has revealed reliable differences on the five major personality factors between males and females and between various age groups across the lifespan. In a cross-cultural study employing more than 10,000 participants, Costa, Terracciano, and McCrae (2001) found that women tend to show higher levels of Agreeableness and Neuroticism. This replicates findings from a meta-analysis of personality differences conducted by Feingold (1994). In countless studies, men have shown higher levels of aggression, which represents the low end of Agreeableness. Therefore, the prediction, if Victorian fiction mirrors the findings of modern empirical research, was that female characters would score higher on Agreeableness and Neuroticism than male characters.

To recapitulate, the research described in this article examined whether empirical relationships among variables observed by modern research in personality and evolutionary psychology are reflected in Victorian novels. As critical rather than naïve realists, we assume that modern research does not perfectly reflect reality, but does provide us with the most accurate view of personality to date. To the degree that individual and sex differences function in Victorian novels as these variables function according to modern research, this indicates that Victorian authors are simply realistically describing human nature. In cases whether the depiction of personality in these novels deviates from scientific research findings, we infer that Victorian authors' portrayal of individual and sex differences is a rhetorical device, designed to evoke emotional responses in their audience.

3. Method

3.1. Participants

We identified potential research participants by scanning lists of faculty in hundreds of English departments world wide and selecting specialists in 19th-century British literature, especially

scholars specializing in the novel. We also sent invitations to multiple listservs dedicated to the discussion of Victorian literature or specific authors or groups of authors in our study.

All participation was anonymous, but those who accepted the invitation provided the following identifying information on the online questionnaire we used to collect data: sex, age, level of education, how they had heard about the study, how recently they had read the novel they were coding, and why they had read it. On the basis of this information, we produced identification strings that we have used to calculate the total number of individual respondents and segregate them into demographic categories. Our data set contains a total of 519 unique identification strings. Out of 519 unique raters, 178 (34%) were male and 341 (66%) female. The youngest rater was 15; the oldest was 83, and the mean age was about 40. The standard deviation for the age of coders was about 15 years. The majority of the respondents thus ranged between 25 and 55 years of age. 81% of the respondents had a bachelor's degree or higher; 58% had advanced degrees; and 32% had doctorates. 52% of the respondents had read the novel within the past year, and 85% within the past five years. 60% read the novel for their own enjoyment, 20% for a class they were taking, and 19% for a class they were teaching.

3.2. Online questionnaire

A copy of the complete online questionnaire used in the study is available from the fourth author upon request. After providing identifying information on this questionnaire, research participants were directed to a list of about 2000 characters from 200 canonical British novels of the 19th century. From this list, 435 different characters from 143 novels were rated. About half of the characters were rated by more than one rater. Participants rated various attributes of the characters of their choice and their emotional responses to the characters. The attributes used in the research reported here include ratings of a character's age, success in achieving his or her goals, motives, mate preferences, and personality traits. (For other characteristics rated but not used in the current study, see Johnson et al., 2008). Each of these attributes examined in the present study is described in more detail below.

3.3. Sex

The sex (male or female) of each character was recorded by the one of the authors who had read all of the novels analyzed in this study.

3.4. Goal achievement

Participants next rated the character's global success in goal achievement with a rating on a 1–4 scale of "Does [name of the character] accomplish his or her main goals?" The options were "not at all," "a little," "mostly," and "yes, completely."

3.5. Goals

The next attributes rated in the study were the 12 goals described in the introduction to this article. The directions were as follows: "Twelve possible motives or goals are listed below. On a scale of 1–5, with 1 being Unimportant and 5 being Very important, how important for this character is each of these motives and goals? If you cannot recall the answer about a given motive, check the box under the heading "I do not remember.""

3.6. Long-term mate (LTM) preferences

Participants were then asked if the character got married or engaged in the course of the story. If so, they were directed to answer questions about mate preferences. The directions for desired qualities in a long-term mate read as follows, "Listed below, there are six criteria for assessing the desirability of a potential spouse. Please rate the degree to which the criteria listed below enter into choosing that partner for a first engagement or marriage on a scale of 1–5, with 1 being unimportant and 5 being very important. If you cannot recall the answer about a given motive, check 'I do not remember.'" Below the instructions were ratings scales for physical attractiveness, power, prestige, wealth, intelligence, kindness, and reliability.

3.7. Short-term mate (STM) preferences

After rating long-term mate preferences, participants were asked, "Does [name of character seek and/or obtain a short-term romantic partner (not for an engagement or marriage) in the course of the tale?" If the answer was "yes," they were directed to a set of rating scales identical to those for rating long-term mating preferences, except the instructions referred to "short-term romantic partner" instead of "potential spouse."

3.8. Predominance of LTM or STM

Following Penke and Asendorpf's (2008) observation that time invested in LTM cannot be simultaneously invested in STM (and vice versa), we also computed a variable, LTM–STM, by subtracting the rating for STM from the rating for LTM. Thus, for individuals pursuing both strategies, a higher LTM–STM score would indicate predominantly a LTM strategy, whereas a lower LTM–STM score would indicate a predominantly STM strategy.

3.9. Personality factors

To keep our online questionnaire as short as possible, thereby encouraging participation in the study, we chose the Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003) to assess the five major personality factors. Gosling et al. have documented that the TIPI possesses adequate reliability and validity, and the TIPI Extraversion and Agreeableness scales correlated as expected with several measures of short-term mating in recent research (Jonason, Teicher, & Schmitt, in press). Under the lead-in phrase, "I see this character as," respondents scored each character on each of ten attributes (two for each factor). Ratings were on a seven-point scale ranging from "disagree strongly" to "agree strongly." Scoring for the fourth personality factor was in the direction of Emotional Stability—the opposite end of Neuroticism.

4. Results

4.1. Reliability estimates

We computed coefficient alpha estimates of inter-rater reliability for a sampling of characters that were rated by two or more participants. These coefficients were computed from raters' judgments of all ratable characteristics simultaneously, as the goal was to get a sense of overall reliability of the ratings for individual characters, not the homogeneity of particular scales. As expected, measurement reliability increases as the number of raters increases. Consider the following sampling of characters with the number of raters and corresponding Cronbach alphas: Adam Bede (2, .73); Weena [no surname] (3, .83); Augusta Elton (7, .94);

Elizabeth Bennett (81, .99). Several observations can be drawn about these findings. First, the reliability coefficients are remarkably high, indicating that our respondents took the task seriously and provided high quality data. Reliability coefficients from as few as two raters are above .70, clearly in a psychometrically acceptable range. Although we cannot compute reliabilities for characters based upon one rater, it is not unreasonable to assume that these raters also took their task seriously. Finally, these high coefficient alpha coefficients justify averaging the responses for characters who were judged by two or more raters (almost half of the characters in the study).

4.2. Case examples to illustrate how variables apply to individuals

Before presenting the results for the correlations and mean differences among variables, we provide some examples of the profiles of individual characters from the novels to give a sense of the meaning of the variables. All numbers are standardized scores with a mean of zero and standard deviation of one.

For goal strivings, Dorothea Brooke in George Eliot's *Middlemarch* represents an exemplary female protagonist. She scores low on Dominance (−.90), very high on Constructive Effort (1.39), somewhat above average on Romance (.19), and fairly high on Nurture (.52). In contrast, Mrs. Norris, an antagonist from Austen's *Mansfield Park*, scores very high on Dominance (1.46) and low on Constructive Effort (−.76). The narrator–protagonist in Dickens' *Great Expectations*, Pip (Philip Pirrip), is a more equivocal, borderline character. He scores unusually high on Dominance (.55), but he also scores high on Constructive Effort (.94) and on Romance (.75).

For mate preferences and strategies, Elizabeth Bennet from Austen's *Pride and Prejudice* offers an exemplary instance of criteria for selecting mates in female protagonists. She scores moderately high on seeking Extrinsic Attributes in a mate (.32), very high on seeking Intrinsic Qualities (1.15), and just about average on seeking Physical Attractiveness (−.03). In contrast to Elizabeth, Augusta Elton, an antagonist from Austen's *Emma*, scores very high on seeking Extrinsic Attributes (1.45) and very low on seeking Intrinsic Qualities (−1.15). Elizabeth's eventual marital choice, Fitzwilliam Darcy, deviates somewhat from the average male protagonist. He scores fairly high on seeking Physical Attractiveness (.59) but also high on seeking Extrinsic Attributes (.60) and exceptionally high, for a male, on seeking Intrinsic Qualities (.81). Oscar Wilde's Dorian Gray display a hyper-male mating profile. He mates only in the short term, scores low on seeking Intrinsic Qualities (−.85) and—typically for a male—high on seeking Physical Attractiveness (.87).

Tess from Hardy's *Tess of the d'Urbervilles* offers clear instances of both short and long-term mating. Her short-term relations are with Alec d'Urberville, a sexual predator. She does not so much select Alec as reluctantly accept capture by him. Participants rated him low on Intrinsic Qualities (−.69). In contrast, she selects her husband Angel Clare chiefly for his Intrinsic Qualities (.62). Becky Sharp, from Thackeray's *Vanity Fair*, is a more problematic character. She is agonistically borderline—amoral but spunky and bright. Her mate-selection preferences, though, are unequivocally those of a female antagonist, with high scores for Extrinsic Attributes in both the short (1.32) and long (1.64) term, and with very low scores for Intrinsic Qualities in both the short (−.85) and long (−1.46) term.

As an illustration of the five personality factors, Charlotte Brontë's Jane Eyre has a personality that is unequivocally protagonistic but that also has a distinctive cast common to Charlotte Brontë's protagonists and to those of her sister Anne: very low on Extraversion (−1.14), well above average on Agreeableness (.47) and Emotional Stability (.38), and high on Conscientiousness (.98) and Openness to Experience (.81). In contrast, Bertha

Rochester, the madwoman in *Jane Eyre*, has a personality that is unequivocally antagonistic and that also reflects the character of her insanity: low on Agreeableness (−.80) and Openness to Experience (−.46), and ultra-low on Conscientiousness (−1.46) and Emotional Stability (−1.61). Catherine Earnshaw, from Emily Brontë's *Wuthering Heights*, has a character profile that is fairly typical of agonistically problematic, borderline characters: high on Extraversion (1.14), low on Agreeableness (−.66), Conscientiousness (−1.06), and Emotional Stability (−1.01), but high on Openness to Experience (.94).

4.3. Personality correlates of goal achievement and somatic efforts

Table 2 presents the correlations between the five personality factors, ratings of characters' success in achieving goals, and the five motive factors. Consistent with Hogan and Roberts's (2004) discussion of personality factors relevant to psychosocial maturity and occupational success, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience correlated with goal achievement. The strongest predictor, however, was not Conscientiousness ($r = .23$), but Emotional Stability, ($r = .39$), followed by Agreeableness ($r = .33$).

Social Dominance and its main components of "getting ahead" (wealth, power, and prestige) were, as expected, positively correlated with Extraversion. Less expected were strong negative correlations with Agreeableness. Characters in Victorian novels who strive for personal gain are apparently depicted as striving for this goal at the expense of positive relations with other people.

Constructive Effort—a factor that blends altruism and "getting along" with the pursuit of learning and creativity—is predicted by Hogan and Roberts's (2004) three aspects of psychosocial maturity (Agreeableness, Conscientiousness, and Emotional Stability) and by Openness to Experience. The tendency toward altruism is more strongly associated with maturity, while learning and creativity are more strongly related to Openness. Nonetheless, Victorian authors are portraying education and creative endeavors not as means for selfish gains, but as vehicles for improving society.

Romance—correlates of this factor will be summarized later, in the next section on mate preferences and mating strategies.

Table 2
Personality correlates of goal striving and achievement ($N = 435$).

Motives/achievement	E	A	C	S	O
Achieves goals	−.05	.33***	.23***	.39***	.17***
Social Dominance	.28***	−.54***	−.01	−.13**	−.10*
Wealth	.22***	−.31***	−.12*	−.06	−.16**
Power	.30***	−.60***	.02	−.12*	−.04
Prestige	.23***	−.42***	.03	−.06	−.10*
Constructive Effort	−.02	.26***	.28***	.22***	.41***
Education or culture	−.07	.15**	.18***	.08	.32***
Friends and alliances	.17***	.26***	.07	.12*	.22***
Helping non-kin	−.11*	.49***	.32***	.33***	.18***
Creating, discovering	−.14**	.20***	.30***	.18***	.38***
Romance	.13**	.17***	−.14**	.16**	.03
Short-term mating	.25***	−.09	−.23***	.00	.15**
Long-term mating	.02	.20***	.03	.05	.02
LTM–STM	−.13**	.24***	.17***	−.04	.07
Subsistence	−.17***	.10*	.16**	.01	−.02
Survival	−.05	.01	.01	−.12*	.09
Routine work	−.22***	.14**	.28***	.13**	−.08
Nurture	−.14**	.34***	.25***	.08	−.15**
Helping kin	−.16**	.33***	.23***	.04	−.03

Note: E – Extraversion; A – Agreeableness; C – Conscientiousness; S – Emotional Stability (the inverse of Neuroticism); O – Openness to Experience.
* $p < .05$.
** $p < .01$.
*** $p < .001$ (two-tailed).

Subsistence—a conservative effort to just get by and maintain, rather than acquire and develop—correlated negatively with Extraversion and positively with Conscientiousness, as expected. Subsistence also showed a small, significant correlation with Agreeableness. However, it was the striving for routine work, rather than surviving by staving off danger and privation, that contributed to these correlations. Survival correlated essentially zero with all personality factors except Emotional Stability, where a small negative correlation was found. Routine work correlated positively with Emotional Stability. Personality therefore appears to be more relevant to individuals employed in conventional activities than for characters who are struggling for their very survival.

Nurture—correlates of this factor will be discussed in a later section on parenting.

4.4. Sex and individual differences in mate preferences and mating strategies

A factor analysis of preferences in a long-term mate produced a very clear three-factor structure (see Table 3). Preference for power, prestige, and wealth in a mate defined the first factor, which we called *Extrinsic Attributes*. Preference for intelligence, kindness, and reliability all showed strong loadings on the second factor, which we labeled *Intrinsic Qualities*. The third factor was defined solely by a very high loading from preference for physical attractiveness. Factor scores were saved and used as dependent variables in *t*-tests comparing male and female characters. A factor analysis of preferences in a short-term mate produced three factors identical to those found in the factor analysis of long-term mate preferences. Factor scores were again saved for subsequent *t*-tests comparing male and female characters. Raw scores were used for paired *t*-tests to compare the importance of physical attractiveness in long- versus-short-term relationships within each sex.

Results of the *t*-tests for preferred qualities in a mate are shown in Table 4. As predicted, for a long-term mate, female characters valued Extrinsic Attributes more than male characters, male characters valued physical attractiveness more than female characters, and no significant difference was found for Intrinsic Qualities. Also as predicted, female characters showed an increased interest in physical attractiveness in a short-term partner, $\bar{x}_{LTM} = 3.12$, SD = 1.29; $\bar{x}_{STM} = 3.62$, $SD = 1.24$; paired $t(48) = -2.24$, $p < .05$. Male characters also showed an increase, but it was not statistically significant, $\bar{x}_{LTM} = 3.56$, SD = 1.22; $\bar{x}_{STM} = 3.84$, $SD = 1.11$; paired $t(36) = -1.32$, $p = .195$.

As for sex differences in sexual strategies, as predicted by life history theories, female characters ($N = 188$) showed a greater interest in long-term mating, $\bar{x}_{LTM} = 3.26$, SD = 1.60, than male characters, $N = 247$; $\bar{x}_{LTM} = 2.64$, $SD = 1.66$; $t(433) = 3.89$, $p < .001$). However, contrary to the predictions of life history theories, male characters did not show a greater interest in short-term mating,

Table 3
Factor analysis of criteria for selecting long-term mates—rotated component matrix.

Criteria	Extrinsic Attributes	Intrinsic Qualities	Physical attractiveness
Physical attractiveness	.01	−.04	**.98**
Power	**.89**	−.15	.05
Prestige	**.91**	−.01	.08
Wealth	**.88**	−.18	−.11
Intelligence	.01	**.78**	.14
Kindness	−.24	**.85**	−.04
Reliability	−.10	**.85**	−.20

Note: Principal component analysis, Varimax rotation. The three factors accounted for 80% of the total variance: Extrinsic Attributes 41.3%; Intrinsic Qualities 24%; Physical attractiveness 14.7%. Loadings >±.3 in bold font.

Table 4
Comparison of male and female long-term and short-term mate preferences.

LTM preferences	Character sex	Mean	SD	t(206)	Cohen's d
Extrinsic Attributes	Male	−0.35	0.92		
	Female	0.34	0.96	−5.31***	−.74
Intrinsic Qualities	Male	−0.06	0.98		
	Female	0.06	1.02	−0.88	−.12
Physical attractiveness	Male	0.21	0.92		
	Female	−0.21	1.03	3.10**	.43
STM preferences	Character sex	Mean	SD	t(119)	
Extrinsic Attributes	Male	−0.22	1.00		
	Female	0.20	0.97	−2.34*	−.43
Intrinsic Qualities	Male	−0.13	1.06		
	Female	0.12	0.97	−1.41	−.26
Physical attractiveness	Male	0.15	0.92		
	Female	−0.14	1.06	1.63	.30

Note. LTM = long-term mating. STM = short-term mating. *N*s for LTM = 102 male, 106 female. *N*s for STM = 58 male, 63 female.
  * $p < .05$.
  ** $p < .01$.
  *** $p < .001$ (two-tailed).

$\bar{x}_{STM} = 1.63$, SD = 1.07, than female characters, $\bar{x}_{STM} = 1.73$, $SD = 1.03$; $t(433) = -0.98$, *ns*).

At the level of individual differences, Table 2 shows that the Romance factor, which combines short-term and long-term relationships, correlates positively with Extraversion and Agreeableness, but negatively with Conscientiousness. Looking only at Romance as a factor, however, obscures some important differences between short-term mating (STM) efforts and long-term mating (LTM) efforts. Consistent with the literature on personality and mating strategies, STM correlates positively with Extraversion and negatively with Conscientiousness, but LTM correlates zero with these personality traits. STM shows a non-significant negative correlation with Agreeableness, while LTM shows a significant positive correlation with Agreeableness. STM also correlates positively with Openness to Experience while LTM does not. While most studies implicate Extraversion, Agreeableness, and Conscientiousness in mating strategies, occasionally researchers report a correlation between STM and Openness (e.g., Wright & Reise, 1997), due to partial overlap among Openness, Extraversion, and Sensation-Seeking (Aluja, García, & García, 2003). The LTM–STM score, which represents the amount of time spent exclusively on LTM, shows the expected negative correlation with Extraversion and positive correlations with Agreeableness and Conscientiousness (Penke & Asendorpf, 2008).

4.5. Parenting

"Nurturing/fostering offspring or aiding other kin," which was defined primarily by helping kin and secondarily by helping non-kin and by a negative loading from short-term mating, correlated negatively with Extraversion and Openness to Experience, and positively with Agreeableness and Conscientiousness. As predicted, the strongest correlation was with Agreeableness. The observed negative correlations between Nurture and Extraversion and Openness suggest that characters devoted to nurturing are retiring and traditional. Given that nurturing is part of the traditional female sex role, it is not surprising that female characters score higher on the Nurture factor than male characters, $t(428) = -3.44$, $p < .05$, Cohen's $d = -.33$).

4.6. Sex differences in personality

Table 5 presents descriptive statistics on the five personality traits for male and female characters. Using two-tailed *t*-tests,

none of the differences between the scores of male and female characters reached the .05 level of statistical significance, although the two hypothesized differences (females higher on Agreeableness; males higher on Emotional Stability) were in the predicted direction. If a directional test is used, the difference in Agreeableness is significant ($p = .038$) but the difference in Emotional Stability not quite significant ($p = .057$). In any case, the effect sizes are not large (Cohen's $d = -.17$ and .15, respectively).

5. Discussion

Overall, the data from the present study suggest that authors' depiction of the workings of personality, goal strivings and achievement, and biological sex in Victorian novels largely mirrors the view of those variables as revealed by modern research. Victorian authors do seem to be good intuitive psychologists.

A factor analysis of mate preferences neatly separated attributes related to Extrinsic Attributes related to resource provision, intrinsic personal qualities, and physical attractiveness. As predicted, female characters placed more emphasis on Extrinsic Attributes, male characters on physical attractiveness, while there were no differences on the desirable personal qualities, for long-term relationships. Also as predicted, female characters showed significantly more interest in physical attractiveness for short-term relationships than for long-term relationships and more interest in nurturing.

The portrayal of the workings of personality in Victorian fiction also differed slightly in some respects from modern research findings. According to the I/O literature, Conscientiousness is the most robust predictor of contributions to organizations. In Victorian novels, Conscientiousness certainly plays an important role, but seems to be overshadowed in some ways by Agreeableness. The correlation between Agreeableness and goal achievement is marginally higher than the correlation between Conscientiousness and goal achievement ($t(432) = 1.74$, $p = .08$, two-tailed test of the difference between correlated correlations), which is somewhat odd, given that achievement is supposed to be at the heart of Conscientiousness. In fact, the authoritative five-factor theorist John Digman (1989) called the conscientiousness factor *Will to Achieve*. Agreeableness also correlates strongly (in a negative direction) with strivings for wealth, power, and prestige, while Conscientiousness correlates essentially zero with upward social mobility (Conscientiousness actually correlated significantly negatively with Wealth). The strong negative correlation between Agreeableness and Social Dominance was not predicted, nor was the zero correlation Conscientiousness and Social Dominance. What could Victorian authors be accomplishing, whether intentionally or not, by giving Agreeableness a more prominent role in strivings and achievement than Conscientiousness?

Table 5
Comparison of male ($N = 247$) and female ($N = 188$) personality traits.

Personality trait	Character sex	Mean	SD	$t(433)$	Cohen's d
Extraversion	Male	4.27	1.77		
	Female	4.43	1.80	−0.93	−.09
Agreeableness	Male	4.10	1.90		
	Female	4.43	1.93	−1.78[a]	−.17
Conscientiousness	Male	4.90	1.80		
	Female	4.91	1.68	−0.07	−.01
Emotional Stability	Male	4.17	1.63		
	Female	3.93	1.54	1.58	.15
Openness to Experience	Male	4.45	1.66		
	Female	4.51	1.63	−0.40	.04

[a] $p < .10$ (two-tailed).

One possibility is that authors at this time were trying to promote an egalitarian, communitarian ethos by emphasizing getting along over getting ahead. In an earlier analysis of this data set (Johnson et al., 2008), we found that characters identified as antagonists, compared to protagonists, (1) were rated much higher in Social Dominance, (2) were rated much lower in Constructive Effort and Agreeableness, and (3) elicited a stronger level of negative emotions (*anger*, *disgust*, *contempt*) and lower level of positive emotions (*admiration*, *liking*) in the readers. In other words, what is bad about being a "bad guy" is striving to get ahead by dominating others, refusing to engage in constructive group efforts, and behaving in a disagreeable fashion. Such behavior triggers off feelings of disapproval in readers. If these feelings carry over into real life, they may inhibit selfish strivings and motivate the suppression of selfish strivings in others. Thus, narratives, by appealing to evolved emotional dispositions (Oatley, 1999) may serve an adaptive function by promoting egalitarian cooperation in-groups (Boehm, 1999).

This interpretation is supported by the minimization of sex differences in Victorian novels. In today's world, women are more agreeable than men, while men show higher levels of assertive, dominant behavior (Costa et al., 2001). Yet in Victorian novels, these differences are statistically non-significant. Male and female protagonists show low levels of both Extraversion and Social Dominance, and high levels of Agreeableness and Constructive Effort (Johnson et al., 2008). Furthermore, fictional male characters did not show the greater predilection for short-term mating—which can seriously jeopardize long-term relationships—that men show in today's world. Male and female characters are portrayed as more alike than different, more as cooperative, equal partners than competitive rivals. Did the Victorian authors' encouragement of equality result in a minimization of actual sex differences in Victorian times? That is impossible to know without data on actual Victorian men and women. We do know that the sex differences observed in the Costa et al. (2001) were larger in modern, Westernized societies than in traditional societies, indicating that modern attitudes about gender equality haven't reduced actual personality differences between men and women. But the exact effect of minimizing of sex differences in Victorian novels is a question that can be answered only by further research. We are suggesting here only that the portrayal of men and women in the novels was designed to encourage cooperative, egalitarian relationships.

In the world of these novels, males hold positions of political, institutional, and sometimes of economic power denied to females, but females hold a kind of psychological and moral power that is exemplified in their status as paradigmatic protagonists. In a previous study, we found that the most important distinguishing features of antagonists, male and female, are high scores on the motive factor Social Dominance (the desire for wealth, power, and prestige), low scores on the personality factor Agreeableness, and low scores on a preference for Intrinsic Qualities (intelligence, kindness, and reliability) in a mate (Johnson et al., 2008). Female protagonists score lowest of any character set on Social Dominance and highest on Agreeableness and on preferring Intrinsic Qualities in mates. They also score highest in the typically protagonistic personality factors Conscientiousness, Emotional Stability, and Openness to Experience. In these important ways, female protagonists hold a central position within the normative value structure of the novels. The ethos of the novels is in this sense feminized or gynocentric. (For a scholarly account of the gynocentric ethos in this period, see Houghton, 1957, pp. 341–393.)

5.1. Limitations and future directions

The selection of literature chosen for this study, British novels of the 19th century, was based on the interests and expertise of the

literary coauthors of this article. We cannot say for sure whether the portrayal of personality functioning in these novels is common to other genres and time periods or whether it is unique to the works studied in this research project. While this is obviously an empirical question that can be addressed by analyzing other sets of narratives, we suspect that similar patterns will emerge. A degree of realistic correspondence between the personalities of fictional characters and real people is necessary for the audience to understand the characters. In the words of Mar and Oatley (2008, p. 185), "Even novels with fantastical themes and settings (e.g., science-fiction or fantasy novels) strive for verisimilitude with respect to human emotions and interpersonal interactions (Oatley, 1999); in short, writers attempt to create characters that possess a recognizable psychology." Part of that recognizable psychology is a sorting of people into those who are with us (members of the in-group) and those who are against us (members of the out-group). Protagonists belong to the former, and antagonists, to the latter. We hypothesize that a near-universal theme in narratives is encouraging the audience to refrain from seeking self-gain at the expense of others and to work to discourage self-aggrandizing tendencies in others. Future research can determine the degree to which narratives serve such an adaptive function.

The study reported on in this article suggests a new direction for the study of classic works of fiction: an integration of empirical research, life-history theory, and literary scholarship. To indicate the way this approach differs from the forms of research now common in the humanities, we shall concisely summarize these current forms and compare them with the theoretical principles that have guided us in this present study.

During the middle decades of the previous century, most literary scholars were humanists. They celebrated the great works of Western culture and tacitly, in the process, celebrated Western civilization itself. The "poststructuralists" who took over from the humanists some 30 years ago typically reverse that rationale for literary study. Instead of celebrating Western civilization, they use literary analysis to expose oppression and injustice lurking beneath the positive values of the dominant culture: racism, sexism, colonialist ethnic elitism, and bias against homosexuals.

While invoking a cultural rationale for their scholarly work, humanists also aimed at producing objective scholarly knowledge. Poststructuralists, in contrast, typically dispute the very possibility of objective knowledge. Even so, they aggressively champion theoretical explanation in a way the humanists never did. The humanist period harbored a few Marxists, Freudians, and Jungian archetypalists, but for the most part the humanists eschewed explicit general theories derived from neighboring disciplines in the social sciences—that is, from economics, sociology, psychology, and anthropology. As the larger explanatory background for their criticism, humanists depended on broad reading in the "liberal arts"— especially in history, philosophy, and literature. One might say that they were non-theoretical, except that they did have a theory to support their appeal to common knowledge. The theory is that human experience is too complex and subtle to be captured by any single theory—Marxism, for instance, or Freudian psychoanalysis. Humanists with a theoretical bent often embrace "pluralism," meaning that they adopt terms from a variety of theories, for local descriptive and analytic purposes, but deny the ultimate encompassing validity of any single theory (Abrams, 1989, 1997).

The poststructuralist revolution, while reversing the ideological rationale of the humanists, also rejected the humanist reliance on educated common sense. In the place of common sense, poststructuralists typically make explicit appeal to a standard blend of speculative theories from European thinkers of the 19th and 20th centuries. The core elements of this blend are Marxism, Freudian psychoanalysis, and deconstructive linguistic philosophy, and it has strong admixtures from feminism and gender theory.

The adherents of this theoretical blend usually refer to it not as "poststructuralist theory" but simply as "Theory," with a capital T. The French cultural historian Michel Foucault most fully exemplifies this blend and has thus for the past 25 years or so been the most respected and influential theorist in academic literary study.

Marxism is obsolete in economics and sociology; Freudian psychoanalysis is obsolete in psychology; deconstructive linguistic philosophy has no place in scientific linguistics. Most educated people are what Christina Hoff Sommers (1994) calls "equity feminists," in contrast to "gender feminists." Equity feminists believe in equality of opportunity for women. "Gender feminists" typically affirm that biological sex has no bearing on gender identity. In place of Marxism, Freudianism, deconstruction, and gender feminism, we have adopted the "biocultural" framework: the idea that biologically grounded, genetically transmitted human dispositions interact with specific environmental and cultural conditions. This too is a theory, in legitimate intellectual competition with other theories.

Like poststructuralism, a life-history approach aims at being explanatory, not merely descriptive. It has one immense advantage over poststructuralist theory, though: it does not depend on obsolete and scientifically invalidated ideas. If evolutionary ideas offer legitimate, true forms of explanatory reduction, Darwinist explanation can "reduce" stories to simpler causal laws without being "reductive." When the adjective "reductive" is used as a pejorative, it means that a theorist has lopped off parts of a story, or has distorted parts, to make the story fit inside the theory. A life-history approach should be able to provide causal explanations without such Procrustean results. Consequently, it should be able to match the poststructuralists in explanatory scope and also meet the humanists on their own ground, losing nothing from the complexity of literary experience. If the life-history model of human nature is a true model, it can synthesize the best insights of both humanists and poststructuralists, correcting their erroneous ideas, moving past their limitations, and encompassing them with a scientifically valid understanding of life and fiction. This current study is offered as one contribution to that wider ambition.

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