DIRECTIONS OF GOLDBERG'S FIVE-FACTOR APPROACH ACROSS THE SEXES

A Senior Thesis

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Abstract

In recent research, validity of Big Five personality measures has been questioned. Specifically, the question of social comparison targets needs research. When persons evaluate themselves on personality dimensions, implicit comparisons are made. Introductory psychology volunteers (N = 646) participated in a study that varied instruction-related social comparison targets. We hypothesized that explicit manipulation of the social comparison targets in instructions to participants would influence patterns of self-ratings on the Big Five factors. We found significant main effects for instruction across all five factors of the Big Five, but not in the precise form predicted. There was no evidence that varying comparison targets systematically influenced self-ratings. Findings indicated, however, that men and women rated themselves differently on all of the Big Five factors. Moreover, ideal ratings of males and females were significantly higher than self-ratings on all five factors of personality. Further research should examine personality comparison processes as they apply to various forms of ideal persons.

Directions of Goldberg's Five-Factor Approach Across the Sexes

One of the most elusive concepts in psychology is personality. In the dictionary definition, personality refers to "the visible aspect of one's character as it impresses others" (Urdang, 1968). The professional psychology literature is more complex in defining personality (Sarason, Sarason, & Pierce, 1996). Among the different ways of conceptualizing it, personality can be seen as individual differences taken one at a time, as biological predispositions to respond in characteristic ways, as each individual's unique adaptation to their total set of individual differences, as individual systems of motives, or even as processes common to most people (McAdams, 1997). Despite the diversity, implicit in most conceptualizations is the notion of comparative standing. That is, to evaluate any individual's personality on a given dimension, configuration of characteristics, or process, the individual is compared explicitly or implicitly with other individuals. To ask if individual A is extraverted, for example, we are implicitly asking how individual A stands relative to some set of other people. Typically, the comparison involves individuals of the same age and sex, but that is not always the case (Goldberg, 1992).

Part of the problem in studying personality is in knowing how to make comparisons. In self-rating of personality, for example, the question of "with whom to compare one's self" is very perplexing. Everyday, we compare ourselves to others such as teachers, friends, and enemies. Resulting attitudes towards the self and personality hinge on the specific target with whom we compare. A first year engineering student might evaluate his math ability in comparison to his current calculus instructor, or in comparison with his roommate, who also has the same major. Being less able

mathematically than his instructor would probably be less problematic than being worse than his roommate.

That people can select different persons for targets of comparison suggests that some factor moderates the choices. Social psychological research shows that comparisons have evaluative implications, and the choice of comparisons can be steered by the motive activating the comparison, such as uncertainty reduction, or the need to self-enhance (Baumeister, 1997; Graziano & Bryant, 1998, Snyder, 1987). Beyond specific motives, another set of factors involves the situation in which the evaluation takes place. There is a great deal of evidence that situational factors can influence selfdescription. In past studies (e.g., Goldberg, 1978; Jones et al., 1972; Shaver, 1975), people have been found to be more likely to view their own behavior as caused by situations in comparison to others' behavior, which have been attributed to underlying personality dispositions. This situation focus is used most often when describing one's self and occurs somewhat less often when describing a neutral other. The situation focus is used least often when describing either a well-liked or disliked other (e.g., Peevers & Secord, 1973). Taken together, these studies suggest that many factors including motives, situational context of assessments, and the object of comparison effect personality ratings.

Brown (1988) considered the different ratings of personality attributes in comparison to other groups. Students were asked to indicate how well several attributes described them, most other people, and most other students at their college (1 = not at all; 5 = very much). The students rated themselves above the scale midpoint of 3 on all of the positively valued attributes, but they rated themselves far below the scale midpoint of 3 on all the negatively valued attributes. This positively bias was less apparent when the students rated "most other people." Consequently, the students regarded themselves in more positive terms, and far less negative terms, than they regarded "most other people." The tendency to see themselves as "better than others" was reduced when the students' self-ratings were compared to the ratings of other fellow students from the same university. Brown's (1988) study showed that self-ratings of personality can be directly influenced by changing the comparison groups.

There is an additional complication. Part of the reason personality has been difficult to conceptualize, and to study scientifically, is because there is a vast array of dimensions on which people can be compared. Some of these dimensions are easier to observe, or are easier to observe in public places, than are others. More to the point here, some dimensions are more influential in the individual's total pattern of behavior than are other dimensions (cf., Allport, 1961; Cohler, 1993). In recent research, personality and social psychologists have established a recognized language for describing the basic structure of personality that can be useful when comparing ratings of individuals. The five structural dimensions are known in the literature collectively as the "Big Five" (Goldberg, 1992; McCrae & John, 1992). Two separate "Big Five" research traditions evolved, both largely empirical, and both apparently arrived at similar conclusions independently of each other (McCrae & John, 1992). The two traditions are described as the lexical tradition and the questionnaire tradition. The lexical tradition, associated with Lewis Goldberg and his colleagues, derived factors from natural language descriptors of persons. In the questionnaire tradition, associated with McCrae and Costa (1987), factors are derived from people's ratings of self and others on

questionnaire statements. The evidence from both research traditions suggests that when persons are given enough time and adequate opportunity to describe themselves or others, five main dimensions appear. The labels for the five dimensions differ slightly in the two traditions, but evidence suggests that the dimensions are similar (Panter, Tanaka, & Hoyle, 1994). Because it is the older of the two traditions, and because it lends itself to experimental manipulation (e.g., Graziano, Jensen-Campbell, Steele, & Hair, in press), the lexical approach was selected for the present research. The terminology and labels used for the dimension will be those from the lexical tradition. In the lexical tradition, the five dimensions are labeled Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Intellect. (In the questionnaire tradition, the corresponding factor labels are Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience.)

Recent research based on experimental work in the lexical tradition by Goldberg (1992) refined earlier work on the five-factor approach to personality. Specifically, Goldberg (1992) suggested that five major domains of personality could be extracted reliably from personality ratings of both self and others. These domains could be conceptualized as bipolar dimensions: (a) Neuroticism versus Emotional Stability, (b) Extraversion versus Introversion, (c) Conscientiousness (or Constraint), (d) Agreeableness versus Antagonism, and (e) Openness versus Closedness to Experience (or Intellect) (Wideger & Trull, 1997). To measure these dimensions, Goldberg developed a set of 100 standard self-report markers collectively representing each of the five factors in his model. The five-factor (Big Five) approach has developed its construct validity and empirical relevance across a broad spectrum of behavioral domains including (but not limited to) industrial/organizational psychology, psychopathology, educational psychology, health psychology, and aging (Costa & McCrae, 1992; Hogan et al., 1994; Widiger & Trull, 1992).

The Big Five structural approach has been adopted by many psychologists as the common framework for examining dimensions of personality. Some advocates claim that the five factors have the status of "an empirical fact, like the fact that there are seven continents on earth or eight American presidents from Virginia" (McCrae & John, 1992). Ozer and Reise (1994) suggest that just as latitude and longitude permit the precise specification of any location on earth, the five-factor system promises the hope of similarly locating personality dispositions. Despite these claims, many uncertainties remain. The convergence of the Big Five dimensions across the two traditions has been one area of concern. For example, the most commonly used instrument in the Big Five literature is the NEO, which was developed by McCrae and Costa (1985). The NEO has many formal similarities to Goldberg's (1992) adjective-marker-based measure, but it uses a questionnaire format. Is Agreeableness as measured in the lexical tradition the same construct as Agreeableness as measured in the questionnaire tradition? In general, potential biases in the measures used to assess the five-factor structure are largely unexplored. Both traditions depend on words as a vehicle for ratings, and some of these words may be unknown to raters (e.g., Graziano et al., in press). In addition, social desirability in responding may influence ratings, and may affect some dimensions more than others. More relevant to the topic of this research, evaluations may change depending on the target of comparisons. In the questionnaire tradition of the NEO, no explicit comparison targets are provided, so different raters may be comparing

themselves with different comparison groups. In the absence of empirical data to the contrary, it is possible that some dimensions of personality implicitly ask raters to compare themselves with persons who are older, or of another sex. In the lexical tradition, comparison targets are made explicit, in that raters are asked to evaluate themselves as they are now, not as they desire to be, compared with persons of their own age. Even here potential biases can occur because self-evaluation is confounded with sex of comparison target.

More specifically, one of the most obvious problems with Goldberg's (1992) instrument for assessing the Big Five dimensions involves instructions to males and females. Goldberg's pre-rating instructions to the Big Five are specific to each sex. The instructions ask the subjects to compare themselves to a person of their own sex on each of 100 trait dimensions which are then scored in terms of the Big Five. The instructions ask men to compare themselves to other men, or women to rate themselves in relation to other women. Because of the confounding of social comparison groups in the two sexes in the instructions, complex validity issues arise. If sex differences in self-rating are found, then the difference could be due either to sex differences in raters or base-rated differences in social comparison groups. If no sex differences are found, the same confounding problem may be obscuring the difference.

Problems of validity are more serious for certain dimensions of Goldberg's Big Five than for others. The dimension of agreeableness (Graziano & Eisenberg, 1997) in particular is problematic. Research generally finds no sex difference in mean levels of variances of self-rated agreeableness (e.g., Graziano, Jensen-Campbell, & Hair, 1996; Graziano, Jensen-Campbell, & Finch, 1997, Graziano, Hair, & Finch, 1997). Yet this

same research finds sex differences in the predictive validity of the scales (e.g., greater predictive validity for males than females), and sex differences when observers do the ratings. One possibility is that Goldberg's (1992) instructions are inducing people to evaluate themselves relative to their own sex, thus eliminating sex differences in the predictor variable of agreeableness, but not in the criterion behavior being measured.

The general hypothesis directing this program of research is that the explicit manipulation of Goldberg's (1992) instructions to raters will influence patterns in selfrating on the five-factor dimensions. In particular, the current study attempts to identify instruction-related patterns in the Big Five pertaining to sex and comparison to "ideal" individuals. If instructions do influence the occurrence of sex differences, then further research will be necessary to examine the links among instructions and predictive validity of Goldberg's (1992) measure of the five-factor model.

Method

Participants

The 646 participants (201 male and 445 female) were volunteers drawn from the psychology research pool at Texas A&M University. This pool is composed of students taking an introductory psychology course. Students are required to participate in five hours of research to receive credit for the class. The participants were randomly assigned to experimental conditions, and took approximately thirty minutes to complete the questionnaire. The questionnaire was paired with another study to complete the hour credit the students needed.

Materials

Participants completed the Goldberg (1992) lexical measure for the five-factor

approach to personality in one of the six instruction conditions. The instructions for Goldberg's measure changed with condition, but a general format was used to ensure validity across instructions. The following is the prototypical format, used for the second condition of the experiment (The second condition is presented as the prototype here because in the first condition, participants were given no explicit instructions):

Please use this list of common human traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age. Please leave blank any words that you do not know or do not understand.

Please use the gray scantron provided in this packet to answer the following questions. For each trait, please bubble in the letter on the gray scantron that best describes you, using the following rating scale:

Participants rated each item on a 5-point agree/disagree likert-type scale.

Procedure

Participants were randomly assigned to one of six groups, differing by type of instructions, after which they evaluated themselves using Goldberg's (1992) standard 100 trait markers (See Appendix). Participants in the first condition were given no explicit rating or comparison instructions; they simply were asked to fill out a questionnaire on their personality traits. Participants in the second condition completed the same questionnaire with Goldberg's (1992) verbatim standard instructions. These instructions asked the participants to describe their traits at the present time in

comparison to someone of the same age and sex. Participants in the third condition were given instructions that asked them to compare themselves to others of their own sex who are an ideal example of each trait. The fourth condition received instructions to complete the questionnaire in comparison to individuals of any sex that are ideal in each of the personality dimensions. The fifth and sixth conditions of the experiment rated both the ideal male and ideal female on each of Goldberg's (1992) trait markers. Order of rating was counterbalanced across all participants, such that participants in the fifth condition rated the ideal male before rating the ideal female, whereas participants in the sixth condition rated the ideal female before rating the ideal male.

Results

Because Goldberg's (1992) standard instructions anchored all ratings to persons of the same age and sex, our initial interests hinged on the potential emergence of sex differences with different instructions. To explore these relationships we examined all 100 trait markers together, reporting any sex effects or main effects. No overall main effects were found in comparing the conditions or sexes. We then analyzed the data across each of the Big Five domains to locate specific sex differences (pair-wise) across each of the factors. An Analysis of Variance (ANOVA) was performed to explore these differences. Means and standard deviations by personality factor across all conditions are shown in Table 1. Collapsing across all instruction conditions, there were sex main effects for three of the factors. Agreeableness, F(1,763) = 7.61, p < .05; Extraversion, F(1,763) = 6.63, p < .05; and Conscientiousness, F(1,763) = 3.90, p < .05. No significant main effects were found for Emotional Stability and Intellect (Emotional Stability: F(1,763) = 0.71, n.s.; Intellect: F(1,763) = 1.18, n.s.). These findings indicate

that men and women are rating the Big Five factors differently in terms of mean levels. For Agreeableness, females reported greater agreeableness (M=24.38; SD=12.09) than did males (M=22.89; SD=12.34). For Extraversion, females reported higher extraversion $(\underline{M} = 15.63, \underline{SD} = 10.98)$ than did males $(\underline{M} = 14.39, \underline{SD} = 10.93)$. For Conscientiousness, females reported higher conscientiousness (M = 18.02, SD = 10.84) than did males (M= 16.73, SD = 10.03). Means and standard deviations according to sex across all five factors of personality are reported in Table 2.

The ANOVA found significant main effects for type of instruction for all of the five factor dimensions: Agreeableness, F(7,763) = 12.27, p < .05; Extraversion, $\underline{F}(7,763) = 14.38, p < .05$, Conscientiousness, $\underline{F}(7,763) = 3.85, p < .05$; Emotional Stability, F(7,763) = 18.98, p, .05; Intellect, F(7,763) = 4.36, p < .05. These findings indicate that ratings of the factors differed across instructions, such that the "ideal male/female" was rated as possessing more Agreeableness, Extraversion, Conscientiousness, Emotionally Stability, and Intellect, than were individuals in the other instruction condition. To analyze the support of this finding, post-hoc tests were done using the Duncan analysis procedure. Alpha levels were set at .05 for all post-hoc tests. As shown in Table 1, ratings of the "ideal male" and "ideal female" are higher than mean ratings of self across the Big Five. There is no evidence that "ideals" in the abstract are different from self-ratings, but "ideals" tied specifically to females and males are rated higher than the self.

Discussion

In any science, issues of measurement are basic. If key variables cannot be measured with reliability and validity, then sound conclusions cannot be obtained. Scientific research on personality structure is not different from chemistry or physics in this regard. With recent advances in the development of the five-factor model of personality structure, there came research on new measures, but important questions remained. When persons evaluate themselves or others on personality dimensions, these evaluations require a benchmark or anchor point. Absolute scores are less valuable when no anchor point is available. Just as the temperature of a liquid is evaluated relative to the freezing and boiling point of water, the extraversion or agreeableness of a person requires some comparison or benchmark. Evaluations may vary depending on the target of comparisons, even when ratings are for the supposedly-pervasive dimensions of the Big Five. In the most widely used measure of the five-factor structure, the NEO questionnaire, no explicit comparison targets are provided, so different raters may be comparing themselves with different comparison groups. In the absence of empirical data to the contrary, it was possible that some dimensions of personality implicitly asked raters to compare themselves with persons who were older, or of another sex. In the lexical tradition (e.g., Goldberg, 1992), comparison targets were made explicit, in that raters are asked to evaluate themselves as they are now, not as they desire to be, compared with persons of their own age and sex. Even here potential biases can occur because self-evaluation is confounded with sex of comparison target.

As discussed previously, one of the most obvious problems with Goldberg's (1992) instrument for assessing the Big Five dimensions involves instructions to males and females. Goldberg's initial instructions for his instrument are specific to each sex. The instructions ask the participants to compare themselves to a person of their own sex on each of the 100 trait dimensions which are then scored in terms of the Big Five. The

instructions ask men to compare themselves to other men, and women to compare themselves to other women. Because of the confounding of social comparison groups in the two sexes in the instructions, complex validity issues arise. If sex differences in selfrating are found, then the difference could be due either to sex differences in raters or base-rated differences in social comparison groups. If no sex differences are found, the same confounding problem may be obscuring the difference.

As noted previously, problems of validity are more serious for certain dimensions of Goldberg's Big Five than for others. The dimension of agreeableness (Graziano & Eisenberg, 1997) in particular is problematic. Research generally finds no sex difference in mean levels of variances of self-rated agreeableness (e.g., Graziano, Jensen-Campbell, & Hair, 1996; Graziano, Jensen-Campbell, & Finch, 1997; Graziano, Hair, & Finch, 1997). Yet this same research finds sex differences in the predictive validity of the scales, and sex differences when observers do the ratings. One possibility is that Goldberg's (1992) instructions are inducing people to evaluate themselves relative to their own sex, thus eliminating sex differences in the predictor variable of agreeableness, but not in the criterion behavior being measured.

The general hypothesis directing this program of research was that the explicit manipulation of Goldberg's (1992) instructions to raters would influence patterns in selfrating on the five-factor dimensions. In particular, the current study examined instruction-related patterns in the Big Five pertaining to sex and comparison to "ideal" individuals. If instructions did influence the occurrence of sex differences, then further research would be necessary to examine the links among instructions and predictive validity of Goldberg's (1992) measure of the five-factor model.

Outcomes show that sex differences were seen throughout the analyses. In terms of means levels, women evaluated themselves as possessing more Agreeableness, more Extraversion, more Conscientiousness, less Emotionally Stability, and more Intellect in comparison to men in the experiment. These differences in ratings suggest that men and women conceptualize themselves differently in regard to the five major structural dimensions assessed in the Big Five approach to personality. This is not consistent with Goldberg's (1992) claim for "robust generality" of the five-factor structure, at least in terms of mean levels across the two sexes.

Some of the other outcomes, however, support Goldberg's (1992) claims for the robust generality of the five-factor approach, and the value of his adjective-marker measure in particular. The outcomes did not support the initial hypothesis that instructions would alter patterns of personality evaluation. There was no evidence that asking participants to use different comparison groups influenced their personality evaluations. From the evidence, one might conclude that most participants probably do not even read instructions because groups that made evaluations with no explicit instructions did not differ from groups that made evaluations with Goldberg's (1992) standard instructions. This conclusion cannot be completely correct because evaluations of the "ideal male/female" were significantly different from self-ratings. Furthermore, some interesting data lies in the significant difference in ratings of the "ideal male/female" compared to the ratings of the abstract "ideal." That there were statistically significant differences between the ratings of an "ideal" in the abstract and an "ideal" that was sexlinked suggests that the notion of an "ideal" for comparison is complex. It may be that raters can generate sex-linked "ideal" persons more easily than abstract "ideal" persons,

or can construct situations for persons of some specific sex more easily than for an abstract, unspecified "ideal." These are issues that warrant further research. These results imply that individuals view the "ideal male/female" person as being superior to one's self across all dimensions. Taken together, these data suggest that "ideal males/females" are rated higher on all domains of personality, yet when comparing themselves to an "ideal" person in the abstract, individuals do not see a major difference between themselves and that abstract "ideal" person.

This study has demonstrated the need for more research on personality measures, especially in relation to Goldberg's (1992) lexical five-factor approach. There were no main effects for the different experimental comparison conditions, but males and females did evaluate themselves differently on Big Five dimensions, at least in terms of mean levels. Specifically, females evaluated themselves as possessing more Agreeableness, Extraversion, Intellect, and Conscientiousness, but less Emotional Stability. Future research should study not just internal consistency, but also the predictive validity of Goldberg's (1992) five-factor personality measure. Clearly, further research is needed on comparisons and personality self-ratings, particularly pertaining to the "ideal" person, to decipher the conundrum we call personality.

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Conditions	N	Big Five Factors					
	_	Extraversion	Agreeableness	Emotional Stability	Intellect	Conscientiousness	
No Instruction	131						
<u>M</u> SD		12.95 ^a 10.95	22.15° 10.67	2.43 ^a 8.95	20.60 ^a 11.35	16.94 ^a 10.10	
Goldberg Instruct.	125	11.74ª	21.05ª	2.72ª	20.19ª	16.11ª	
SD		10.24	10.70	7.51	09.87	09.80	
Own Sex/ Ideal M SD	126	12.10 ^a 10.51	21.96 ^a 10.45	1.45 ^a 8.41	20.38 ^a 10.08	16.16* 10.75	
Any Sex/ Ideal M SD	131	13.50 ^a 11.60	19.47 ^a 12.86	3.77 ^a 8.78	19.20 ^{a b} 10.95	16.15 ^{ab} 11.15	
Rate Ideal Male <u>M</u> <u>SD</u>	132	21.25 ^b 09.96	28.22 ^b 13.36	11.31 ^b 09.66	24.50 ^b 11.52	18.85 ^b 10.77	
Rate Ideal Female <u>M</u> <u>SD</u>	134	19.41 ^b 08.46	30.16 ^b 09.97	10.87 ^b 09.02	25.32 ^b 10.78	21.14 ^b 10.08	

Note: Means and standard deviations were collapsed across sexes. Means in the same column having the same subscript are not significantly different at $p \le .05$.

Table 2

Means and Standard Deviations of the Big Five Across Sex

	Emotional Stability	Intelligence	Extraversion	Agreeableness	Conscientiousness
Male					
<u>M</u>	6.82	21.70	14.39	22.89	16.73
SD	9.49	09.99	10.93	12.34	10.03
Female					
<u>M</u>	4.86	21.75	15.63	24.38	18.02
<u>SD</u>	9.66	11.33	10.98	12.09	10.84

Goldberg's Standard 100 Trait Markers

35. imperturbable

How Accurately Can You Describe Yourself?

Please use this list of common human traits to describe yourself as accurately as possible. Describe yourself as you see yourself at the present time, not as you wish to be in the future. Describe yourself as you are generally or typically, as compared with other persons you know of the same sex and of roughly your same age. Please leave blank any words that you do not know or understand.

Please use the gray scantron provided in this packet to answer the following questions. For each trait, please bubble in the letter on the gray scantron that best describes you, using the following rating scale:

Α	В	C	D	E	
Strongly	Disagree			Strongly Agree	
	1. talkative	36.	undemanding	71.	disorganized
	2. bold	37.	placid	72.	undependable
	assertive	38.	peaceful	73.	unconscientious
	4. spontaneous	39.	independent	74.	impractical
	5. active	40.	uninhibited	75.	careless
	demonstrative	41.	intelligent	76.	extravagant
	energetic	42.	perceptive	77.	rash
	enthusiastic	43.	curious	78.	frivolous
	adventurous	44.	imaginative	79.	wasteful
	10. sociable	45.		80.	unreliable
	11. warm	46.		81.	emotional
	12. kind	47.		82.	envious
	cooperative	48.		83.	nervous
	unselfish	49.		84.	subjective
	15. polite	50.		85.	high-strung
	16. trustful	51.		86.	demanding
	17. generous	52.		87.	fretful
	18. flexible	53.		88.	volatile
	considerate	54.		89.	
	agreeable	55.		90.	fearful
	21. organized	56.		91.	
	dependable	57.		92.	imperceptive
	conscientious	58.		93.	
	24. practical	59.		94.	unimaginative
	thorough	60.		95.	
	26. thrifty	61.		96.	
	27. cautious	62.		97.	
	28. serious	63.		98.	
	economical	64.		99.	
	30. reliable	65.		100	. provincial
	31. unemotional	66.			
	32. unenvious	67.	stingy		
	33. relaxed	68.			
	34. objective	69.	inconsiderate		

70. quarrelsome