

- and spirituality: *Spiritual dimensions of aging theory, research, practice, and policy* (pp. 33-51). Binghamton, NY: The Haworth Press.
- Mott, S. C. (1982). *Biblical ethics and social change*. New York: Oxford University Press.
- O'Hara, J. (1998). September 2 telephone conversation with the Director of Planning and Research, Lutheran Church—Missouri Synod, St. Louis, MO.
- Pargament, K. I. (1999). The psychology of religion and spirituality? Yes and no. *International Journal for the Psychology of Religion*, 9, 3-16.
- Piedmont, R. L., & Nelson, R. (2001). A psychometric evaluation of the short form of the Faith Maturity Scale. In R. L. Piedmont & D. O. Moberg (Eds.), *Research in the Social Scientific Study of Religion, Volume 12* (pp. 165-183). Leiden, The Netherlands: Brill Academic Press.
- Princeton Religion Research Center (1982). *Religion in America*. Princeton, NJ: Gallup Poll.
- Regnerus, M. D., Smith, C., & Sikkink, D. (1998). Who gives to the poor? The influence of religious tradition and political location on the personal generosity of Americans toward the poor. *Journal for the Scientific Study of Religion*, 37, 481-493.
- Roof, W. C. (1999). *Spiritual marketplace: Baby boomers and the remaking of American religion*. Princeton, NJ: Princeton University Press.
- Schludermann, E. H. (2000). Religion, values and poverty. Address to the Lutheran Ministerial Assn. by the Professor of Developmental Psychology, University of Manitoba, Winnipeg, Canada, May 3.
- Sider, R. J. (Ed.) (1974). *The Chicago Declaration*. Carol Stream, IL: Creation House.
- (1999). *Good news and good works: A theology for the whole gospel*. Grand Rapids, MI: Baker Book House.
- Smith, C. (1998). *American Evangelicalism: Embattled and thriving*. Chicago: University of Chicago Press.
- Smith, T. L. (1980). *Revivalism and social reform*. Baltimore: Johns Hopkins University Press.
- Stark, R. (2002). Physiology and faith: Addressing the "universal" gender difference in religious commitment. *Journal for the Scientific Study of Religion*, 41 (3), 495-507.
- Zinnbauer, B. J., Pargament, K. I., & Scott, A. B. (1999). The emerging meanings of religiousness and spirituality: Problems and prospects. *Journal of Personality*, 67, 887-919.
- Zinnbauer, B. J., Pargament, K. I. (2002). Capturing the meanings of religiousness and spirituality: One way down from a definitional Tower of Babel. In R. L. Piedmont & D. O. Moberg (Eds.), *Research in the Social Scientific Study of Religion, Volume 13*, pp. 23-54. Leiden, Netherlands: Brill Academic Press.

## LOVE THY NEIGHBOR: SPIRITUALITY AND PERSONALITY AS PREDICTORS OF PROSOCIAL BEHAVIOR IN MEN AND WOMEN\*

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### ABSTRACT

This study investigated whether the content of people's images of God or the salience of their God-awareness predicted prosocial behavior over and above personality traits. Participants were 725 female and 264 male undergraduates who completed five-factor model personality self-ratings (either the NEO-FFI or Bipolar Adjective Scale), and the Prosocial Behavior Inventory. Spiritual measures included ratings of God on the Adjective Checklist, and the Faith Maturity Scale. Personality explained a significant amount of variance in prosocial behavior for men and women. Faith maturity added significant explanatory power over and above personality for men and women (17% and 5% respectively), whereas images of God more weakly predicted prosocial behaviors over personality. These findings support the utility of an incremental validity model for identifying spiritual variables that predict important psychosocial outcomes, and suggest that spiritual variables and personality mediate prosocial behavior differentially for men and women.

Prosocial behavior provides a rich field of study for both its practical and conceptual implications. As a topic in positive psychology, understanding the mechanisms underlying altruistic and prosocial behavior may lead to new methods for improving the social environment. At the conceptual level prosocial behavior has the potential to shed light on various models of human behavior. Psychologists, for example, have argued that altruistic behavior is fundamentally egoistic, i.e., motivated by self-interest (see Mansbridge, 1990; and Wallach & Wallach, 1983, for reviews). Some economic theories posit

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that self-interest is the driving force behind economic development (Schwartz, 1986). Counterarguments to egoistic motivation for prosocial behavior include recent developments within biology (Buck, 1999) and psychology (Kagan, 1998). Taylor (2002), for example, in moving away from the 'selfish-gene' approach (Dawkins, 1976), proposed that genetic, physiological, and psychosocial data indicate people have an instinct that generates a 'tend-and-befriend' response to stress that is as adaptive as the more familiar fight-or-flight sequence. She suggested, further, that this supportive behavioral pattern works effectively in the social circumstances women traditionally encountered over the centuries.

Additional challenges to the egoistic position on altruism arise from studies demonstrating that people overestimate the influence of material self-interest on attitudes and behavior (Miller, 1999; Miller & Ratner, 1998). Simply put, material self-interest does not motivate people's behavior to the degree they believe it does either in themselves or others. Nevertheless, people are motivated to *explain* their behavior in material self-interest terms even when facts contradict the explanations.

It is remarkable that these social scientific explanations of human altruism and prosocial behavior rarely incorporate religious or spiritual motivation. This is noteworthy for at least two reasons. First, history affirms that all the world's major religions make prosocial behavior a central component of their doctrines (Armstrong, 1993). Second, from an empirical standpoint, "Regular churchgoers are consistently more willing to give money and volunteer to assist others than the population in general has been found to be" (Hood, Spilka, Huntsberger, & Gorsuch, 1996, p. 126). In light of these facts one might argue that religion and spirituality weaken innate tendencies toward material and social self-interest, and that it plays an important role in human survival by reinforcing the tending instinct. Such questions have not been addressed due to the absence of research on religious and spiritual aspects of prosocial behavior.

Nevertheless, increased interest in religious/spiritual behavior has led to exploring its relationship with psychosocial variables such as health (Plante & Sherman, 2001) and psychological coping (Pargament, 1997). This interest, however, will have little impact if not accompanied by methodological rigor. Critiques of religion and physical health research have noted that the findings are open to alternative

explanations due to serious design flaws and misinterpretations (Sloan, Bagiella, & Powell, 2001).

The task for investigators interested in spiritual variables, therefore, is twofold. First, the research must indicate a connection between spirituality and the psychosocial variable of interest. Second, alternative nonreligious/nonspiritual explanations need to be ruled out. The current study attempts to accomplish this through the use of an incremental validity model. Such a model permits a better understanding of religious variables by controlling for plausible nonreligious explanations of the predicted effects. Assuming a relationship does exist between spirituality and prosocial behavior, what would bolster confidence in the findings? Clearly personality is one variable expected to predict prosocial behavior, with current research suggesting it is a stable predisposition (Eisenberg et al., 2002). An incremental validity model will test whether spirituality predicts prosocial behavior after controlling for the variance associated with personality.

When considering the broad domain of religion and spirituality, two constructs have potential relevance. The first construct is *spiritual awareness*, defined as the degree to which a connection to transcendence is salient to the individual. This refers to the relative importance an awareness of God plays in a person's life. A second construct is the *content* of people's images of God. Do they perceive God as friendly, angry, involved, capricious, etc.? In several studies of spirituality and prosocial behavior (Chen, 1996; Csarny, 1997; Kosek, 1995; Piedmont, 2001), various measures of spiritual experience predicted prosocial behavior. Using different measures of spiritual experience these studies found that self-reported spiritual awareness predicted prosocial behavior after controlling personality via a five-factor questionnaire. None of these studies, however, examined the relationship between images of God and prosocial behavior.

The present study, therefore, looked at these two components of a spiritual perspective in relationship to prosocial behavior: (a) the salience of God-awareness for people, and (b) the content of their images of God. We hypothesized that self-reported levels of feeling close to God and the patterns of people's descriptions of God predicted their reported involvement in prosocial activities such as doing volunteer work, contributing to charitable causes, and helping others in need.

We predicted, further, that these domains of spiritual experience

will predict prosocial behavior over and above the influence of personality variables. Previous research (Ciarrocchi, Piedmont, & Williams, 2002) found that when controlling for personality, images of God predicted spiritual experience for women but not men. The present study, therefore, will analyze the hypothesized predictions for gender effects.

## METHOD

### Participants

Participants were 725 female and 264 male undergraduates enrolled in introductory psychology courses in a midwestern state university (USA). Participants received course credit for volunteering for this study. This sample was created by aggregating data from independent samples of students enrolled in these courses over a three-year period. The students' mean age was 18.6 years; median 18 years, and had a standard deviation of 2.2 years. Religious affiliation of the group was 46% Roman Catholic, 34% Protestant, 10.5% Orthodox, 0.4% Jewish, 5.5% refused to respond, and 3.9% reported "other".

### Measures

*Adjective Checklist (ACL).* The ACL Scale (Gough & Heilbrun, 1983) consists of 300 adjectives, from which the person selects the most descriptive of himself or herself. The scale provides information on 33 scales from diverse theoretical orientations, including Murray's (1938) Needs, Berne's (1961) Transactional Analysis, Welsh's (1975) Intellectance and Originence Scales, and several scales developed by Gough and Heilbrun (1983) to measure salient interpersonal qualities. John (1990) created adjective marker scales for each of the five-factor model dimensions, which demonstrated convergence with other measures of the five-factor model and the ACL (Piedmont, McCrae, & Costa, 1991). Piedmont (1989; Piedmont, McCrae, & Costa, 1991) obtained normative values for these scales using samples of both college age and adult populations.

*NEO-FFI.* Developed by Costa and McCrae (1992a, 1992b), this is a shorter 60-item version of the NEO Personality Inventory-Revised (Costa & McCrae, 1992a) which operationalizes the major dimensions of personality hypothesized in the five-factor model: neuroticism (N),

representing emotional vulnerability; extraversion (E), an indicator of positive energy and gregariousness; openness (O), a tendency to seek new knowledge and experience for its own sake; agreeableness (A), contrasts a compassionate, prosocial orientation toward others with a more selfish, antagonistic view; and conscientiousness (C), representing our motivation for goal-directed tasks.

Items are answered on a five-point Likert-type scale ranging from (1) *strongly disagree* to (5) *strongly agree*, and scales are balanced to control for acquiescence. Internal consistencies for the five domains ranged from .86 to .95. Long-term stability has been well documented. The NEO-PIR has been extensively validated (McCrae & Costa, 1987; Piedmont, McCrae, & Costa, 1991) and has shown predictive utility with a large number of life outcomes, such as somatic complaints, coping with stress, well-being, and response to psychotherapy (Costa & McCrae, 1992).

*Bipolar Adjective Scale.* McCrae and Costa (1985, 1987) also developed this 80-item scale to capture the five major dimensions of personality described above. Responses are measured on a seven-point Likert-type scale and scores for each dimension are obtained by summing responses for each dimension of the five factors. Originally validated on adults, this scale also is reliable and valid for use with college students (Piedmont, 1995a, 1995b). To permit aggregating data across all sample years, statistical analysis proceeded following converting raw scores to *T* scores.

*Faith Maturity Scale (FMS).* This twelve-item abbreviated questionnaire from Benson, Donahue, and Erickson's (1993) longer version measures the degree to which people described their commitment to a faith orientation. The test authors report a correlation between scores on the short version and the total scale of .94. The original instrument consists of two subscales. The horizontal subscale measures the degree to which a faith commitment orients people's lives toward helping others, and the vertical subscale describes a person's perceived intimacy with God. In a sample of 1,700 college students, alpha reliabilities for the vertical, horizontal, and total score were .92, .75, and .91 respectively. In addition the scale demonstrated incremental validity over personality in predicting purpose in life, self-actualization, and various religious variables (Piedmont & Nelson, 2001).

For the current study we analyzed only the 8-item vertical scale for two reasons. First, the items are a specific measure of faith

awareness, a major variable of interest for this study. Examples of vertical scale items include: "I have a real sense that God is guiding me," and "I seek out opportunities to help me grow spiritually." Second, some horizontal scale items are redundant with items on the prosocial behavior scale, e.g., "I give significant portions of time and money to help other people."

*Prosocial Behavior Inventory.* This 39-item scale was developed by DeConcillii (1993/1994) using an act-frequency paradigm. Behaviors selected for the scale were nominated by college students as being very descriptive of students they believed to be prosocial. Students were asked to answer each question on a five-point Likert-type scale denoting the frequency with which they performed each activity over the previous six months. Principal components analysis of the PBI extracted three factors: volunteerism, compassion, and fiscal responsibility. Sample items include: "I volunteered to donate blood" (volunteerism), "I stopped what I was doing to help others in an emergency" (compassion), and "I have bought food or drink for a person who didn't have the money without the expectation of being repaid" (fiscal responsibility). Alpha reliability in two separate studies ( $n$ 's = 95 and 231) was .92 for the total scale in each study.

#### Procedure

Participants rated themselves on either the Bipolar Adjective Scale (year one) or the NEO-FFI (years two and three). Separately they rated God on the ACL and themselves on the Faith Maturity Scale and the Prosocial Behavior Inventory.

#### RESULTS

Data for all three years were aggregated and Table 1 provides descriptive statistics for men and women from each variable. For the self-ratings and ratings of God on the five factors of personality, T-scores of 55 or greater or 45 or less are considered distinct identifying characteristics. On the self-ratings the scores for men and women indicate that the groups fell within the average range in relationship to the normative sample. Women scored significantly higher than men on neuroticism and agreeableness, but the effect sizes were in the small range according to conventional interpretation of differences (Green, Salkind, & Akey, 2000).

Table 1. *Descriptive Statistics and t-tests for Gender Differences*

Measures	Males ( $N = 264$ )		Females ( $N = 725$ )		$t$	$d$
	Mean	$SD$	Mean	$SD$		
Self Rating on Five Factors						
Neuroticism	50.16	(8.27)	51.83	(9.18)	2.73**	.19
Extraversion	50.64	(9.03)	51.11	(9.94)	.69	
Openness	49.50	(8.95)	48.51	(9.84)	-1.50	
Agreeableness	49.38	(9.98)	50.94	(10.51)	2.13**	.15
Conscientiousness	46.61	(8.37)	47.30	(9.71)	1.09	
God Ratings on Five Factors						
Neuroticism	43.10	(7.24)	41.01	(6.44)	-4.12***	.29
Extraversion	49.71	(7.23)	51.19	(7.84)	2.76**	.19
Openness	49.47	(8.00)	49.78	(5.86)	.57	
Agreeableness	54.69	(9.71)	59.25	(6.81)	7.02***	.49
Conscientiousness	52.23	(9.89)	54.83	(7.74)	3.87***	.27
Faith Maturity Scores						
Vertical	20.10	(6.99)	21.76	(6.86)	3.31***	.23
Prosocial Behavior	65.30	(24.60)	73.71	(23.32)	4.76***	.33

\*\* $p < .01$ ; \*\*\* $p < .001$ .

Distinctive features on ratings of God (i.e., T-scores less than 45 or greater than 55) were low neuroticism and high agreeableness. Both groups, therefore, rated God as emotionally stable and interpersonally sensitive. Women viewed God as more emotionally stable, outgoing, interpersonally oriented, and conscientious than men did. Four of the differences were in the small range and one scale difference (agreeableness) was in the medium range.

Women also scored higher than men on faith maturity and prosocial behavior. This latter finding replicates the original study using the Prosocial Behavior Inventory (DeConcillii, 1993/1994) with the effect sizes once again falling in the small range.

Table 2 confirms the first hypothesis indicating a positive relationship between awareness of God (faith maturity vertical) and prosocial behavior. The relationship for men was considerably stronger than that for women ( $r^2 = .20$  and  $.06$  respectively;  $z = 3.14$ ,  $p < .01$ ). The relationship between prosocial behavior and IOG, however, failed to reach significance for either men or women. The second hypothesis, therefore, was not supported. Table 2 also demonstrates different patterns in the relationship between prosocial behavior and personality for men and women. For men only, extraversion correlated

Table 2. *Prosocial Behavior Correlations with Personality, Faith Maturity, and Images of God*

Measures	Total (N = 975)	Men (N = 255)	Women (N = 720)
Self Ratings on Five Factors			
Neuroticism	-.06	-.05	-.08*
Extraversion	.30***	.31***	.30***
Openness	.19***	.07	.25***
Agreeableness	.13***	.09	.13***
Conscientiousness	-.02	.02	-.04
Faith Maturity			
FM Vertical	.32***	.45***	.25***
God Ratings on Five Factors			
Neuroticism	.01	.12+	-.01
Extraversion	.06+	.09	.04
Openness	.05	.11	.03
Agreeableness	.07*	.03	.03
Conscientiousness	-.04	-.11	-.04

\* $p < .05$ ; \*\*\* $p < .001$ ; + $p < .06$ 

significantly with prosocial behavior, whereas four of the five factors of personality correlated significantly for women.

Hypotheses three and four are direct statements of the incremental validity model for the effect of religious/spiritual variables. To examine the role of personality, spirituality, and image of God in prosocial behavior, a series of hierarchical regressions was performed using prosocial behavior as the criterion. Earlier research (Piedmont, 2001) indicated that spirituality added incremental validity in predicting prosocial behavior over personality. Accordingly, to determine whether image of God improves the predictability of spirituality, self-rated personality was entered on step 1, faith maturity on step 2, and finally on step 3 all image-of-God ratings were added to the equations. Partial  $F$ -tests were calculated at each step to determine whether a particular set of variables significantly increased the explained proportion of variance. To control for cohort effects from the different years of data collection and different five-factor model instruments, each year was entered as a covariant. For each analysis the cohort effect was nonsignificant and therefore analyses presented do not include this variable. Table 3 presents these results.

As expected, Table 3 indicates that personality explains a significant

Table 3. *Hierarchical Regression Predicting Prosocial Behavior with Personality and Spiritual Variables*

Criterion Variable	$R^2$	$\Delta R^2$	Partial $F$
Prosocial Behavior			
Total Group			
Personality	.12	.12	25.49***
FMV	.19	.07	86.11***
IOG	.20	.01	3.22**
Men <sup>a</sup>			
Personality	.10	.10	5.39***
FMV	.27	.17	57.22***
IOG	.32	.05	3.45**
Women <sup>b</sup>			
Personality	.13	.13	22.01***
FMV	.18	.04	36.24***
IOG	.13	.01	2.18*

Note: Personality is first step in each analysis.

<sup>a</sup>N = 225

<sup>b</sup>N = 970

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

amount of variance for prosocial behavior for both men and women. Personality explained 10% of the variance in prosocial behavior for men and 13% for women. When looking at the independent contribution of faith maturity with prosocial behavior, faith maturity added significant explanatory power for both men and women. The differences in the amount of explanatory power for men and women are notable. For men, faith maturity explained 17% additional variance over personality, and for women, 5%.

Table 3 also addresses hypothesis 4 predicting added explanatory power for image of God over personality. The same regression method confirmed effects for men and women although the effect for men was five times stronger (5% additional variance versus 1%).

The beta weights presented in Table 4 indicate the factors significantly predictive for personality as a whole in relationship to prosocial behavior. For men, extraversion is the only relevant factor, but for women extraversion, openness, and agreeableness are significant. For image of God, the beta weights reveal no significant predictors for the individual scales, indicating that image of God as a whole rather than specific domains of people's God-descriptions predicted prosocial behavior. Beta weights for faith maturity have similar

Table 4. Beta Weights for Variables Predicting Prosocial Behavior

Variable	Prosocial Behavior	
	Men	Women
Self Ratings		
Neuroticism	-.00	.04
Extraversion	.28***	.26***
Openness	-.04	.16***
Agreeableness	.01	.11**
Conscientiousness	.03	-.05
Faith Maturity		
Vertical	.43***	.23***
God Rating on Five Factors		
Neuroticism	.12	.02
Extraversion	.04	-.04
Openness	.07	-.01
Agreeableness	.01	-.05
Conscientiousness	-.16	-.05

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ 

patterns to the zero-order correlations, indicating that faith maturity has a stronger relationship with prosocial behavior for men than women.

When the order of entering the religious variables is reversed, i.e., when image of God is entered before faith maturity, the added variance over personality for the entire group remains the same as in the previous ordering. For women, image of God added nothing significant, whereas faith maturity did ( $R^2 .18$ ,  $R^2$  change .05,  $p < .001$ ). For men, both image of God ( $R^2 .15$ ,  $R^2$  change .05;  $p < .05$ ) and faith maturity ( $R^2 .32$ ,  $R^2$  change .17,  $p < .001$ ) predict prosocial behavior over and above personality. Once again none of the beta weights for the individual image of God scales reached significance.

#### DISCUSSION

The current findings are consistent with research suggesting a prosocial disposition (Eisenberg et al., 2002), and research demonstrating a significant relationship between personality and this measure of prosocial behavior (Chen, 1996; DeConciliis, 1993/1994; Kosek, 1995). Three out of five personality factors correlated significantly

with prosocial behavior for the total group, but gender differences indicated that only one factor (extraversion) was significant for men. This underscores the necessity of controlling for these dispositions and gender in prosocial research.

Consistent with the study's primary focus, spirituality variables correlated significantly with prosocial behavior and added predictive validity over and above personality. Feeling close to God and rating God as an important influence in one's life were stronger predictors than people's general descriptions of God. For the entire sample, faith maturity added 58% predictive power for prosocial behavior over personality. The gender differences were again noteworthy in that faith maturity added 170% additional predictive power over personality for men, but only 30% in the case of women. By contrast, the incremental power for images of God was 50% for men and 7% for women.

These findings replicate research demonstrating the incremental validity of spirituality in predicting prosocial behavior with a measure of spiritual transcendence in the United States (Piedmont, 2001) and faith maturity in a Taiwanese sample (Chen, 1996). Images of God, as a whole, when entered into a regression model, weakly predicted prosocial behavior, but none of the specific attributes of God did so. Clearly some features of religious and spiritual experience mediate prosocial behavior more powerfully than others do.

Including spirituality in attempts to understand prosocial behavior can broaden the conceptual discussions existing in the literature regarding this and related concepts such as altruism, empathy, and sympathy. The search for explaining these variables encompasses biology, temperament, and social cognition to name a few (Batson, Ahmad, Lishner, & Tsang, 2002; Hoffman, 2000). An irony in current psychological research on moral development or the moral emotions is that one rarely finds extended discussion of religion or spirituality as important motivators. If they are mentioned as having influence, writers tend to note their connection to moral horrors such as terrorism or torture (Schulman, 2002), but not their positive impact. In addition such accounts question even the altruistic nature of prosocial religious inclinations by imputing their intent to a desire to avoid God's punishment—an essentially egoistic motive (Schulman, 2002). In the present study, the intentionality of the person's spirituality can be inferred indirectly from the measures. The composition of the Faith Maturity Scale includes items exclusively related to

feeling close to God (affiliative), but none that view God as a punishing agent. Furthermore, perceptions of God's neuroticism had no relationship to prosocial behavior, thereby failing to support a link between an angry, emotionally upset God-image and prosocial behavior.

The current study, therefore, indicates that considerable variance in understanding individual differences in prosocial behavior resides in personality and spirituality, and spirituality makes an independent contribution. Both need to be considered in any comprehensive account of prosocial behavior, and both are frequently absent in such studies.

The present study may also shed light on gender differences in religious experience and behavior. Most explanations have emphasized socialization, but some authors have proposed biological explanations to account for the consistency of this difference (Miller & Hoffman, 1995; Stark, 2002). A series of studies suggest, however, that psychosocial variables and personality have a complex relationship with spiritual outcomes in men and women. One investigation found that personality and image of God predicted spiritual experience in women, but only personality did so for men (Ciarrocchi, Piedmont, & Williams, 2002). A separate study found that image of God had differential predictors in men and women (Piedmont, Ciarrocchi, & Williams, 2002). For men their own personality ratings and family environments were the major predictors of image of God, but for women their parents' personalities and a different set of family environment features predicted image of God.

In the present study personality and faith maturity predicted prosocial behavior for men and women, but personality was the major predictor for women and faith maturity the major predictor for men. This means that men's perceived closeness to God has a stronger relationship with prosocial behavior than their personality, but for women the reverse is true. From a speculative standpoint, men and women may have slightly different pathways to prosocial behavior, just as they do for images of God and spirituality. In the case of prosocial behavior, women's personality may be more influential—in a sense they may be more 'naturally' prosocial—a finding confirmed in the related field of empathy (Davis, 1994). For men, on the other hand, spirituality may play a critical role as a motivational force in prosocial behavior that personality alone does not guide. To complicate matters further, any interpretation of the significant gender

differences must take account of the small effects for all the differences except one (God's agreeableness). These small effects mean there is considerable overlap between men and women's scores on spiritual constructs. Perhaps the small effects result from the use of more extended measures of spirituality/religiousness in this study than the conventional single-item question used in much national survey research (Stark, 2002).

In addition to these interpretative caveats the present study has several limitations. First, the correlational design prevents causal inferences. Levels of God-awareness or God-images may cause prosocial behavior or vice-versa. Other variables not examined in this study may influence both variables, e.g., family environments, parental personality, denominational differences, etc. (Chen, 1996; Piedmont, Williams, & Ciarrocchi, 2002). Second, although the sample was quite large, this cross-sectional cohort of college students does not permit addressing developmental processes in the variables under investigation. Third, the measures used were self-reports and future studies should include cross-validations with behavioral and/or peer ratings. Recent developmental work, however, indicates that (a) prosocial behavior is a stable disposition over time, and (b) prosocial self-reports, similar to the one used in this study, are correlated with peer ratings (Eisenberg et al., 2002). Such findings bolster confidence in viewing self-reported prosocial activities as consistent and valid behavioral descriptions.

In addition to sampling groups that are more diverse regarding religious beliefs, ethnic background, and age, future research needs to study methods for raising consciousness regarding people's spiritual motivations in concrete helping situations. Research has demonstrated that religious/spiritual status itself does not influence prosocial behavior (Batson, 1991), but the current findings suggest it may be more fruitful to engage people's spiritual cognitions when faced with others' concrete needs and suffering. Such approaches also reflect contemporary philosophical approaches to compassion and its relationship with helping behavior (Nussbaum, 2001), and harmonize with traditional religious approaches that link caring for others as one expression of having a close relationship with God.

## REFERENCES

- Armstrong, K. (1993). *A history of God*. New York: Ballantine Books.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Batson, C. D., Ahmad, N., Lishner, D. A., Tsang, J. (2002). Empathy and altruism. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 485-498). Oxford: Oxford University Press.
- Benson, P. L., Donahue, M. J., & Erickson, S. A. (1993). The Faith Maturity Scale: Conceptualization, measurement, and empirical validation. *Research in the Social Scientific Study of Religion, 5*, 1-26.
- Berne, S. L. (1961). *Transactional analysis in psychotherapy*. New York: Grove Press.
- Buck, R. (1999). The biological affects: A typology. *Psychological Review, 106*, 301-336.
- Chen, M. C. (1996). *Psychosocial correlates of prosocial behavior among college students in Taiwan*. Unpublished doctoral dissertation, Loyola College in Maryland.
- Ciarrocchi, J. W., Piedmont, R. L., & Williams, J. E. G. (2002). Image of God and personality as predictors of spirituality in men and women. *Research in the Social Scientific Study of Religion, 13*, 55-73.
- Costa, P. T., & McCrae, R. R. (1992a). *Revised NEO Personality Inventory and NEO Five-factor Inventory: Professional manual*. Odessa, Florida: Psychological Assessment Resources.
- (1992b). Trait psychology comes of age. In T. B. Sonderegger (Ed.), *Nebraska symposium on motivation: Psychology and aging* (pp. 169-204). Lincoln, NE: University of Nebraska Press.
- Csarny, R. J. (1997). *The incremental validity of religious constructs in predicting quality of life, racism, and sexual attitudes*. Unpublished doctoral dissertation, Loyola College in Maryland.
- Davis, M. (1994). *Empathy: A social psychological approach*. Boulder, CO: Westview Press.
- Dawkins, R. (1976). *The selfish gene*. Oxford: Oxford University Press.
- DeConcilis, A. J. (1993/1994). Individual correlates of prosocial behavior: Comparison of three models (Doctoral dissertation, Loyola College in Maryland, 1993). *Dissertation Abstracts International, 54* (08), 2892.
- Eisenberg, N., Guthrie, I. K., Cumberland, A., Murphy, B. C., Shepard, S. A., Zhou, Q., & Carlo, G. (2002). Prosocial development in early adulthood: A longitudinal study. *Journal of Personality and Social Psychology, 82*, 993-1005.
- Gough, H. G., & Heilbrun, A. B. (1983). *The Adjective Check List manual*. Palo Alto, CA: Consulting Psychologists Press.
- Green, S. B., Salkind, N. J., & Akey, T. M. (2000). *Using SPSS for Windows: Analyzing and understanding data* (Second edition). Upper Saddle River, NJ: Prentice-Hall.
- Hollinan, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge: Cambridge University Press.
- Hood, R. W., Spilka, B., Huntsberger, B., & Gorsuch, R. (1996). *The psychology of religion: An empirical approach* (2nd ed.). New York: Guilford Press.
- John, O. P. (1990). The "Big Five" factor taxonomy: Dimensions of personality in the natural language and in questionnaires. In L. Pervin (Ed.), *Handbook of personality theory and research* (pp. 66-100). New York: Guilford Press.
- Kagan, J. (1998). *Three seductive ideas*. Cambridge, MA: Harvard University Press.
- Kosek, R. B. (1995). Measuring prosocial behavior of college students. *Psychological Reports, 77*, 739-742.
- Mansbridge, J. J. (1990). *Beyond self-interest*. Chicago: University of Chicago Press.
- McCrae, R. R., & Costa, P. T., Jr. (1985). Comparison of the EPI and Psychoticism scales with measures of the five-factor model of personality. *Personality and Individual Differences, 6*, 587-597.
- (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*, 81-90.
- Miller, A. S., & Hoffman, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion, 34*, 63-75.
- Miller, D. T. (1999). The norm of self-interest. *American Psychologist, 54*, 1053-1060.
- Miller, D. T., & Ratner, R. K. (1998). The disparity between the actual and assumed power of self-interest. *Journal of Personality and Social Psychology, 74*, 53-62.
- Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Nussbaum, M. C. (2001). *Upheavals of thought: The intelligence of emotions*. Cambridge: Cambridge University Press.
- Pargament, K. I. (1997). *The psychology of religion and coping: Theory, research, practice*. New York: Guilford Press.
- Piedmont, R. L. (1989). Achievement motivation and fear of success in males and females. *Dissertation Abstracts International, 49* (11), 5054-B. (University Microfilms No. DA8827940)
- (1995a). Another look at fear of success, fear of failure, and test anxiety: A motivational analysis using the five-factor model. *Sex Roles, 32*, 139-158.
- (1995b). Big five adjective marker scales for use with college students. *Psychological Reports, 77*, 160-162.
- (2001). Spiritual transcendence and the scientific study of spirituality. *Journal of Rehabilitation, 67*, 4-14.
- Piedmont, R. L., & Nelson, R. (2001). A psychometric evaluation of the short form of the Faith Maturity Scale. *Research in the Social Scientific Study of Religion, 12*, 165-183.
- Piedmont, R. L., McCrae, R. R., & Costa, P. T. (1991). Adjective check list scales and the five-factor model. *Journal of Personality and Social Psychology, 60*, 630-637.
- Plante, T. G., & Sherman, A. C. (Eds.). (2001). *Faith and health: Psychological perspectives*. New York: Guilford Press.
- Schulman, M. (2002). How we become moral: The sources of moral motivation. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 499-512). Oxford: Oxford University Press.
- Schwartz, B. (1986). *The battle for human nature*. New York: Norton.
- Sloan, R. P., Bagiella, E., & Powell, T. (2001). Without a prayer: Methodological problems, ethical challenges, and misrepresentations in the study of religion, spirituality, and medicine. In T. G. Plante & A. C. Sherman (Eds.) *Faith and health: Psychological perspectives* (pp. 339-354). New York: Guilford Press.
- Stark, R. (2002). Physiology and faith: Addressing the "universal" gender difference in religious commitment. *Journal for the Scientific Study of Religion, 41*, 495-507.
- Taylor, S. E. (2002). *The tending instinct: How nurturing is essential to who we are and how we live*. New York: Henry Holt.
- Wallach, M. A., & Wallach, L. (1983). *Psychology's sanction for selfishness: The error of egoism in theory and therapy*. San Francisco: Freeman.
- Welch, G. S. (1975). *Creativity and intelligence: A personality approach*. Chapel Hill, NC: University of North Carolina, Institute for Research in Social Science.