Religious Orientation, Context Effects, and Socially Desirable Responding

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Abstract

Religiousness has been associated with socially desirable responding (SDR) but its relationship with SDR has remained equivocal. Context effects and/or priming may be implicated in this unclear relationship; previous studies may have inadvertently affected responses by activating religious constructs prior to SDR measurement. This study hypothesizes a change in SDR contingent upon whether subjects perceive a survey to be religious in nature or not. It is further hypothesized that an SDR increase will be demonstrated in subjects of an intrinsic religious orientation, while other orientations (extrinsic, pro-religious, nonreligious and quest) will remain unaffected. As predicted, a significant shift in SDR was demonstrated, however, SDR responses by intrinsic-oriented subjects decreased, while SDR by subjects of extrinsic orientation increased.
Introduction

A belief in God or supernatural forces has been expressed by 92.6% of Americans (Baylor Religion Survey, 2005); religion influences many aspects of life for believing individuals, both personally and socially. Religion gives meaning to people’s lives (Baumeister, 1991); it has been linked to a sense of well-being, maintaining a clear definition of right and wrong, and supports people when they’ve reached the limits of their resources (Pargament, 2002). It affects attitudes and behaviors related to prejudice, helping, honesty, sexuality, politics and peace (Donahue & Nelsen, 2005). Self-identification with religion has also been linked with positive self-representation, known as socially desirable responding (SDR), in subjects associated with an intrinsic religious orientation (Paulhus, 2002).

Religious Orientation

Individuals espousing similar religious views may, nonetheless, behave in highly variable and, at times, inconsistent ways. In an attempt to describe and delineate the diversity of religious experience, Intrinsic, Extrinsic and Quest religious orientations have been extensively examined as distinct categories of religious motivation (Donahue & Nielsen, 2005).

Allport and Ross (1967) developed the Religious Orientation Scale to explore the contradictory behaviors observed in religious communities; while at times quite charitable, the religious can also demonstrate prejudice and serve their own ends. Allport and Ross (1967) defined the typologies of intrinsic (INT) and extrinsic (EXT). Individuals of an INT orientation tend to be frequent church attendees and are defined as living their religion; they experience an internalization of their adopted beliefs. Religion, for them, is not a means, but an end. EXT oriented individuals tend to be less frequent attendees and are described as using religion for a personal agenda, i.e. social status or comfort. Religion, for them, is a means to some other end.
Allport and Ross (1967) comment “the extrinsic type turns to God, but without turning away from self” (p. 434).

The Religious Orientation Scale, mainly designed to measure a propensity for INT or EXT, does not create discrete categories but instead measures tendency. Allport and Ross (1967) found, “unfortunately for our neat typology” (p. 437) some subjects endorsed all items that seemed favorable toward religion in any sense. These subjects, scoring high in both INT and EXT, they called indiscriminately proreligious (PRO). Subjects who do not endorse either INT or EXT items they describe as indiscriminately antireligious or nonreligious (NON). The defining characteristics of the two inadvertent types are not as clear as INT or EXT, however, according to Donahue (1985) the general pattern of findings regarding attitudes such as prejudice (Allport & Ross, 1967, excluding NON) and dogmatism (Thompson, 1974) is that PRO correlates greater than EXT, which in turn correlates greater than both INT and NON (which are roughly equal.) In exploring moral judgment Sapp and Jones (1986) found that PRO demonstrated, of the four types, the lowest level of moral judgment whereas NON demonstrated the highest. They speculated an undifferentiated cognitive style may have been influencing PRO, and NON may have represented more morally mature, open-minded individuals willing to diverge from social norms.

Batson (1976) developed the Quest scale to address a type of religious orientation he felt was not assessed adequately by Allport’s Religious Orientation Scale. Some individuals do not embrace a formal religious theology, but nevertheless regard religious ideas as an important social and personal construct worthy of exploration. People who score high on the Quest scale (QUE) believe it is important to question or challenge their religious beliefs and are open to self-
threatening information. QUE religiousness has been found to be consistently negatively correlated with prejudice (Batson, Schoenrade, & Ventis, 1993).

**Socially Desirable Responding**

The racial tension of the mid-1900s prompted considerable research into prejudice, and eventually *church goers* were evaluated on their attitudes regarding race. Multiple studies (Allport & Kramer, 1946; Rosenblith, 1949) indicated that churchgoers were more prejudiced than non-churchgoers. However, a more nuanced interpretation of the data suggested frequent attendees tested as less prejudiced than less frequent attendees. Later, once Allport and Ross (1967) delineated religious typologies into the categories of INT and EXT with their Religious Orientation Scale, it was found that being EXT-oriented was correlated with racial prejudice, while INT orientation was not (Allport & Ross 1967; Batson, Schoenrade, & Ventis, 1993).

The relationship between prejudice and religious orientation demonstrated by Allport and Ross (INT correlating negatively, EXT positively) seemed relatively clear until Batson controlled for socially desirable responding (SDR) (Batson, Naifeh, & Pate, 1978; Batson, Flink, Schoenrade, Fultz, & Pych, 1986). The Social Desirability Scale (Crowne & Marlowe, 1960) measures SDR by asking questions considered culturally desirable but unlikely to occur, such as “I have never intensely disliked anyone (T/F)”. Using this scale Batson et al. (1978) found that INT correlated negatively with prejudice only until SDR was considered, at which point the correlation disappeared. These findings indicated INT religious people were equally prejudiced, but merely answering as if they weren’t. However, some studies failed to find a correlation between INT religiousness and SDR (Hunsberger & Platonow, 1986; Spilka, Kojetin & McIntosh, 1985).
In 1984 Paulhus developed the Balanced Inventory of Desirable Responding (BIDR) which proposed a two-tiered approach to measuring SDR; it is intended to measure the degree to which SDR is motivated by either self-deception (a person believes he is answering truthfully, but is operating under false assumptions) or impression management (the person intentionally chooses a desirable presentation.) When Leak and Fish (1989) used the BIDR to measure religious respondents they found the INT religious group had a significant positive correlation with both self-deception and impression management. However, critical of Leak and Fish’s interpretation, Trimble’s (1997) meta-analyses and Richards’ (1994) comparison to other impression management measures assert these self-report measures may have been measuring accurate responses by INT who truly engage in prosocial behavior rather than measuring inaccurate self-representation. But then again, in support of the socially desirable responding hypothesis, Presser and Stinson (1998) found that reports of church attendance varied widely depending on how data were gathered; such inaccuracies were attributed to SDR. Later, in an experimental approach, Burris and Navara (2002) had subjects imagine an audience of their religious peer group watching as they self-disclosed damaging information. They found the INT oriented subjects were correlated with a self-deceptive change in behavior, and contend that INT participants self-deceive as a measure of self-protection due to a concern of censure from their religious peers. Thus, the relationship between religiousness and socially desirable responding remains equivocal. Two possible sources of confound which may be implicated in the ambiguity of these findings are priming and context effects.

**Priming**

Priming attempts to measure a psychological construct without directly asking the subject, and results are often elicited without the subject’s awareness; the mechanism by which
Religion, Context & SDR

priming is thought to be activated is the production of a processing advantage for conceptually similar items (Fazio & Olson, 2003). For instance, implicit measures have predicted participant’s behavior of which they weren’t consciously aware, such as reported by Wilson, Lindsey and Schooler (2000) with regard to how often subjects handed a pen to an African-American. Bargh, Chen and Burrows (1996), who primed rude concepts, found subjects interrupting more often; when they primed elderly stereotypes subjects walked slower. The more highly charged the subject matter, such as race (Greenwald & Banaji, 1995) or gender (Greenwald & Farnham, 2000), the more likely subjects are to have their response altered by a moderating influence (Greenwald, Banaji, Rudman, Farnham, Nosek, & Mellot, 2002). Religion, similarly, is a sensitive subject. Having their religion empirically studied can make people uneasy due to the importance with which it is often regarded (Batson, Schoenrade & Ventis, 1993). Religion and related constructs have demonstrated sensitivity to priming.

Multiple studies have shown evidence that priming affects subjects’ behavior when activating supernatural constructs. Pichon, Boccato, Giulio and Saroglou (2007) found increased prosocial intention after priming participants with positive religious words. Shariff and Norenzayan (2007) found increased generosity when subjects were primed with God concepts. Additionally, subjects told of an invisible, but present, ghost were less likely to cheat when given the opportunity (Bering, McLeod & Shackleford, 2005). In these cases activating a supernatural construct precipitated a measurable change in behavior.

The presentation of questions intended to measure subject’s religiousness may act as a priming agent that activates a supernatural or religious construct, similar to those described above, and affect participant responses on subsequent, non-religious, items. This effect, if present, may manifest in a manner similar to context effects.
Context Effects

Religious attitudes are not directly observable and do not lend themselves easily to direct experimentation. Behaviors thought to be inspired by belief can be observed, but the complexity of human motivation obscures the conclusions that may be drawn; for instance a person’s church attendance could be considered a measure of religious belief, but the reasons people go to church can vary from a quest for enlightenment to social networking in order to make business contacts. To examine these underlying motivations psychologists have primarily relied on self-report measures (Hill, 2005). Participant responses on these surveys may be affected by the presentation order of the questions, a phenomenon known as context effect (Schwarz, 2007). Context effects are generally described as the occurrence of subjects changing their responses to items on a test due to the influence of other items on the test (Schuman & Presser, 1981). Carryover effects (also called assimilation) occur when items previously presented to the respondent frame how they interpret questions that are presented to them later (Tourangeau, 1992). Schwarz, Strack and Mai (1991) demonstrated that the order of question presentation affects participant’s responses. In their experiment one group was asked about marital satisfaction first, then life satisfaction; in this case the response correlation was .32. A second group was asked about life satisfaction first, then marital satisfaction; for this group the response correlation was .67. This indicated that if people’s marriage was brought to mind before considering their life in general it had a significant effect on how they responded to the question. Similarly, religious questions may create a religious carryover effect, and religious influence increases the probability of making associations or eliciting ideas which are religious in nature (Fiske & Taylor, 1991). Strack (1992) asserts that carryover effects may operate on both the
implicit level, outside the individual’s awareness, and on the explicit level, within the individual’s awareness.

Studies of religious belief and its relationship with SDR have often been unsystematic in describing, or controlling for, the potential confounds of priming and context effects. Numerous examples demonstrate how the environment, pre-screening or test presentation order may have activated a religious construct for participants completing a SDR questionnaire. Crandall and Gozali (1969) drew their sample exclusively from religiously affiliated schools. Spilka, Kojetin and McIntosh (1985) selected “participants who expressed ‘at least a moderate interest in religion’” and “utilize[d] only Christians who attend church at least once a month and who rate their religiosity at four or above on a seven point scale” (p.438). They prescreened their subjects with a religious test before giving the religious orientation and SDR measures, and they don’t specify the order in which those tests are presented. Batson, Naifeh and Pate (1978) had subjects fill out six religious orientation scales before filling out the SDR scale. Byrd, Hageman and Belle Isle (2007) clearly indicated to the subjects in the description of the study given: “Participants will fill out questionnaires dealing with intrinsic motivation, religion, and other personality variables” (p. 147). The order in which the tests were presented was not discussed. Leak and Fish (1989) list the tests that are given, but one is left to assume that the order in which the tests are listed in the article reflects the order of presentation to the subjects. Burris (1994) used subjects who had already taken Allport and Ross’ (1967) I-E scale as part of a larger investigation. Burris and Navara (2002) in their experimental investigation of SDR specify that the subjects were not aware of the religious nature of the study. However, they presume the previous mass testing session, in which participants filled out religious orientation scales, did not have any religious framing carryover effects. Rowatt, Ottenbreit, Nesselroade, Jr. and
Cunningham (2002) not only presented the religious orientation tests first, but the research was conducted at Baylor University, a Baptist institution. Even in the initial use of their scale, Allport and Ross (1967) recognized the danger of introducing a proreligious bias, but still chose to use six groups of church-goers who “knew that they were invited to participate as members of a religious group” (p. 436). If priming or context effects have a significant influence on religious respondents, these examples demonstrate the necessity of controlling for their effect.

Overview of Current Study

This study will attempt to examine how the order of test presentation affects the religious subject’s propensity for SDR. It’s hypothesized that administering a religiously oriented questionnaire before administering a test designed to measure SDR will have a significant effect on the SDR results. Further, it is hypothesized this effect will be seen primarily amongst participants who score high on INT religious motivation and significantly increase their average score on the SDR. Further, it is hypothesized that no significant change will be observed in EXT, QUE, PRO or NON types.

Method

Participants

Having received consent from the human subjects committee 94 participants were recruited from a local college’s introductory psychology classes. Subjects received partial class credit for their participation.

Measures

The BIDR-6 (Paulhus, 1984) is currently one of the most commonly used scales of SDR and has been shown to be adequately reliable (.80), although the self-deception (.68) and impression management (.74) subscales are less so (Li & Bagger, 2007). Paulhus, Bruce, Nadine
and Trapnell (1995) demonstrated scale validity by eliciting significant response inflation when subjects were directed to give faked-good socially desirable responses. The BIDR was scored by assigning one point for every six or seven chosen by a subject on a 7-point Likert scale.

The Religious Orientation Scale-Revised (I-E/R) (Gorsuch & McPherson, 1989) has strong psychometric properties and is considered the best current measure of religious orientation (Hill, 2005) with reliability for INT being .83 and EXT .65 (Hill, 1999). The validity of the Religious Orientation Scale is generally well supported, but due to the value-laden nature of the scale, and the evolving definition of INT and EXT over time, specifically what it measures has been open to a great deal of discussion. However, given that INT is defined roughly as religion as master motive and EXT defined as a hands-off attitude towards religion there is general validity supported across multiple studies (Burris, 1999). The revised version of the Religious Orientation Scale, the I-E/R (Gorsuch & McPherson, 1989), was created as a response to the analysis of the original done by Kirkpatrick (1989).

The Quest Scale (Batson & Schoenrade, 1991) shows reliability from .71 to .78 (Hill, 1999). QUE has been shown to measure something distinct from either the INT or EXT categories of the I-E/R (Hill, 1999). Burris, Jackson, Tarpley, and Smith (1996) found that QUE, as opposed to either INT or EXT, was associated with less social identification, more criticism of the status quo, a desire for personal uniqueness and freedom, and a resistance to accept clear-cut answers.

Procedure

This study was advertised as a “comparative survey of attitudes and behaviors”; no information regarding the religious nature of the study was conveyed before-hand, and participants were asked not to discuss the study following their participation. Subjects were
randomly divided into two groups for this between-subjects design. The independent variable was the order of test presentation, the dependent variable was the score on the BIDR-6, and a quasi-independent variable was determined by the participants’ score on the I-E/R for the ANOVA analysis. The experimental group first received the I-E/R (Gorsuch & McPherson, 1989) and the Quest scale (Batson & Schoenrade, 1991), and then the BIDR-6. The remaining group served as the control and was given the measures in reverse order: the BIDR-6, I-E/R and the Quest scale. Finally, all participants were given a form to collect demographic information, religious affiliation, attendance and history, religion’s importance to them, and a comments section for discussion.

**Statistical Analysis**

Linear regression analysis was utilized to measure the effect of test order on SDR using all three typology scores for all participants. This method captures a weighted typological analysis for participants, in essence reflecting their propensity towards each of the three categories and the effect test presentation has upon those weighted types. The regression analysis equation used to test the primary hypothesis was $R^2 = (\text{INT}) \times (\text{EXT}) \times (\text{QUE}) \times (\text{INT} \times \text{order}) \times (\text{EXT} \times \text{order}) \times (\text{QUE} \times \text{order})$. To test for the effect across types, disregarding test order, the equation $R^2 = (\text{INT}) \times (\text{EXT}) \times (\text{QUE})$ was used. The final regression analysis to examine the effect of other potential explanatory demographic and religion-related variables included: age; gender; the number of times subjects socialize with religion as the common interest of the group; whether raised or converted in their tradition; religion’s current importance to them; the number of times they took God into consideration per week; whether or not they had a current religious affiliation; and religion’s importance to their family (non-numeric results were scored on a 7-point Likert scale.)
For ANOVA analysis a total of five quasi-independent groups were used. As encouraged by Donahue (1985), in order to capture a broader array of religious typologies and represent most accurately participant’s attitudes ranging from *I strongly disagree* to *I strongly agree*, the I/E-R scores were divided into four groups using a midpoint-split on the Likert scale: INT, EXT, PRO and NON. Assignment to the intrinsic group was determined by an average score above four for INT items, but below four on the EXT items. Conversely, assignment to the EXT group was determined by an average score above four on EXT items and below four on INT. The PRO group consisted of subjects who scored above an average of four on both INT and EXT items; NON subjects averaged below four on both.

Subjects were assigned to the QUE group if they scored one standard deviation above the mean ($M = 3.92$, $SD = 1.03$) on QUE test items, and scored below the midpoint on the 7-point Likert scale for both INT and EXT. Only one subject scored above the midpoint on EXT and below the midpoint on QUE and INT; this occurrence contributed to the decision to define the QUE group using one standard deviation above the mean instead of using the midpoint method as was used with the I/E-R scoring. Eight subjects who scored high in both QUE and INT or EXT were removed from ANOVA analysis. These procedures were utilized in an attempt to most faithfully represent participants exhibiting characteristics consistent with that which the aforementioned surveys were intended to measure.

Independent measures t-tests were used to describe the change in SDR scores within each type contingent upon test order.

Results

The random assignment of test order resulted in 51 subjects first receiving the BIDR-6 and 43 subjects first receiving the I-E/R and Quest surveys. Subjects receiving the BIDR-6 first
avaged slightly higher scores of SDR than those who received the I/E-R first \((M = 9.71, SD = 4.44)\) yielding no main effect for test order, \(F(1,93) = .378, p = .540\).

Regression Analysis

Linear regression analysis of the combination of the three religious types and the effect of order acting upon those three types accounted for 11.4% of the variance in SDR scoring, which was a significant effect \((R^2 = .171, F(6, 93) = 2.991, p = .011)\). The effects of individual variables on SDR scores cannot be confidently specified due to multicollinearity and therefore are not reported here. Measures of the religious typology variables alone, excluding the effect of test order on each type, did not significantly explain variance in SDR scores \((R^2 = .065, F(3, 93) = 2.096, p = .106)\) and accounted for only 3.4% of the variance. The inclusion of demographic and religion-related variables did not significantly explain additional variance in the SDR scores \((R^2 = .139, F(8, 70) = 1.246, p = .288)\) and accounted for only 2.7% of the variance.

INT and EXT ANOVA

Analysis of Allport and Ross’s INT and EXT orientation by test order using a 2(INT, EXT) x 2(test order) ANOVA yielded a non-significant interaction, \(F(3,22) = 2.025, p = .171\). INT scores decreased from those receiving the BIDR first \((M = 12.58, SD = 6.91)\) to those receiving the I/E-R first \((M = 9.50, SD = 4.51)\), but not significantly \(t(16) = -.986, p = .339\). EXT scores increased from those receiving the BIDR first \((M = 6.33, SD = 0.88)\) to those receiving the I/E-R first \((M = 12.00, SD = 5.66)\), but also not significantly \(t(3) = 1.776, p = .174\), (see Table 1 and Figure 1).

INT, EXT and QUE ANOVA

Analysis of the three main types of religious orientation, INT, EXT and QUE, also failed to show a significant interaction. A 3(INT, EXT, QUE) x 2(test order) ANOVA indicated non-
significant interaction between religious type and test order, $F(5, 30) = 1.169, p = .327$. QUE scores decreased only slightly, $t(6) = -.135, p = .897$, from those receiving the BIDR first ($M = 12.00, SD = 4.58$) to those receiving the I/E-R first ($M = 11.60, SD = 3.78$) (see Table 1 and Figure 2).

**INT, EXT, QUE, PRO and NON ANOVA**

A $5($INT, EXT, QUE, PRO, NON$) \times 2($test order$)$ ANOVA showed a non-significant interaction between religious type and test order, $F(9, 84) = .768, p = .549$. PRO scores decreased from those receiving the BIDR-6 first ($M = 14.50, SD = 6.36$) to those receiving the I/E-R first ($M = 12.40, SD = 6.50$), but not significantly $t(5) = -.388, p = .714$. NON scores decreased from those receiving the BIDR-6 first ($M = 9.19, SD = 4.09$) to those receiving the I/E-R first ($M = 8.80, SD = 4.79$), but also not by a significant margin $t(45) = -.297, p = .768$ (see Table 1 and Figure 3).

**Discussion**

The results of this study may assist in untangling religion’s unclear relationship with SDR. This study indicates that context effects can influence subjects, causing them to alter their answers to non-religious survey items depending on whether or not they believe the study to be religious in nature. It was hypothesized subjects who truly lived their religion, those of INT orientation, would be motivated to respond in a more socially desirable manner to surveys they believed to be associated with religious belief in order to represent religion, which they highly value, in a positive light. However, the opposite trend was indicated; INT-oriented subjects answered in a less socially desirable manner. Further, it was hypothesized those who view religion as a means to an end, those of EXT orientation, would not be affected by the religious nature of a study. However, it was demonstrated EXT-oriented individuals appear to have a
tendency to respond in a more socially desirable fashion to surveys associated with religion. Individuals classified as PRO or NON religiously oriented, as hypothesized, showed very little change in socially desirable responding. Finally, also consistent with prediction, individuals who tend to openly explore religion, those of a QUE orientation, showed very little difference in their responses. While none of the above effects were statistically significant for the individual religious types themselves the cumulative weighted effect of the three orientations has been shown to significantly predict variance in responses to non-religious items within a religious context.

This study indicates support for the assertion that INT-oriented subjects tend to internalize their adopted beliefs. Rather than fallaciously representing themselves positively when religion is brought to mind, they instead represented themselves in a less favorable light. This effect could be reflective of their religion’s general mandate for adherence to honesty, thereby producing accurate responses on the BIDR-6, or perhaps humility, in which they may be answering in an inaccurately self-deprecating manner. Further study is needed to address this question. Additionally, the INT relationship with their God could be more salient to them than other religious types and, as such, bringing religion to mind for them may be a more powerful priming agent and cause them to respond consistent with previous findings on the priming of super-natural watchers (Pichon, Boccato, Giulio & Saroglou, 2007).

The results of this study also seem to lend support to the description of EXT as engaging in religious activities for some reason other than the internalization of spiritual/religious experience itself. When presented with questionnaire items they believe to be religious in nature they answered in a manner consistent with religious expectations, but unlikely to be true. Presumably individuals who have not internalized religious mandates would mimic the behaviors
observed in, and espoused by, individuals within the religious community in order to achieve the secondary gains enjoyed by believers. Additionally, the EXT experience of God may be less personally salient, thereby failing to elicit the effect seen in priming a supernatural presence.

Previous research examining the characteristics of PRO and NON religious orientation is sparse, and no precedent investigating their propensity for SDR could be located. As such interpretation of the obtained results as applied to these categories is highly speculative. However, consistent with previous criticism of the INT/ENT delineation (Trimble, 1997; Richards, 1994), the difference between these groups may be attributed to the measurement of accurate responses by religious individuals who truly engage in prosocial behavior contrasted with less religious, and/or less prosocial, individuals. This explanation, while contraindicated by this study for the INT/ENT typologies due to the response interaction on SDR, could still explain the difference in PRO and NON due to their apparent immunity to context effects. It is also possible that PRO individuals engage in SDR regardless of religious association, whereas NON individuals are more willing to honestly represent themselves. Perhaps, as speculated by Kahoe (1976), PRO participants are subject to a yea-saying, and NON participants a nay-saying, response set where inherent tendencies toward optimism or pessimism, respectively, affect responses regardless of survey subject matter. Further, SDR may be the defining characteristic of the PRO population; this could lend explanation for their apparent willingness to answer positively to anything related to religion, which they may regard as socially desirable.

QUE oriented individuals believe challenging their religious beliefs is a desirable activity, and are open to information which may call into question their fundamental assumptions regarding religion. Presumably these individuals would not value a more positive, or negative, self-representation with regard to religion because outward behaviors are deemed secondary to
their primary motivation of exploration. The results of this study appear consistent with this description. When presented with an inventory of self-representation their responses were nearly unaffected by its association with religion. Due to the very small change in SDR scores it appears priming a supernatural agent had no effect on this group.

Priming as a primary causative agent would not appear to explain the results obtained in this study considering QUE, PRO and NON oriented individuals remained virtually unaffected by the presentation of religious material. In addition, a supernatural prime should act similarly on all types, but the opposing effects of test order on INT and EXT would seem to contradict this assumption. The religious priming effect in previous studies could hypothetically be accounted for by INT individuals acting in accordance to their true beliefs and EXT individuals acting in ways they think is appropriate, thereby creating a cumulative effect across types. However, priming can not be completely explained away as causative by these results. Priming is thought to activate unconscious motivation; it is possible priming acts to implicitly activate a religious typological construct, which in turn is translated into actions consistent with the individuals’ construct-orientation. In other words, if the orientation-typology is considered the essence of an individual’s subjective religious experience, its expression, for instance in the form of more honest or altruistic behavior, would be expressed the same by all orientations. If this is the case then priming would not be directly motivating behavioral change, rather it sets in motion the typological construct, which then influences the measured behavior. This could indicate that the EXT, rather than being conceptualized as disingenuous, is actually acting in accordance with his true religious experience as he understands it. Religion, then, may act as a sign post pointing towards an individual’s world-construct, and this fits for all types. The INT construct is one of openness, honesty and humility, and a complete self-identification with those ideas in an attempt
to transcend the self. The EXT construct is one of “do good,” rather than “be good,” and, as such, their personal world-orientation exists at the level of the self. The quest construct may include religious belief as a part of their experience, but goes beyond religion into a way of understanding their world. They subsume religion within a larger perspective; the attitude they bring to religion is the same as they bring to self-reflection, relationships or ethics.

Reinterpretation of previous studies may be made possible in light of this study’s findings. For instance, the oft-cited study by Batson (Batson, Naifeh, & Pate, 1978), indicating INT answered a racial attitude survey as if they weren’t prejudiced, but actually were, could have been confounded by the phenomenon described in this study. Although the current study does not directly address the question of prejudice, bigotry is generally incongruent with religious belief. Batson primed religion heavily in his study, and INT subjects, if answering more honestly, may have been truly representing a prejudiced attitude and the EXT subjects concealing theirs. Alternatively, INT subjects may have actually been equally (or less) prejudice than EXT subjects, but responses were confounded by the EXT’s propensity for more socially acceptable answers. There also may have been an additive combination of both phenomena, or the effect may not have significantly contributed. Future research regarding religion, in light of these findings, should be careful to control for the effect of pre-knowledge of the religious nature of their study or risk introducing context effects which could significantly confound their validity and reliability.

Limitations

Assigning participants to discrete religious-type groups for detailed analysis proved to be an unexpected challenge. Previous research exploring religious typology has generally used the I/E-R to correlate religious types with other characteristics, for instance looking at the
relationship between religious type and phenomena such as prejudice (Batson, Schoenrade, & Ventis, 1993) or altruism (Batson, et al, 1989). Very few studies have used it to establish four quasi-independent variables, and in those that have there has not been a consistent standard for defining the groups, despite the recommendation put forth by Donahue (1985). Previous studies utilizing the INT, EXT, PRO, ANTI and QUE as 5 distinct quasi-independent variables could not be located, and as such, this procedure lacks a validating precedent.

Using mostly college-aged participants may lead to a lack of generalizability of the results and may have contributed to the small sample sizes for those scoring as clearly INT (N = 18) or EXT (N = 4). In this study 54 of the 94 participants did not fall neatly into INT or EXT categories, and every category, including QUE, had subjects that fell into multiple categories despite 75 of 94 who expressed a specific religious affiliation. Young participants may not yet have solidified their religious belief. Generally, the early 20’s are often a time for self-exploration, which could account for the relatively high number of subjects (N = 40) scoring above the midpoint on the QUE inventory, and possibly contributed to the low number of EXT. Adherence to religion may offer fewer extrinsic benefits to college-aged individuals than, for instance, a forty-something individual managing career, family, and the creeping realization of their own mortality; compared with older adults, college-aged social and personal needs are often satisfied differently and more readily, and the end of life, for them, seems an eternity away. Additionally, Allport and Ross (1967) found a correlation between EXT and low education, and considering the sample was all college students it may, in part, account for the low numbers of subjects scoring high on the EXT scale.
Future Directions

Although context effects are demonstrated, the causative mechanism remains open to investigation. Religious questions may elicit two competing motivations: a reaction to the presence of a supernatural agent, like the invisible ghost, which would suppress dishonesty, or a desire to represent your religious group positively, which could encourage impression management. The nature of this causative mechanism may have been hinted at by the moderate interaction shown by intrinsics and extrinsics, contrasted with the near total lack of effect demonstrated by all three other categories, but this remains to be demonstrated clearly. Strack’s (1992) contention that carryover effects may operate on both the implicit level, without the individual’s awareness, and on the explicit level, with the individual’s knowledge, may correspond with Paulhus’ (1984) subcategories of self-deception and impression management for socially desirable responding; this possible parallel presents an intriguing research question and could further elucidate the phenomena at work during religious studies.

Replication of this design using a broader and larger sample from the population is warranted. If this effect can be demonstrated in a more diverse population then establishing a threshold for its elicitation might be enlightening; for instance, does giving subjects a religious pre-screening test one month prior to the investigation still elicit the effect, or one week, or one day? An investigation as to whether a religious setting, such as a religious-affiliated university, has an effect on responses may also be warranted.
References


Table 1

*Means (Standard Deviations) for Religious Orientation and Test Order*

<table>
<thead>
<tr>
<th>Religious Orientation</th>
<th>BIDR-6 First</th>
<th>I-E/R &amp; Quest scales First</th>
<th>t</th>
<th>df</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>INT</td>
<td>12.58 (6.91)</td>
<td>9.50 (4.51)</td>
<td>-.986</td>
<td>16</td>
<td>.339</td>
</tr>
<tr>
<td>EXT</td>
<td>6.33 (1.53)</td>
<td>12.00 (5.66)</td>
<td>1.776</td>
<td>3</td>
<td>.174</td>
</tr>
<tr>
<td>QUE</td>
<td>12.00 (4.58)</td>
<td>11.60 (3.78)</td>
<td>-.135</td>
<td>6</td>
<td>.897</td>
</tr>
<tr>
<td>PRO</td>
<td>14.50 (6.36)</td>
<td>12.40 (6.50)</td>
<td>-.388</td>
<td>5</td>
<td>.714</td>
</tr>
<tr>
<td>NON</td>
<td>9.19 (4.09)</td>
<td>8.80 (4.79)</td>
<td>-.297</td>
<td>45</td>
<td>.768</td>
</tr>
</tbody>
</table>
Figure 1. Interaction of average scores on the SDR scale between intrinsic and extrinsic religious orientation and test order.

Figure 2. Interaction of average scores on the SDR scale between intrinsic, extrinsic and quest religious orientation and test order.

Figure 3. Interaction of average scores on the SDR scale between intrinsic, extrinsic, quest, pro and anti religious orientation and test order. Bar graph represents the same average scores on the SDR scale, but allows for clearer representation of standard error.
Appendix A

Balanced Inventory of Desirable Responding (BIDR)

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

1  2  3  4  5  6  7
Not true Very true

1. My first impressions of people usually turn out to be right.

2. It would be hard for me to break any of my bad habits. (-)

3. I don’t care to know what other people really think of me.

4. I have not always been honest with myself. (-)

5. I always know why I like things.

6. When my emotions are aroused, it biases my thinking. (-)

7. Once I’ve made up my mind, other people can seldom change my opinion.
8. I am not a safe driver when I exceed the speed limit. (-)

1 2 3 4 5 6 7
Not true Very true

9. I am fully in control of my own fate.

1 2 3 4 5 6 7
Not true Very true

10. It’s hard for me to shut off a disturbing thought. (-)

1 2 3 4 5 6 7
Not true Very true

11. I never regret my decisions.

1 2 3 4 5 6 7
Not true Very true

12. I sometimes lose out on things because I can’t make up my mind soon enough. (-)

1 2 3 4 5 6 7
Not true Very true

13. The reason I vote is because my vote can make a difference.

1 2 3 4 5 6 7
Not true Very true

14. My parents were not always fair when they punished me.

1 2 3 4 5 6 7
Not true Very true

15. I am a completely rational person.

1 2 3 4 5 6 7
Not true Very true

16. I rarely appreciate criticism. (-)

1 2 3 4 5 6 7
Not true Very true

17. I am very confident of my judgments.

1 2 3 4 5 6 7
Not true Very true
18. I have sometimes doubted my abilities as a lover. (-)

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<tbody>
<tr>
<td>Not true</td>
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<td></td>
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<td>Very true</td>
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</table>

19. It’s all right with me if some people happen to dislike me.

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<td>Not true</td>
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<td>Very true</td>
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</table>

20. I don’t always know the reasons why I do the things I do. (-)

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<tr>
<td>Not true</td>
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21. I sometimes tell lies if I have to. (-)

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<td>Not true</td>
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<td>Very true</td>
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22. I never cover up my mistakes.

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<td>Not true</td>
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23. There have been occasions when I have taken advantage of someone. (-)

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<tbody>
<tr>
<td>Not true</td>
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<td>Very true</td>
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</table>

24. I never swear.

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<tr>
<td>Not true</td>
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<td>Very true</td>
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</table>

25. I sometimes try to get even rather than forgive and forget. (-)

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<tbody>
<tr>
<td>Not true</td>
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<td></td>
<td>Very true</td>
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</table>

26. I always obey laws, even if I’m unlikely to get caught.

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<tbody>
<tr>
<td>Not true</td>
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<td>Very true</td>
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</tbody>
</table>
27. I have said something bad about a friend behind his or her back. (-)

1               2               3               4               5               6               7
Not true        Very true

28. When I hear people talking privately, I avoid listening.

1               2               3               4               5               6               7
Not true        Very true

29. I have received too much change from a salesperson without telling him or her. (-)

1               2               3               4               5               6               7
Not true        Very true

30. I always declare everything at customs.

1               2               3               4               5               6               7
Not true        Very true

31. When I was young I sometimes stole things. (-)

1               2               3               4               5               6               7
Not true        Very true

32. I have never dropped litter on the street.

1               2               3               4               5               6               7
Not true        Very true

33. I sometimes drive faster than the speed limit. (-)

1               2               3               4               5               6               7
Not true        Very true

34. I never read sexy books or magazines.

1               2               3               4               5               6               7
Not true        Very true

35. I have done things that I don’t tell other people about. (-)

1               2               3               4               5               6               7
Not true        Very true
36. I never take things that don’t belong to me.

1  2  3  4  5  6  7
Not true          Very true

37. I have taken sick-leave from work or school even though I wasn’t really sick. (-)

1  2  3  4  5  6  7
Not true          Very true

38. I have never damaged a library book or store merchandise without reporting it.

1  2  3  4  5  6  7
Not true          Very true

39. I have some pretty awful habits. (-)

1  2  3  4  5  6  7
Not true          Very true

40. I don’t gossip about other people’s business.

1  2  3  4  5  6  7
Not true          Very true
Appendix B

Religious orientation measures.

Please indicate the extent to which you agree or disagree with each of the items by using the following scale:

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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1. I enjoy reading about my religion.

2. I go to church because it helps me to make friends.

3. It doesn’t much matter what I believe so long as I am good.

4. It is important for me to spend time in private thought and prayer.

5. I have often had a strong sense of God’s presence.

6. I pray mainly to gain relief and protection.
7. I try hard to live all my life according to my religious beliefs.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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8. What religion offers me most is comfort in times of trouble and sorrow.

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<tr>
<td>I strongly disagree</td>
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9. Prayer is for peace and happiness.

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<tr>
<td>I strongly disagree</td>
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10. Although I am religious, I don’t let it affect my daily life.

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11. I go to church mostly to spend time with my friends.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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12. My whole approach to life is based on my religion.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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13. I go to church mainly because I enjoy seeing people I know there.

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<td>I strongly disagree</td>
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<td>I strongly agree</td>
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14. Although I believe in my religion, many other things are more important in my life.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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</tbody>
</table>
15. As I grow and change, I expect my religion also to grow and change.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

16. I am constantly questioning my religious beliefs.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

17. It might be said that I value my religious doubts and uncertainties.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

18. I was not very interested in religion until I began to ask questions about the meaning and purpose of my life.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

19. For me, doubting is an important part of what it means to be religious.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

20. I do not expect my religious convictions to change in the next few years.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

21. I find religious doubts upsetting.

1 2 3 4 5 6 7
I strongly disagree I strongly agree

22. I have been driven to ask religious questions out of a growing awareness of the tensions in my world and in my relation to the world.

1 2 3 4 5 6 7
I strongly disagree I strongly agree
23. My life experiences have led me to rethink my religious convictions.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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24. There are many religious issues on which my views are still changing.

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<tbody>
<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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25. God wasn’t very important to me until I began to ask questions about the meaning of my own life.

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26. Questions are far more central to my religious experience than are answers.

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<tr>
<td>I strongly disagree</td>
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<td>I strongly agree</td>
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Appendix C

Demographic and religious description information.

Age:

Gender:  M    F

Were you anticipating deception in this study?    Yes / No

What is your religious affiliation (if any)?

How often, if at all, do you socialize with a group whose common interest is religious (i.e. church, bible study, chapel, etc.) per month?

Were you raised in your religious tradition or did you convert?    Raised / Converted

Do you anticipate being more, less, or about the same degree of religious/spiritual in the future?    More / Less / Same

Thinking about your family environment while you were growing up, how important was religion/spirituality?

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<tbody>
<tr>
<td>Religion Not Important</td>
<td>Religion Very Important</td>
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Generally, on a day to day basis, how important is religion to you currently?

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<tr>
<td>Religion Not Important</td>
<td>Religion Very Important</td>
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Approximately how many times per week do you consciously take God, Buddha, Allah or any other religious/supernatural entity into consideration when you make a decision?

# ______

If you received the Religiosity form second, what did you think this study was measuring while you filled out the first form?

Comments:
Appendix D

Informed Consent Form

Inventory of Cognitive and Behavioral Population Characteristics

Investigator: Michael Judd, mwj001@marietta.edu
Advisor: Dr. Alicia Doerflinger, alicia.doerflinger@marietta.edu

The purpose of this study is to survey general attitudes, thoughts and behaviors. The data obtained will be compiled and compared to national averages on similar inventories completed in the 1980’s and 90’s. All information you provide will remain strictly confidential. This study has been approved by the Marietta College Human Subjects Committee.

Participation in this study will take approximately 30 minutes. You will be given a combined total of 77 questions in three separate packets; upon completion of each packet the investigator will give you the next. The risks involved in this study are no greater than those associated with normal daily activity. Subjects will receive class credit for participation.

I understand that I can withdraw from the experiment at any time without penalty. I am also aware that all information I provide will remain confidential and will only be used by the researchers for scientific investigation. I understand that I may contact Dr. Alicia Doerflinger (ali.doerflinger@marietta.edu), Michael Judd, mwj001@marietta.edu or Gloria M. Stewart, EdD, PA-C, Marietta College Human Subjects Committee Chair, 740-376-4458, stewartg@marietta.edu with any questions I may have in the future.

At this time I have no further questions.

I have read and understand the informed consent and agree to participate in this study.

_________________________________________   ________________________
Participant’s Signature                        Date

_________________________________________
Participant’s Name
Appendix E

Online sign-up description of study

Participants are needed for a survey study regarding attitudes and behaviors. The study involves filling out three questionnaires and will take 30 to 45 minutes to complete. Participants will receive course credit for their participation.