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Using Latent Profile Regression to Explore the Relationship between Religiosity and Work-related Ethical Judgments

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Cover Page Footnote

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INTRODUCTION

Kish-Gephart, Harrison, and Trevino¹ commented that researchers have been interested in ethical judgments and behavior at work for over 30 years. Further, they noted this interest appears to be growing given 170 empirical papers were published between 1996 and 2005. This burgeoning interest is not surprising given the highly-publicized ethical breaches of organizations such as Enron, WorldCom, and Arthur Anderson along with recent ethical violations involving the interaction between Wall Street and the mortgage and real estate industries. These cases clearly demonstrate that unethical behavior can be costly to organizations, investors, and society at large.

Although many approaches can be taken in efforts to better understand the factors that influence ethical judgments and behavior in work settings, one avenue receiving increasing attention is that of religion.² World religions offer their adherents principles, values, norms and beliefs (often documented in religious codes such as the Bible or Qur'an) for making right/wrong, ethical/unethical choices.³ Given ethics essentially involves a basic choice between right and wrong, religiosity may influence ethical judgments in the workplace. As Cunningham⁴ put it, religion "provides us with a prophetic grammar for those times when it may well be imperative to resist a course of action with an explicit no and, at the same time also supplies the vocabulary to assert the reasons for that no."

In the United States, having a belief in a higher being or God is quite pervasive. Gallup's surveys consistently show that nine in 10 Americans express a belief in God.⁵ Further, Gallup reported that more than 45 percent of respondents

¹ Jenifer J. Kish-Gephart, David A. Harrison, and Linda K. Treviño, "Bad Apples, Bad Cases, and Bad Barrels: Meta-analytic evidence about sources of unethical decisions at work," *Journal of Applied Psychology*, 95 (2010): 1.

² Patricia D. Corner, "Workplace Spirituality and Business Ethics: Insights from an Eastern Spiritual Tradition," *Journal of Business Ethics*, 85 (2009): 377-378; Robert W. Kolodinsky, Robert A. Giacalone, and Carole L. Jurkiewicz, "Workplace Values and Outcomes: Exploring Personal, Organizational, and Interactive Workplace Spirituality," *Journal of Business Ethics*, 8 (2008): 465.

³ K. Praveen Parboteeah, Martin Hoegl, and John B. Cullen, "Ethics and Religion: An Empirical Test of a Multidimensional Model," *Journal of Business Ethics*, 80 (2008): 387-388.

⁴ Lawrence S. Cunningham, "Spirituality and Religion: Some Reflections," In *Business, Religion, and Spirituality*, ed. Oliver F. Williams (Notre Dame: University of Notre Dame Press, 2003), 180-181.

⁵ Laura L. Nash, "A Spiritual Audit of Business: From Tipping Point to Tripping Point," In *Business, Religion, and Spirituality*, ed. Oliver F. Williams (Notre Dame: University of Notre

who were religious claimed to have some awareness of God on the job.⁶ In a related vein, King⁷ has noted that, although religion plays a significant role in the lives and interactions of individuals, organizational scholars have only lightly and narrowly explored how religion's influence is manifested in the workplace. King⁸ concluded that "it is time, wholly appropriate, and important for the management field, to apply its expertise to systematically exploring the nexus of these two important and enduring human institutions, religion and work."

Although religiosity appears to be a potentially important variable that can explain work-related ethical judgments and choices, empirical research confirming such a relationship remains elusive.⁹ Previous studies have yielded inconsistent results, with some studies finding negative relationships between religiosity and ethics, while others have found no relationships, and still others have found positive associations. Although a complete review of these studies is beyond our scope these inconsistent findings led Hood, Spilka, Hunsberger, & Gorsuch¹⁰ to describe the relationship between religiosity and ethical outcomes as 'something of a roller coaster ride.'

We believe one major contributing factor to the inconsistent results regarding the relationship between religiosity and ethics is that there currently exists no well-accepted theory relating the two. We are not alone in our observation. For example, Giacalone and Jurkiewicz¹¹ noted that an elemental weakness in the religiosity and ethics area is the lack of a sound theoretical base while Dehler and Welsh¹² pointed out that despite the expanding literature on the

Dame Press, 2003), 54.

⁶ Laura L. Nash and Scotty McLennan, *Church on Sunday, Work on Monday: The Challenge of Fusing Christian Values with Business Life*. (San Francisco, CA.: Jossey-Bass, 2001), 22.

⁷ James E. King, "(Dis)Missing the Obvious: Will Mainstream Management Research Ever Take Religion Seriously?" *Journal of Management Inquiry*, 17 (2008): 214.

⁸ King, 221.

⁹ Justin G. Longenecker, Joseph A. McKinney and Carlos W. Moore, "Religious Intensity, Evangelical Christianity, and Business Ethics: An Empirical Study," *Journal of Business Ethics*, 55 (2004): 375; Parboteeah et al. (2008): 388; Gary R. Weaver and Bradley R. Agle, "Religiosity and Ethical Behavior in Organizations: A Symbolic Interactionist Perspective," *Academy of Management Review*, 27 (2002): 77.

¹⁰ Ralph W. Hood Jr., Bernard Spilka, Bruce Hunsberger, and Richard Gorsuch, *The Psychology of Religion: An Empirical Approach* (New York, NY: Guilford Press, 1996), 341.

¹¹ Robert A. Giacalone, and Carole L. Jurkiewicz, "Toward a Science of Workplace Spirituality," in *Handbook of Workplace Spirituality and Organizational Performance*, ed. Robert A. Giacalone and Carole L. Jurkiewicz (Armonk, NY: M.E. Sharpe, Inc., 2003), 11.

¹² Gordon E. Dehler and M. Ann Welsh, "The Experience of Work: Spirituality and the New Workplace," in *Handbook of Workplace Spirituality and Organizational Performance*, ed. Robert A. Giacalone and Carole L. Jurkiewicz (Armonk, NY: M.E. Sharpe, Inc., 2003), 116.

effects of religiosity on ethical judgments, there has been little accompanying theoretical development. Thus, while numerous theories exist (e.g., cognitive appraisal theory, social-cognition theory, impression management theory, “garbage can approach,” Hunt-Vitell model, etc.) which include the general notion that religiosity may influence ethical behavior, none of these theories clearly delineates *when* and *under what conditions*, and *by means of what mechanisms* religiosity ought to relate to ethical outcomes.

Although our search of the relevant literature did not identify a well-accepted and empirically tested theory relating religiosity to ethics, Weaver and Agle¹³ have offered perhaps the most compelling ideas concerning the potential relationship between religiosity and ethical judgments and behavior at work. Their ideas utilize social structural symbolic interactionist theorizing about self-identity and, while their intent was not to present a testable theory, model, or set of research questions or propositions per se, they do, in our view, offer the most lucid expression of general notions concerning when, and under what circumstances religiosity ought to relate to ethical outcomes. Further, and more importantly, they relate their ideas to foundational constructs that previous research has found to be critical for measuring and understanding religiosity.

Given limited theories available for testing the relationship between religiosity and ethical judgments, this paper takes a more inductive, exploratory approach. The goal of this research was to gather relevant data and systematically analyze that data using latent profile regression in an inductive fashion. The results of our analysis can provide a better understanding concerning the aspects of religiosity that do and do not relate to ethical judgments at work. In the next section, we present the conceptual framework for our study. We follow this with an overview of our research methodology, including an overview of latent profile regression. Next, we present the results of our study. This is followed by a section discussing the implications of our results. We close with a discussion of limitations to this study and the practical implications of this work.

Symbolic Interactionism

According to symbolic interactionism,¹⁴ individuals develop a sense of self-identity by means of the various roles they play. For example, a person may

¹³ Weaver and Agle (2002).

¹⁴ P.J. Burke, “The Self: Measurement Requirements from an Interactionist Perspective, *Social Psychological Quarterly*, 43 (1980): 18-29; Jon W. Hoelter, “The Structure of Self-conception: Conceptualization and Measurement, *Journal of Personality and Social Psychology*, 49 (2008): 1392-1407; Sheldon Stryker, *Symbolic Interactionism; A Social Structure Version*, (Menlo Park, CA: Benjamin/Cummings, 1980); Sheldon Stryker and Richard Serpe, “Commitment, Identity Salience, and Role Behavior: Theory and Research Example,” in *Personality, Roles, and Social Behavior* ed. W. Ikes and E.S. Knowles (New York, Springer-Verlag, 1982).

identify herself as a parent, a wife, a sister, and an accountant. Similarly, individuals may also identify themselves as Christians or a believer of one of any number of religions. Symbolic interactionism suggests that some perceived roles will be more important for self-identity than will others. This differentiation of roles is based in large part on the role's position within an overall hierarchy of roles. Thus, the higher in the hierarchy any particular role is, the higher will be the salience it has in the individual's sense of self-identity.

Symbolic interactionism also asserts that roles are associated with specific expectations. For example, the role of a husband encompasses certain societal and familial expectations that a husband will love his wife, be concerned about the wife's well-being, and spend quality time with his wife, etc. Further, these role expectations are strengthened as an individual has increased contact with others associated with a specific role. That is, role expectations are strengthened through repeated social interactions with like individuals.

Based on their review of the literature, Weaver and Agle¹⁵ identified several foundational religious constructs likely to play key roles in applying symbolic interactionism to religiosity. First, in order for one's religiosity to be related to ethical judgments, one must first have a sense of being religious, or what Weaver and Agle¹⁶ refer to as a religious identity. A key aspect of one's religious identity includes one's fundamental belief in the existence of a higher being (i.e., atheist vs. agnostic vs. theist). Another important aspect of one's religious identity is the extent to which one perceives oneself as being religious (e.g., general religiosity). For non-religious individuals who self-identify as atheists, a relationship between religiosity and ethical judgment cannot exist. Note that we are not suggesting that individuals who are not religious cannot or do not behave in ethical ways. We believe they certainly can and do. Our interest was not to evaluate whether religious individuals would be more ethical than non-religious individuals. Rather, our interest was in better understanding the mechanisms that relate religiosity to ethical judgments for those individuals who perceive themselves as being religious.

Second, based on symbolic interactionism, Weaver and Agle¹⁷ proposed that the extent of the relationship between religiosity and ethical outcomes will depend on the salience of the role expectations and self-identity associated with a given religion. Therefore, a second key religiosity variable identified by Weaver and Agle¹⁸, likely to be related to ethical outcomes, is religious identity salience.

¹⁵ Weaver and Agle, 2002.

¹⁶ Weaver and Agle, 2002, 80-81.

¹⁷ Weaver and Agle, 2002.

¹⁸ Weaver and Agle, 2002, 81.

Weaver and Agle¹⁹ state that “...it should be no surprise that findings are often mixed, and explained variance low, in studies of the impact of religiosity on ethical behavior that do not take identity salience into account.”

A third important aspect of religiosity identified by Weaver and Agle²⁰ is religious motivation orientation (RMO). RMO assesses a key religiosity construct representing the essence of the motivational influences attracting individuals to religion. Meadow and Kahoe²¹ argued that RMO has had more impact on the empirical study of religion than any other single measure and further concluded that all serious organizational scholars interested in measuring religiosity should become familiar with RMO.

King and Crowther²² described intrinsically motivated religious persons as those who view their religious practice as a goal in itself. That is, true believers who engage in religious practice for its own sake. Such individuals are described as having a pure, direct motivation towards their religious practice. In contrast, King and Crowther²³ described extrinsically religious persons as those who view their practice of religion as a means to obtain social or personal ends such as comfort, acceptance, or security.

Weaver and Agle²⁴ emphasized that we might not expect religiosity to have a positive influence on ethical judgments for those individuals who are extrinsic in their RMO. Since those with high levels of extrinsic RMO are primarily engaged in religion as a means to an end (e.g., peace, comfort, friendship, etc.), they are less likely to look to their religious role expectations as a cognitive framework or template to guide them in their day-to-day decisions and behavior. Indeed, to the extent that they do not focus on religious role expectations, those with an extrinsic RMO might be more likely to judge ethically questionable scenarios as being acceptable. On the other hand, intrinsically motivated individuals are much more likely to attend to the role expectations proscribing unethical behavior as espoused by their given religion. Thus, intrinsically motivated individuals might be more likely to use their religious beliefs and practices as a cognitive framework, template or guide in day-to-day

¹⁹ Weaver and Agle, 2002, 86.

²⁰ Weaver and Agle, 2002, 88.

²¹ M.J. Meadow and R.D. Kahoe, *Psychology of Religion: Religion and Individual Lives*. (New York, NY.: Harper & Row, 1984).

²² James E. King and Martha R. Crowther, “The Measurement of Religiosity and Spirituality: Examples and Issues from Psychology, *Journal of Organizational Change Management*, 17 (2004): 86-87.

²³ King and Crowther, 2004, 86-87.

²⁴ Weaver and Agle, 2002, 88-89.

judgments, decisions, and behavior.

To explore the relationships among these important religiosity constructs and how they relate to ethical judgments, we formulated two research questions.

Research Question 1: Among non-atheists, can religious identity (theist vs. agnostic and general religiosity), religious identity salience, intrinsic RMO, and extrinsic RMO be used to identify patterns of scores, or profiles, of individuals who possess similar religious traits?

Research Question 2: If such profiles can be identified, is membership in particular subgroups related to, or *prognostic*, of ethical judgments in the workplace?

METHOD

Measures of Religiosity

Theism. This single-item measure was designed for this study by the first author to assess whether or not participants possessed a religious identity. Specifically, participants were asked whether they viewed themselves as ‘atheists,’ ‘agnostics,’ or ‘theists’. Thus, participants classified themselves based on a belief in a higher being or God. For example, atheists indicated that they definitely did not believe in a higher being or God, while agnostics indicated they were uncertain and theists indicated they definitely did believe in a higher being or God (see Appendix A for scale). Thus, according to these descriptions, an atheist would not possess a religious identity, nor perceive any religious role in their lives.

General Religiosity. In addition to theism, a sense of one’s religious identity was also obtained by a measure of general religiosity. General religiosity consisted of a three-item measure that asked participants about frequency of church attendance and prayer, and how religious they perceived themselves to be. Previous research has found this measure to have acceptable reliability of .79.²⁵ In the present study, the Chronbach’s α of the general religiosity scale was .80. Hereafter, the average of the scale items will be referred to as ‘general religiosity’.

Religious Identity Salience

Hoelter²⁶ discussed eight dimensions individuals utilize in evaluating their various roles (e.g., parent, spouse, employee, etc.) as they relate to their self-

²⁵ Annette Mahoney et al., “A Higher Purpose: The Sanctification of Strivings in a Community Sample,” *International Journal for the Psychology of Religion*, 15 (2005): 245.

²⁶ Hoelter, 1985.

identity. One of these dimensions is identity salience which he defines as "...the perceived relative importance of a particular identity for defining one's self."²⁷ Hoelter presented three critical aspects of measuring the salience of any given role utilizing a semantic differential scale format: central to who I am – not central to who I am; important for self-definition – not important for self-definition; and defines me – does not define me. Thus, we measured the salience of one's religious identity using a three-item semantic differential scale utilizing these three critical aspects (see Appendix A for scale). Hoelter found the mean Chronbach's α coefficient across his self-concept scales for a sample of 342 undergraduates rating seven different roles (student, friend, son/daughter, worker, athlete, religious person, dating person) to be .73²⁸. In the current study the Chronbach's α was .95. Hereafter the average of the items on this scale will be referred to as 'religious identity salience.'

Intrinsic/Extrinsic Revised (I/E-R) Scale. Employees' RMO was assessed using the 12 – item Intrinsic/Extrinsic Revised Scale (I/E-R) adapted by Gorsuch and McPherson²⁹ from Allport and Ross'³⁰ Religious Orientation Scale. Items were scored using a five-point rating scale, from 1 = strongly disagree to 5 = strongly agree. Previous research has found the I/E-R to have acceptable reliability, with a Chronbach's α of .83 for the Intrinsic-Revised Scale and .65 for the Extrinsic-Revised Scale.³¹ In the present study, the Chronbach's α of the Intrinsic-Revised Scale was .69 and .88 for the Extrinsic-Revised Scale (see Appendix A for scale). Hereafter we will refer to the item averages of the Intrinsic-Revised Scale as 'intrinsic RMO' and the item averages of the Extrinsic-Revised Scale as 'extrinsic RMO.'

Measure of Ethical Outcome

One weakness uncovered in our review of the literature examining the relationship between religiosity and ethical behavior is the over-use of measures that have directly asked respondents whether they have actually engaged in unethical behaviors. Parboteeah et al.³² and Weaver and Agle³³ have both cautioned that such questions have likely elicited socially desirable responses –

²⁷ Hoelter, 1985, 1395.

²⁸ Hoelter, 1985, 1400.

²⁹ Richard L. Gorsuch and Susan E. McPherson, "Intrinsic/Extrinsic Measurement: I/E-Revised and Single-Item Scales," *Journal for the Scientific Study of Religion*, 28 (1989): 348-354.

³⁰ Gordon W. Allport and Michael J. Ross, "Personal Religious Orientation and Prejudice," *Journal of Personality and Social Psychology*, 5 (1967): 432-443.

³¹ Gorsuch and McPherson, 1989, 352.

³² Parboteeah et al., 2008, 389.

³³ Weaver and Agle, 2002, 90-91.

thereby “masking” potentially meaningful variance in ethical measures, resulting in misleading, inconsistent results. Therefore, in the present study we elected to use a measure that circumvented this issue.

Individual Beliefs about Organizational Ethics

Froelich and Kottke³⁴ developed a scale that measures employee’s perceived acceptability (i.e., judgments) of 10 ethically-questionable behaviors within an organizational context. Thus, these “ethical judgments” can be viewed as being similar to the ideas presented by Singhapakdi et al.³⁵ who suggested that ethical judgments can be defined as “the perceived degree of ethicalness of a particular action...” or by Reidenbach and Robin³⁶ who defined ethical judgments as “the degree to which a portrayal, event, or behavior is morally acceptable to the individual...” The scale consists of 10 items and utilizes a 7-point numerical rating scale where 1 = ‘Strongly Disagree’ and 7 = ‘Strongly Agree.’ The items are averaged with higher values indicating more perceived acceptability of the ethically-questionable situations (see Appendix A for scale). Froelich and Kottke³⁷ found the reliability of their scale to be .89. In the present study the Cronbach’s α was .97. Hereafter, ‘IBOE’ will be used to refer to the item averages of the Individual Beliefs about Organizational Ethics scale.

Control Variables

Given previous research has documented moderate to strong relationships between age and ethical outcomes³⁸ and age and religiousness³⁹ as well as gender and ethical outcomes⁴⁰ and gender and religiousness⁴¹ we included both age and

³⁴ Kristina S. Froelich and Janet L. Kottke, “Measuring Individual Beliefs about Organizational Ethics,” *Educational and Psychological Measurement*, 51 (1991): 377-383.

³⁵ Anusorn Singhapakdi et al., “The Influence of Love of Money and Religiosity on Ethical Decision-Making in Marketing,” *Journal of Business Ethics*, 114 (2013): 184.

³⁶ Eric R. Reidenbach and Donal P. Robin, “Toward the Development of a Multidimensional Scale for Improving Evaluations of Business Ethics,” *Journal of Business Ethics*, 90 (1990): 643.

³⁷ Froelich and Kottke, 1991, 380.

³⁸ D. Peterson, A. Rhoads, and B.C. Vaught, “Ethical beliefs of Business Professionals: A Study of Gender, Age and External Factors,” *Journal of Business Ethics*, 31 (2001): 225-232; P.J. Serwinek, “Demographic and Related Differences in Ethical Views among Small Businesses,” *Journal of Business Ethics*, 11 (1992): 555-566.

³⁹ L.M. Chatters and R.J. Taylor, “Age Differences in Religious Participation among Black Adults,” *Journal of Gerontology*, 44 (1989): 183-184; H.G. Koenig, *Aging and God* (New York: Binghamton, 1994).

⁴⁰ Ishmael P. Akaah, “Differences in Research Ethics Judgments between Male and Female Marketing Professionals,” *Journal of Business Ethics*, 8 (1989): 375-381; Timothy P. Cronan,

gender as control variables in our analyses.

Participants

Participants in this study included individuals recruited from the StudyResponse pool of participants hosted by the School of Information Studies at Syracuse University. The StudyResponse database consists of over 50,000 registered, volunteer panelists. StudyResponse sent anonymous and confidential recruiting messages to 330 individuals selected at random who were 19 years of age or older, employed for at least a year, and working in the USA from their data base. Of these 330, 249 completed both waves of our data collection efforts for a response rate of 75 percent.

Demographic information for all 330 solicited individuals was obtained from StudyResponse, permitting comparison of responders (i.e., those who participated in both waves of data collection) to non-responders (i.e., those who did not complete both waves of data collection). Results indicated that responders were significantly different from non-responders based on gender (i.e., responders were more likely to be male; $\chi^2 = 4.91$, $df = 1$, $p < .05$) and education level (i.e., responders were more likely to have a higher level of education; $\chi^2 = 21.59$, $df = 6$, $p < .01$) but were not significantly different based on race ($\chi^2 = 5.04$, $df = 5$, $p > .10$) or age ($t = -.50$, $df = 328$, $p > .10$). Participants were offered a \$5.00 Amazon.com coupon for participating in each of two waves of data collection.

Because atheists would, by definition, lack a religious identity individuals who self-identified as atheists or who did not respond to this item were removed from the sample ($n = 37$). There were 212 complete cases for analysis. Demographic summary information for all participants is reported in Table 1. The average age of participants was 39.25 years ($SD = 10.13$). Although not reported here, a wide range of occupations were represented including account managers, bartenders, medical doctors, and executives (e.g., vice presidents of operations).

DESIGN AND ANALYSIS PROCEDURE

Data Collection Methods.

In order to minimize response set bias and common method variance issues, we collected our data in two waves separated by six weeks. The timeframe of six weeks was selected to ensure that responses from the first wave would have little or no impact on responses from the second wave, but also not to run the risk

Lori N.K. Leonard, and Jennifer Kreie, "An Empirical Validation of Perceived Importance and Behavior Intention in IT Ethics," *Journal of Business Ethics*, 56 (2005): 231-238.

⁴¹ Jessica L. Collett and Omar Lizardo, "A Power-Control Theory of Gender and Religiosity," *Journal for the Scientific Study of Religion*, 48 (2009): 213-231.

of losing participant interest. In addition to collecting data at two points in time, the order of presentation of scales was also varied. This was done to avoid the possibility that participants, in an effort to maintain cognitive consistency, might alter their responses on the ethical judgment scale to be more consistent or commensurate with their responses on our religious measures (or vice versa). In order to standardize our order of presentation of study measures, we therefore took the following steps. First, we made the two waves of data collection roughly equivalent (balanced) in terms of the number of survey items and time required to complete our measures. Second, we collected our data in two separate waves separated by six weeks (in order to minimize any potential effect of having responses to the religious scales affect responses on IBOE). Third, we counterbalanced our data collection. That is, half of the participants (chosen at random) completed the religious and demographic scales in wave 1 and the IBOE in wave 2, whereas the other half of respondents completed the IBOE in wave 1 and the religious and demographic scales in wave 2.

Table 1
Participant demographics^a

Age [mean, (SD)]	39.25 (10.13)
Gender [n, (%)] Male	
Female	99 (46.7) 113 (53.3)
Ethnicity [n, (%)]	
Caucasian	159 (75.0)
Asian or Pacific Islander	22 (10.4)
African American	9 (4.2)
Latin American	9 (4.2)
Native American	5 (2.4)
Religious Denomination [n, (%)]	68 (32.1)
No religious denomination	37 (17.5)
Protestant	42 (19.8)
Non-denominational	36 (7.0)
Jewish	12 (5.7)
Muslim	4 (1.9)

Organizational Tenure [n, (%)]	3 (1.4)
1-2 years	12 (5.7)
3-4 years	34 (16.0)
5-9 years	84 (39.6)
10-14 years	44 (20.8)
15 years or more	34 (16.0)
Education [n, (%)]	
High school graduate	15 (7.1)
Some college	27 (12.1)
Associate's degree	33 (15.6)
Bachelor's degree	96 (45.3)
Master's degree	31 (14.6)
Doctorate degree	8 (3.8)

^a - All demographics correspond to the 212 participants used in our study

Latent Profile Regression

Lubke and Muthén⁴² recently noted that researchers may unknowingly sample from different populations leading to the presence of meaningful sub-groups within a single sample - what has been referred to as sample heterogeneity. Further, the relationships among a set of variables may differ depending on these sub-groups contained in a sample. As an example, Huelsman, Piroch, and Wasieleski⁴³ found that in a sample of 72 undergraduate students that the Santa Clara Strength of Religious Faith Questionnaire was not significantly related to academic dishonesty. However, when the relationship was examined separately by sex, it was discovered that the relationship was significant for females, but not males.

Sometimes this heterogeneity can be captured and dealt with in a straightforward manner. Such is the case when one has reason to believe that sex or age - or any easily-measured demographic variable, might affect the relationship between the independent and dependent variables. In such cases, the variables contributing to heterogeneity are directly measured and can thus be handled as simple covariates or control variables. Other times, however, heterogeneity in a given sample is not captured by observed and measured

⁴² Gitta H. Lubke and Bengt Muthen, "Investigating Population Heterogeneity with Factor Mixture Models, *Psychological Methods*, 10 (2005): 21-39.

⁴³ Melissa A. Huelsman, Joan Piroch, and Davis Wasieleski, "Relation of Academic Dishonesty in a Sample of College Students, *Psychological Reports*, 99 (2006): 739-742.

variables. Heterogeneity can exist as a latent, unobserved, categorical variable. The problem of having unknown heterogeneity within a sample is that the researcher is then left with potentially meaningful subgroups within their sample with no means of identifying which subgroup or subpopulation each individual belongs to. This is especially problematic since the relationships among the independent and dependent variables may depend on this latent sub- grouping variable. In the case of our current data set, the question then becomes “is it possible that our sample contains heterogeneity (i.e., contains meaningful subgroups) whose membership is not captured in our measures of simple demographic variables of sex and age?”

Mixture models are a class of models that allow researchers to identify latent sub-groups within their sample and evaluate the relationships among independent and dependent variables controlling for the latent subgroups. There are many types of mixture models, the most well- known of which include latent class and latent profile models. Both latent class and latent profile analysis are similar to cluster analysis. Cluster analysis is an algorithmic based method that identifies similar groups within a sample using proximity or distance measures. Latent class and latent profile models also help to identify similar groups within a sample, but base the groups on a statistical model. In latent profile analysis, the sample is assumed to be drawn from more than one population, and the latent variable that distinguishes the populations is assumed to follow a mixture of continuous statistical distributions (e.g. several normal distributions with different means). The end goal of latent profile analysis is to

classify individuals within a similar subgroup. In addition to identifying similar groups of individuals, we were also interested in whether the ethical judgments of these groups differed; thus, we used an extension of latent profile analysis, latent profile regression. Latent profile regression (also known as mixture regression) combines the latent profile analysis with a regression analysis, relating the latent subgroups to a dependent variable. For more information on latent variable mixture models, the interested reader is referred to Pastor, Barron, Miller, and Davis⁴⁴ and Gagne⁴⁵ who offer excellent applied introductions to this topic.

Figure 1 presents the latent profile regression model used to describe the relationships among religiosity measures and workplace ethical judgments. According to the model, “overall religious identity” represents a categorical latent

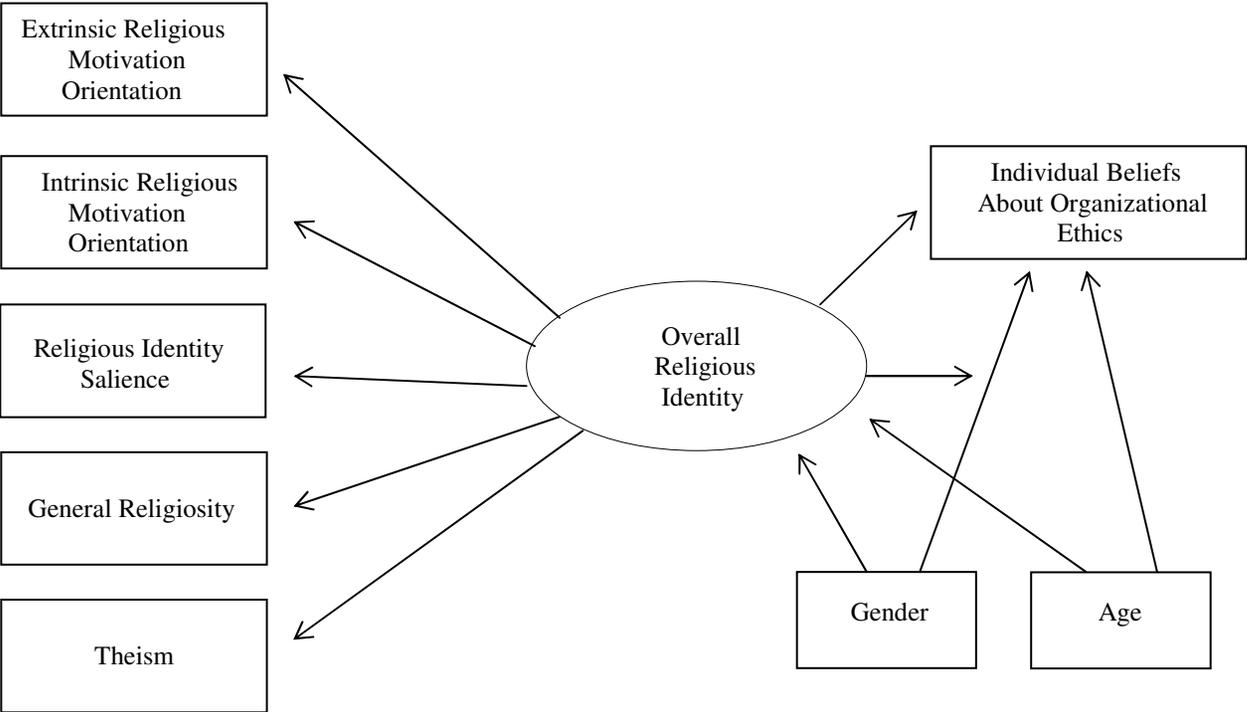
⁴⁴ Dena A. Pastor, Kenneth E. Baron, B.J. Miller, and Susan L. Davis, “A Latent Profile Analysis of College Students’ Achievement Goal Orientation,” *Contemporary Educational Psychology*, 32 (2007): 8-47.

⁴⁵ P. Gagne, “Mean and Covariance Structure Mixture Models,” in *A Second Course in Structure Equation Modeling*, ed. G.R. Hancock and R. Mueller (Greenwich, CT: Information Age, 2006).

variable that classifies individuals according to the reflective indicators of extrinsic RMO, intrinsic RMO, religious identity salience, general religiosity, and theism. These indicators are believed to be reflected by or “caused” by the overall religious identity designation. Implicit within this model is the assumption that the complex relationships among the reflective indicators are accounted for by the latent categorical variable, overall religious identity. These categories represent subpopulations that account, to some degree, for ethical judgments.

In Figure 1, the arrow from overall religious identity to IBOE represents mean differences in IBOE due to overall religious identity controlling for age and gender. This allows for differing means of IBOE to be estimated for each overall religious identity category. The arrows pointing from age and gender to IBOE represent regular regression slope coefficients between the control variables and dependent variable and show the relationships between age and gender to ethical judgments. The arrow pointing from overall religious identity to the slope coefficient between gender and IBOE represents an overall religious identity X gender interaction effect. Inclusion of this interaction implies that the relationship between gender and IBOE differs by latent overall religious identity category. Gender and age were also used as control variables for the religious identity categories, and these relationships are represented by the arrows between the control variables and overall religious identity.

Figure 1
Proposed Model Describing the Relationship between Individual Religiosity Variables
and Ethical Judgments



RESULTS

All model parameters were estimated by maximum likelihood methods using mixture models with numerical integration in Mplus 4.2.1.⁴⁶ The model in Figure 1 was fit using 150 different randomly generated starting values.

The Number of Latent Classes

Our first task in interpreting our model results was to determine whether our data contained meaningful subgroups or classes, and if so, how many classes. Nylund, Asparouhov, and Muthén⁴⁷ note that a “gold standard” method for determining the correct number of classes is still an open issue within mixture modeling. There are two general approaches to selecting the number of latent classes in mixture modeling, methods based on Information Criterion (IC) and methods based on Likelihood Ratio Tests (LRT). The Bayes Information Criterion (BIC) is a commonly accepted IC index for comparing models of varying structures, with lower values indicating superior model fit. The traditional chi-square difference test approach for comparing nested models is an example of an LRT approach. Lo, Mendell, and Rubin⁴⁸ introduced an approximate sampling distribution for the chi-square difference statistic for determining the number of categories in a mixture model.

Nylund et al.⁴⁹ compared several IC and LRT approaches to selecting the number of classes in mixture models. They concluded that the BIC performed best among the IC values studied. Tofighi and Enders,⁵⁰ however, showed that the BIC did not perform well with small samples, and indicated the correct number of classes in only about 10% of the models for samples of size 400. Tofighi and Enders⁵¹ studied the Lo-Mendell-Rubin (LMR) approach to determining statistical significance when making model comparisons using the LRT, and showed that the

⁴⁶ L. Muthen and B. Muthen, “Mplus (Version 4.2.1) [Computer Software]. Los Angeles: Muthen, 2007.

⁴⁷ K.L. Nylund, T. Asparouhov, and B.O. Muthen, “Deciding on the Number of Classes in Latent Class Analysis and Growth Mixture Modeling: A Monte Carlo Simulation Study, *Structural Equation Modeling: A Multidisciplinary Journal*, 14 (2007): 537.

⁴⁸ Y. Lo, N.R. Mendell, and D.B. Rubin, “Testing the Number of Components in a Normal Mixture,” *Biometrika*, 88 (2001): 767-778.

⁴⁹ Nylund et al., 2007.

⁵⁰ D. Tofighi and C.K. Enders, “Identifying the Correct Number of Classes in Growth Mixture Models,” in *Advances in Latent variable Mixture Models*, ed. G.R. Hancock and K.M. Samuelson (Greenwich, CT: Information Age, 2007).

⁵¹ Tofighi and Enders, 2007.

LMR method performed more consistently than other LRT methods studied. Thus, we heavily weight our selection of the number of classes on the results of the LMR method of evaluating the LRT.

For completeness, Table 2 gives the Sample Size adjusted Bayes Information Criterion (BIC), the Likelihood Ratio Test (LRT) values for comparing models with a differing number of classes, and Entropy values for models with two, three, four, and five classes. The LMR method was used to determine significance of the LRT, which compares, for example, the model with $k-1$ classes to a model with k classes. Thus, a small p -value is evidence in support of a model with k classes. For example, the results in Table 2 show that the test comparing the model with three classes could not be rejected in favor of one with four classes (LRT statistic for four classes = 78.82, $p > .10$). This result lends support for a model with three classes. The selection of three latent classes was also supported with the entropy values.⁵² Entropy is a measure of latent classification accuracy, with higher values indicating better classification. Thus, the model with three classes was selected as the best overall fit.

Table 2
Model Fit Information

Class	Adjusted (k)	BIC	LRT Entropy	LRT Statistic
2	3075.24	0.90	173.55	<.00
3	2950.25	0.92	146.87	<.00
4	2893.31	0.91	78.82	0.12
5	2854.07	0.90	61.12	0.24

^a Means are reported for all variables, with standard deviations in parentheses, except for percentages where noted.

^b For IBOE, higher scores indicate greater endorsement of ethically-questionable scenarios.

^c ERMO = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation; Religious ID Salience = Religious Identity Salience; IBOE = Individual Beliefs about Organizational Ethics

^d Age and Gender were used as covariates in the model.

Understanding the Latent Profiles

The results in Figures 2 and 3 and Table 3 help us to understand the

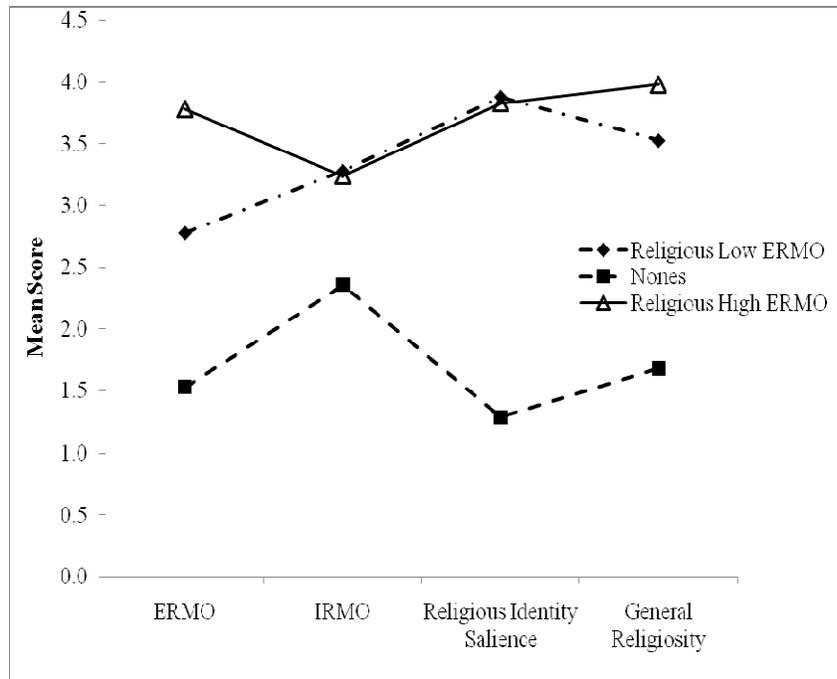
⁵² K. Jedidi, V. Ramaswami, and W.S. Desarbo, "A Maximum Likelihood Method for Latent Class Regression Involving a Censored Dependent Variable," *Psychometrika*, 58 (1993): 375-394.

response patterns (or profiles) across our five religiosity measures. These profiles are descriptive in the sense that they help identify the three latent classes identified in our sample. Table 3 presents the means and standard deviations of the quantitative indicators and covariates for Overall Religious Identity by classification group as well as percentages for the qualitative indicators and covariates. Figure 2 presents a plot of the mean value of the quantitative indicators for each of the three classification groups and Figure 3 gives the percent of individuals in each group who identified themselves as theists. We labeled the three classes according to the most obvious differences in their scoring patterns (or profiles). For example, we labeled one group “religious high ERMO.” This was because they scored relatively high across all five measures of religiosity, and especially high on extrinsic RMO and general religiosity. We labeled another class “religious low ERMO” because they also strongly endorsed the five religiosity measures (thus earning the label ‘religious’), but they scored lower on extrinsic RMO than the “religious high ERMO” (Mean = 2.73 vs. 3.77). We labeled the third class as the “nones” because they tended to score significantly lower across all five measures of religiosity, and especially on religious identity salience. Only 63% of the participants in the “religious high ERMO” group classified themselves as theists. Interestingly, 90% of the respondents in the “religious low ERMO” group and 21% of the “nones” classified themselves as theists.

Relationships among Latent Profiles and Ethical Judgments

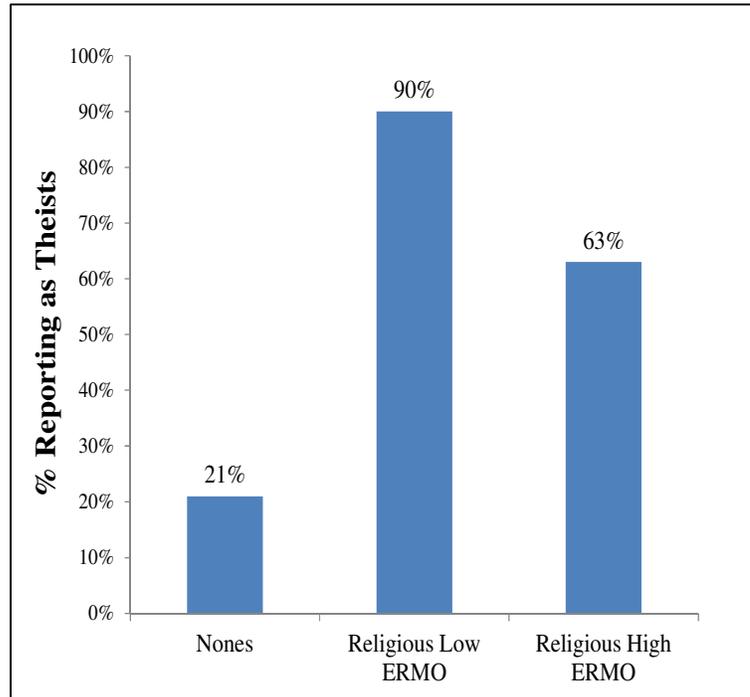
To answer our second research question, we determined whether membership in these three latent groups would be prognostic of workplace ethical judgments. Table 4 presents the parameter estimates from the latent profile regression model, and Table 5 presents the model estimated variances and covariances among the quantitative indicators of overall religious identity. The mean of IBOE, 4.94, represents the mean score on the IBOE scale for participants classified as “religious high ERMO.” Similarly, the mean of IBOE, 1.69, represents the mean rating of IBOE for participants classified as “religious low ERMO.” For the “nones” group, gender was significantly related to IBOE (slope = .84, SE = .386, $p < .05$). Thus, the mean of IBOE, 1.64, represent the mean scale score for females classified in the “nones” category. The significance of gender for this group suggests that males classified as “nones” are more accepting of ethically questionable behavior. For both the “religious high ERMO” and “religious low ERMO” there was no difference in the mean IBOE scores according to gender.

Figure 2
Mean of Religiosity Measures



ERMO = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation

Figure 3
Percent Theist by Category



ERM = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation

Table 3
Descriptive Statistics for all Study Variables of Interest^{a,b}

Overall Religious Identity	ERMO	IRMO	Religious Saliency	General Religiosity	Theism (% Theist)	IBOE ^c	Age ^d	Gender ^d (% Female)	N
Religious Low ERMO	2.73 (.64)	3.30 (.78)	3.92 (.84)	3.56 (.99)	90%	1.63 (.79)	45.0 (10.8)	71%	83
Religious High ERMO	3.76 (.63)	3.26 (.42)	3.81 (.74)	3.99 (.90)	63%	4.70 (1.13)	34.0 (5.9)	26%	86
Nones	1.52 (.59)	2.35 (.34)	1.27 (.44)	1.73 (.70)	21%	1.86 (.96)	38.6 (9.7)	74%	43
Overall	2.90 (1.05)	3.09 (.69)	3.34 (1.28)	3.36 (1.23)	65%	2.91 (1.77)	39.3 (10.1)	53%	212

^a Means are reported for all variables, with standard deviations in parentheses, except for percentages where noted

^b For IBOE, higher scores indicate greater endorsement of ethically-questionable scenarios

^c ERMO = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation; Religious Saliency = Religious Identity Saliency

^d Age and Gender were used as covariates in the model

Table 4
Latent Profile Regression Parameter Estimates

	Parameter	Parameter Estimates	SE
Religious High-ERMO	IBOE	4.94	0.17
	ERMO	3.78	0.07
	IRMO	3.24	0.05
	Religious ID Salience	3.83	0.09
	General Religiosity	3.98	0.11
	IBOE ← Age ^a	-0.002	0.01
	IBOE ← Gender ^a	-0.18	0.26
Religious Low-ERMO	IBOE	1.69	0.09
	ERMO	2.78	0.08
	IRMO	3.28	0.11
	Religious ID Salience	3.88	0.14
	General Religiosity	3.53	0.41
	IBOE ← Age ^a	-0.002	0.01
	IBOE ← Gender ^a	-0.19	0.23
Nones	IBOE	1.64	0.15
	ERMO	1.53	0.16
	IRMO	2.36	0.06
	Religious ID Salience	1.28	0.11
	General Religiosity	1.68	0.13
	IBOE ← Age ^a	-0.002	0.01
	IBOE ← Gender ^a	-0.84	0.39

ERMO = Extrinsic Religious Motivation Orientation; IRMO=Intrinsic Religious Motivation Orientation; Religious ID Salience = Religious Identity Salience; IBOE = Individual Beliefs about Organizational Ethics.

^aAge and Gender were used as covariates in the model.

Table 5
Model Estimated Variances and Covariances among the Quantitative Religious Identity Indicators

	ERMO	IRMO	Religious Identity	General Religiosity	
1. ERMO			.38**		
2. IRMO			.05**	.31**	
3. Religious ID Salience			.13**	.24**	.56**
4. General Religiosity			.22**	.26**	.41**
	.80**				

_____ERMO = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation; Religious ID Salience = Religious Identity Salience

* p < .05; ** p < .01

Table 6
Correlation Matrix for all Study Variables of Interest

	ERMO	IRMO	Religious ID	General	Theism	IBOE	Age	Gender
	Salience	Religiosity	Religiosity	Religiosity	Religiosity	Religiosity	Religiosity	Religiosity
1. ERMO	(.88)							
2. IRMO	.44**	(.69)						
3. Religious ID Salience	.64**	.73**	(.95)					
4. General Religiosity	.70**	.67**	.78**	(.80)				
5. Theism ⁺	.34**	.48**	.48**	.47**	(-)			
6. IBOE ^a	.54**	.10	.27**	.32**	-.07	(.97)		
7. Age	-.20**	.05	.06	-.07	.14*	-.35*	(-)	
8. Gender ⁺	.28**	.05	.12	.17*	-.15*	.37**	-.02	(-)

Note. Cronbach's alpha internal reliability coefficients are in parentheses

⁺ because these variables are categorical, all correlations in this row/column are Spearman-rank correlations.

^a For IBOE, higher scores indicate greater endorsement of ethically-questionable scenarios.

ERMO = Extrinsic Religious Motivation Orientation; IRMO = Intrinsic Religious Motivation Orientation; Religious ID Salience Religious Identity Salience; IBOE = Individual Beliefs about Organizational Ethics

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

In order to test for statistical significance among the mean IBOE scores among the three groups, we used a nested model χ^2 difference approach. By constraining the mean terms for IBOE for the three latent classifications equal to one another, and comparing the fit of this model to one with the three means freely estimated, the χ^2 difference test supported the model with different means ($\Delta\chi^2 = 87.1$, $df = 2$, $p < .001$). This suggests significant differences among the mean IBOE scores according to overall religious identity classification.

To further explore the mean differences from the classifications, “religious low ERMO” and “nones” were constrained to be equal and compared to the model with the three freely estimated means. The results suggested no deterioration in model fit when the equality constraint was imposed ($\Delta\chi^2 = .06$, $df = 1$, $p > .5$). This result lends support for the equality of the mean IBOE rating of participants in the “religious low ERMO” group and the female participants in the “nones” category. Finally, the model with equal IBOE means across the three categories was compared to the model with only the mean of IBOE for the “religious high ERMO” category allowed to differ from the other two classifications. The results favored the model with the freely estimated intercept for the “religious high ERMO” category ($\Delta\chi^2 = 87.0$, $df = 1$, $p < .001$). This suggests that the mean IBOE for members of the “religious high ERMO” classification is significantly higher than those classified as either “religious low ERMO” or “nones.” Thus, the “religious high ERMO” group is significantly more tolerant of unethical behavior in the workplace than the “religious low ERMO” and “nones” who do not differ in terms of their ethical judgments.

DISCUSSION

Before focusing on our main findings we believe that several correlations presented in Table 6 are deserving of further discussion. Namely, extrinsic RMO, religious identity salience, and general religiosity correlated .54, .27 and .32 respectively with our measure of ethical judgments (IBOE). Taken at face value, these correlations would seem to indicate that higher extrinsic RMO, religious identity salience, and general religiosity were associated with greater acceptance of ethically-questionable situations. While it may be tempting to conclude that these simple bivariate correlations nicely summarize our main findings, we believe that the results of our latent profile regression allow us to draw much more refined and meaningful conclusions. Namely, these results indicated that religious identity salience and general religiosity were most important in terms of their usefulness in separating the Religious Low ERMO and Religious High ERMO groups from the third group, the “Nones.” Further, and more importantly, these three groups exhibited significant differences in mean IBOE scores as

presented in Table 4. For example, the mean IBOE score for the “religious high ERMO” was 4.94, while the mean score for the “religious low ERMO” and the “Nones” was 1.69 and 1.64 respectively (see Table 4). Thus, latent profile regression allowed us to arrive at much more nuanced conclusions, while a quick examination of the correlations presented in Table 6 might easily result in quite misleading conclusions

Our main finding is that religiosity was related to ethical outcomes – even after controlling for age and gender – in ways consistent with social structural symbolic interactionist theory as outlined in Weaver and Agle⁵³. For example, our results confirm the importance of RMO (intrinsic vs. extrinsic) as we found compelling evidence that the latent group with higher ERMO was significantly more accepting of the ten ethically-questionable situations. More specifically, the mean IBOE score was 4.94 for participants classified as “religious high ERMO,” but only 1.69 for participants classified as “religious low ERMO.” Recall that Weaver and Agle⁵⁴ argued from a symbolic interactionist perspective that we should not expect religion to impact ethical behavior for those who are extrinsically motivated in regards to their religion. This is because religious identity and associated role expectations proscribing unethical behavior espoused by that individual’s religion are not likely to be especially salient. This is indeed what our results show. In fact, participants who indicated they were religious (i.e., agnostic or theistic) but were also extrinsic in terms of their RMO were *more* accepting of the ten ethically-questionable organizational practices contained in our measure of Ethical Beliefs.

Interestingly, participants classified as “religious high ERMO” reported higher ratings on our measure of general religiosity relative to participants in the other two classifications. Recall that general religiosity measures the frequency of church attendance and prayer and an indication that one considers himself or herself to be religious. This is an important finding and supports Parboteeah et al.’s⁵⁵ criticism that researchers have over-relied on overly simplistic conceptualizations and measurements of religiosity. Weaver and Agle⁵⁶ agree, stating:

If religiosity is conceptualized and measured just in terms of easily observed behaviors such as church attendance, we risk missing potentially important motivational and cognitive differences, and vice versa...the complexity indicated by our review of prior research on religiosity and ethical behavior suggests the empirical futility of theoretical attempts to incorporate ‘generic’

⁵³ Weaver and Agle, 2002.

⁵⁴ Weaver and Agle, 2002, 88-89.

⁵⁵ Parboteeah et al., 2008, 388.

⁵⁶ Weaver and Agle, 2002, 80.

religiosity as an influence on ethical behavior in organizations.

The important point is that had we only included our measure of general religiosity in our study our results would have appeared to indicate that religiosity had a negative impact on ethical outcomes. It was only when combined with our richer, theoretically-derived religiosity constructs that the picture became clearer. Thus, our results clearly support the arguments of Parboteeah et al.⁵⁷ and Weaver and Agle⁵⁸ that inadequate measurements that are not based on clear theoretical foundations are likely contributors in the “roller coaster” ride concerning the relationships between religiosity and ethical outcomes.

Concerning the latent category we have labeled the “Nones” several observations are in order. First, this group is characterized as being predominately agnostic (versus theistic) and tended to score lower across all our measures of religiosity (thus earning their label as “Nones”) (see figure 3). This finding is significant because it clearly demonstrated that one does not have to be especially religious in order to be ethical. Indeed, the mean score on our measure of IBOE for this profile (1.64) is not significantly different from the IBOE mean score for the “Religious Low ERMO” (1.69) profile. This is an important finding relating to the major objectives of our study. That is, it is important to note that we did not seek to demonstrate that religious individuals would be more ethical than non-religious individuals. Rather, we sought to determine whether and under what conditions religious attitudes might affect ethical judgments based on religious profiles consisting of relevant religiosity variables. Our results clearly indicated that religion is not all “good.” Conversely, our results indicated that religion that is extrinsically motivated can be a “bad” thing, at least in terms of how our participants responded to IBOE. Further, the results for the “Nones” group clearly indicated that agnostics are equally capable of making ethical judgments as are theists.

Our results also demonstrated that latent profile regression was a valuable analytic approach for developing our measure of “overall religious identity” and in relating this latent categorical variable to IBOE. More specifically, we found that latent profile regression could be effectively utilized to identify prognostic religious profiles (“overall religious identity”) among our participants using responses to our measures of RMO, religious identity salience, theism, and general religiosity and that these profiles could then be related to our measure of IBOE. This finding is important for two reasons. First, it demonstrates the efficacy of utilizing latent profile regression in establishing relationships between religiosity and ethical outcomes in future research. Second, it lends support for a symbolic interactionist perspective, which contends that religious role

⁵⁷ Parboteeah et al., 2008, 388.

⁵⁸ Weaver and Agle, 2002, 79-80.

expectations, internalized as a religious identity, did influence Ethical Beliefs.

Limitations

Our data were collected from a single source using a common method. However, Conway and Lance⁵⁹ recently identified several common misconceptions regarding common method bias. For example, they concluded that “the widespread belief that common method bias serves to inflate common method correlations as compared to their true-score counterparts is substantially a myth.”⁶⁰

Although our measures were based on self-reported observations, Conway and Lance⁶¹ argued that many commonly suspected biasing factors associated with using self-reports (e.g., social desirability, negative affect, and acquiescence) appear to have only weak and inconsistent effects. They further suggested that researchers should clearly articulate why they believe self-reports are appropriate. In the current study, we believe that our participants were certainly in the best position to indicate their religiosity and to provide their judgments of the acceptability of the ethically-questionable business situations. It is difficult to imagine how another source could more accurately assess a participant’s religiosity or ethical judgments.

Citing Podsakoff, MacKenzie, Lee, and Podsakoff⁶² Conway and Lance⁶³ offer numerous procedures for researchers to demonstrate their a-priori consideration of common method bias. These procedures include the “temporal, proximal, psychological, or methodological separation of measurement,” “protecting respondent anonymity and reducing evaluation apprehension,” and “counterbalancing question order.”⁶⁴ We incorporated these recommendations by separating our data collection by six weeks (with the IBOE and religious attitude scales always being collected in separate waves) and by counterbalancing the order of presentation of scales to our participants.

For some studies, the use of internet based samples may result in limited ability to generalize the study conclusions. However, Gosling, Vazire, Srivastava,

⁵⁹ James. M. Conway and Charles E. Lance, “What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research, *Journal of Business and Psychology*, 25 (2010): 325-334.

⁶⁰ Conway and Lance, 2010, 327.

⁶¹ Conway and Lance, 2010.

⁶² Phillip M. Podsakoff, Scott B. MacKenzie, Jeong-Yeon Lee, and Nathan P. Podsakoff, “Common Method Biases in Behavior Research: A Critical Review of the Literature and Recommended Remedies,” *Journal of Applied Psychology*, 88 (2003): 879-903.

⁶³ Conway and Lance, 2010, 329-330.

⁶⁴ Podsakoff et al., 2003, 887-888.

and Oliver⁶⁵ recently compared the results of research conducted with a very large self-selected web-based sample of 361,703 (outofservice.com) to the results obtained from traditional samples drawn from a full year of studies published in the Journal of Personality and Social Psychology. Their results revealed that the samples drawn from the large self-selected web-based sample were more diverse and representative than traditional samples with respect to gender, socioeconomic status, geographical location, and age and about as representative as traditional samples with respect to race.

Regarding our sampling procedure, future researchers should consider utilizing samples, which include more religious diversity. Our sample was almost entirely comprised of Christians (92.4%) and thus caution should be used in extrapolating the results found here to other religions (e.g., Muslim, Hindu, Jewish, etc.). Future researchers utilizing larger, more religiously-diverse samples may be able to ascertain whether extrinsic RMO will demonstrate the same 'dark side' of religion as was found with this mostly Christian sample, or, whether there exist other measures and/or profiles amongst measures of religiosity that relate to ethical outcomes as a function of religious diversity. Similarly, although we obtained measures of religiosity in keeping with symbolic interactionism as presented by Weaver and Agle⁶⁶ this certainly does not mean that there do not exist other measures of religiosity that may prove fruitful in explaining ethical outcomes. For example, religion as "Quest"⁶⁷ the Attitudes Toward God Scale⁶⁸ and the Religious Commitment Inventory – 10⁶⁹ are just a few of the many viable measures that may prove fruitful for future research.

Practical Applications

We agree with Weaver and Agle⁷⁰ that tolerance of religiosity at work is a key Human Resource issue. This is especially important because the expression of religiosity at work is often discouraged or deliberately suppressed, which can run

⁶⁵ Samuel D. Gosling, Simine Vazire, Sanjay Srivastava, and John P. Oliver, "Should We Trust Web-Based Studies? A Comparative Analysis of Six Preconceptions about Internet Questionnaires," *American Psychologist*, 59 (2004): 93-104.

⁶⁶ Weaver and Agle, 2002.

⁶⁷ Daniel C. Batson and Patricia A. Schoenrade, "Measuring Religion as Quest II. Reliability Concerns," *Journal for the Scientific Study of Religion*, 30 (1991): 430-447.

⁶⁸ Benjamin T. Wood, Everett L. Worthington, Jr., Julie Juola Exline, Ann Marie Yali, Jamie D. Aten, and Mark R. McMinn, "Development, Refinement, and Psychometric Properties of the Attitudes Toward God Scale," *Psychology of Religion and Spirituality*, 2 (2010): 148-167.

⁶⁹ Everett L. Worthington, et al., "The Religious Commitment Inventory – 10: Development, Refinement, and Validation of a Brief Scale for Research and Counseling," *Journal of Counseling Psychology*, 50, (2003): 84-96.

⁷⁰ Weaver and Agle, 2002, 93.

counter to Equal Employment Opportunity legislation. In particular, the Civil Rights Acts of 1964 and 1991 not only forbid discrimination based on religion but also include provisions that employers provide ‘reasonable accommodation’ of religious expression and practice in the workplace.⁷¹ Given the events of September 11, 2001, combined with survey evidence that 84 percent of the world’s population is part of a religion while 80 percent of individuals in the United States consider their religion to be important, it is not surprising that the Equal Employment Opportunity Commission has witnessed an increase in cases involving religious discrimination and accommodation.⁷² We would add that tolerance of religiosity at work is most likely to occur when it is combined with well-developed organizational guidelines and positive manager role-modeling for such expression. Clearly, further research is needed to help obtain a better understanding of the intersection of religion and organization.⁷³

Our results offer evidence that religiosity was indeed related to ethical judgments. In particular, our latent profile regression model supported the existence of three distinct religious profiles based on scores across five key religiosity constructs (i.e., extrinsic RMO, intrinsic RMO, theism, general religiosity, and religious identity salience). Further, one of the profiles (“religious high ERMO”) was found to be significantly related to ethical judgments. Further examination of the scores across our religiosity variables for this category indicated that those who scored higher on extrinsic RMO and general religiosity tended to be significantly more accepting of the ethically-questionable situations.

In conclusion, we agree with Tracey⁷⁴ that it is both surprising and disappointing that organizational scholars have not explored the potential effects of religiosity on organizational behavior in a more meaningful and determined way. And, more specifically, we agree with Corner⁷⁵ that religiosity is poised to make a valuable contribution to the emerging interest in ethical judgments and behavior at work. Such a contribution is likely to emerge to the extent that researchers use inductive approaches (such as those described here) to provide insights that can guide the development of a theory that describes the conditions that shape when and how religiosity can be expected to affect ethical judgments and behavior in work settings

⁷¹ Raymond A. Noe et al., *Human Resource Management: Gaining a Competitive Advantage* (New York: McGraw-Hill/Irwin, 2008), 119-120.

⁷² King, 2008, 214.

⁷³ Paul Tracey, “Religion and Organization: A Critical Review of Current Trends and Future Directions,” *The Academy of Management Annals*, 6 (2012):87-134.

⁷⁴ Tracey, 2012, 87.

⁷⁵ Corner, 2009, 387.

APPENDIX

Scales Used in Study

Religious Motivation Orientation

Please rate your level of agreement with each of the following statements. There are no right or wrong answers.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. I enjoy reading about my religion (I)
2. I go to church because it helps me to make friends (E)
3. It doesn't much matter what I believe in so long as I am good (I – reversed)
4. It is important to me to spend time in private thought and prayer (I)
5. I have often had a strong sense of God's presence (I)
6. I pray mainly to gain relief and protection (E)
7. I try hard to live all my life according to my religious beliefs (I)
8. What religion offers me most is comfort in times of trouble and sorrow (E)
9. Prayer is for peace and happiness (E)
10. Although I am religious, I don't let it affect my daily life (I – reversed)
11. I go to church mostly to spend time with my friends (E)
12. My whole approach to life is based on my religion (I)
13. I go to church mainly because I enjoy seeing people I know there (E)
14. Although I believe in my religion, many other things are more important in life (I – reversed)

I = Intrinsic Religious Motivation Orientation
E = Extrinsic Religious Motivation Orientation

Religious Identity Salience

Please read each of the words below and indicate which one most closely describes the way you perceive yourself as a religious person. For example, for number 1, if religion is “central to who you are” you would select the number 5, if you are neutral as to whether religion is central to who you are you would select the number 3, and if religion is not central to who you are you would select the number 1.

Religion is...

1. Central to who I am (5)	(4)	Neutral (3)	(2)	Not Central to who I am (1)
2. Important for self-definition (5)	(4)	Neutral (3)	(2)	Not Important for self-definition (1)
3. Defines me (5)	(4)	Neutral (3)	(2)	Does not define me (1)

Theism

Please check the box indicating which of the following most closely aligns with or otherwise describes your personal beliefs regarding the existence of a higher-being or God using the descriptions below.

Atheist
 Agnostic
 Theist

Atheist	Agnostic	Theist
<ul style="list-style-type: none"> • Definitely Does Not believe in a higher-being or God • Sees no evidence for the existence of a higher-being or God • Believes that the notion of a higher-being or God exists only in people's minds 	<ul style="list-style-type: none"> • In unsure or undecided in their beliefs concerning a higher-being or God • Believes that it is impossible to know whether a higher-being or God actually exists • Is unsure of the existence of a higher-being or God because there is no definitive proof • Believes that even if a higher-being or God does exist, that it is of little or no consequence to them personally • Has never sensed or experienced an encounter with a higher-being or God 	<ul style="list-style-type: none"> • Definitely Does believe in a higher-being or God • Sees evidence for the existence of a higher-being or God all around them • Believes that a higher-being or God not only exists but also seeks to relate to or otherwise interact with them

Individual Beliefs about Organizational Ethics

Please indicate the degree to which you agree or disagree with each of the following statements

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

1. It is OK for a supervisor to ask an employee to support someone else's incorrect viewpoint
2. It is sometimes necessary for the company to engage in shady practices because the competition is doing so
3. An employee should overlook someone else's wrongdoings if it is in the best interest of the Company
4. A supervisor should not care how results are achieved as long as the desired outcome occurs
5. There is nothing wrong with a supervisor asking an employee to falsify a document
6. Profits should be given a higher priority than the safety of a product
7. An employee may need to lie to a co-worker to protect the company
8. An employee may need to lie to a supervisor/manager to protect the company
9. An employee may need to lie to another company's representative to protect the company
10. An employee may need to lie to a customer/client to protect the company
