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# THE RELATIONSHIP BETWEEN ESSENTIALISM, RELIGIOUS BELIEFS & VIEWS OF CHANGE

A Thesis
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Specialist in Education

By Keshia Porter

May 2012

# THE RELATIONSHIP BETWEEN ESSENTIALISM, RELIGIOUS BELIEFS & VIEWS OF CHANGE

Date Recommended 4-5-2012
Denley
Kelly Madole, Director of Thesis
Carwe Pirkhar O
Carrie, Pritchard
Hope Jarrene
Jacqueline Pope-Tarrence

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# THE RELATIONSHIP BETWEEN ESSENTIALISM, RELIGIOUS BELIEFS & VIEWS OF CHANGE

Keshia Porter May 2012 58 Pages

Directed by: Kelly Madole, Ph.D., Jacqueline Pope-Tarrence, Ph.D., and Carrie Pritchard, Ph.D.

Department of Psychology

Western Kentucky University

In this study, the relationship between essentialism, religious beliefs, and views of change was investigated. Participants were given surveys containing three sets of items and a demographic questionnaire. Item sets included the Intrinsic/Extrinsic-Revised Scale of Religiosity, the Essentialist Belief Scales, and the Change Vignettes. Results indicated those with gradualist religious views were not more likely to endorse essentialist views when compared to those with conversionist views. Those who essentialized at high levels were not less likely to endorse the possibility of change in comparison to those who essentialized at lower levels. Participants with high levels of extrinsic religiosity were not more likely to demonstrate essentialist beliefs as compared to those with low levels of extrinsic religiosity. In addition, individuals did not view change as more plausible as they were determined to be more intrinsically religious. No relationship was found between religious affiliation and views of change or measures of essentialist thought. Those belonging to Fundamentalists and Liberalist denominational groups were found to be similar in regard to beliefs about change, and essentialism, as well as intrinsic and extrinsic religiosity. Those classified as Others were significantly different from Fundamentalist and Liberalists, excluding ratings of the importance of good deeds.

#### Introduction

For centuries, the inner workings of the human mind have been sources of intrigue and perplexity. Although no two people are alike, there are commonalities in ways of knowing about the world. How do these epistemologies come to exist? How does one come to be an expert in interpreting everything around them?

Essentialism as a Normative Behavior

From childhood, distinct thinking patterns are evident. People exhibit biases in categorizing and classifying all they encounter (Gelman, 2003). However, as cognitive misers, using as little energy as possible to make decisions is the human goal (Baumeister & Finkel, 2010). Heuristics, or cognitive shortcuts, are relied on to reach conclusions, including categorizing objects and individuals into groups. Essentialism is one such heuristic. Gelman (2003) defines essentialism as "the view that categories have an underlying reality or true nature that one cannot observe directly but that gives an object its identity" (p.3). In addition, this underlying nature has a direct and purposeful relationship with visible characteristics also used in the process of categorization. The idea of essentialism runs deeper than what the eye can see to the essence of an entity (Medin & Ortony, 1989). With this information regarding essence, predictions may be made about future outcomes and behaviors (Medin & Ortony, 1989).

Individual Differences in Essentialist Behavior

While everyone essentializes, the range of this behavior varies across individuals.

There are individual differences found within the population. According to Haslam,

Bastian, & Bissett (2010), some endorsers of essentialism view traits as fixed and innate,

with possible underlying biological causes. These individuals also have a tendency to think about individuals in terms of their social aspects or categories (Bastian & Haslam, 2006). Under this view, the individual "exaggerates, deepens, and renders inevitable perceived differences between groups" (Bastian & Haslam, 2006, p. 229).

In their research, Bastian & Haslam (2006) discovered three main ways which people essentialize; they explain essentialism in terms of biological basis, discreteness, and informativeness. Biological basis is used to categorize people based on genetic makeup or heredity. Discreteness describes a sense of belonging to a group; no compromises can be made regarding membership. Informativeness involves making categorizations based on information which is already available. These tendencies have been found when examining essentialist views in regard to race, ethnicity, gender, sexual orientation, and cognitive ability (Bastian & Haslam, 2006). Although individual differences were not investigated, additional insight was provided into the unique thought processes of individuals.

#### Underlying Essentialist Ideas

Attributions regarding the self and others tend to be based out of individual implicit theories which have ties to essentialist thinking. Two main types of implicit theories have been established, the entity theory and the incremental theory (Erdley & Dweck, 1993; Hong, Chiu, Dweck, Lin, & Wan, 1999; Levy & Dweck, 1998). Entity theorists believe that traits are fixed, while those in alignment with incremental theory endorse the malleability of traits (Erdley & Dweck, 1993.)

Those with incremental theory views are more likely to observe behaviors and consider their causes, as well as ways behaviors may be altered to produce more positive

outcomes (Dweck, Chiu, & Hong, 1995; Erdley & Dweck, 1993). The focus is on cultivating appropriate skills and behaviors, rather than appraising them (Erdley & Dweck, 1993). They engage in process-focused social judgment, in which they search for factors outside of the individual which may have led to the behavior (Levy & Dweck, 1998). These individuals endorse the possibility of change across situations (Chiu, Hong, & Dweck, 1997).

Entity views may limit the effective processing of information (Erdley & Dweck, 1993). Those with entity theory views have been found to be more likely to adopt views of helplessness in areas, such as cognitive ability (Dweck et al., 1995; Erdley & Dweck, 1993). These individuals also have a tendency to quickly make attributions regarding a person's character and personality based on initial observations of behavior (Dweck et al., 1995; Erdley & Dweck, 1993). Adjusting views to align with new information is uncommon in entity theorists (Erdley & Dweck, 1993).

Entity theory engages in trait focused social judgment (Levy & Dweck, 1998).

Negative behaviors are presumed to be reflections of an individual's character, and appropriate punishment should be issued as a result (Erdley & Dweck, 1993). Entity theorists are generally less understanding of the negative behaviors of others when compared to incremental theorists (Erdley & Dweck, 1993). They presume that traits or dispositions must be the underlying causes for behaviors, and that a person's actions are reflections of the traits they possess (Levy & Dweck, 1998). Further, these individuals are more confident in their ability to predict the behaviors of others (Chiu et al., 1997). They are also less likely to predict change (Erdley & Dweck, 1993). Research has shown that entity theorists are also likely to utilize stereotypes to reach conclusions about individuals

(Levy, Dweck, & Stroessner, 1998). Entity and incremental theorist views have been assessed in the areas of cognitive ability, personality, and moral values (Levy & Dweck, 1998). Although individuals tend to remain consistent in their entity or incremental theorists views, particular situations are likely to lead individuals to adopt differing perspectives depending on characteristics of those involved and the circumstances (Levy & Dweck, 1998).

According to research, several similarities can be identified between essentialism and the entity theory. Bastian & Haslam (2006) support the idea that these two belief systems are related particularly in regard to understanding and utilizing stereotypes.

Individuals with entity theorist beliefs showed a greater preference for information that aligns with stereotype components, as found in those with essentialist views. Essentialists also rely on the existence of unchangeable factors to reach conclusions about individuals, which is also seen in those with explicit theories. The findings concluded that implicit theories are in fact a part of essentialist theories, with entity and incremental theories falling under the umbrella of essentialism (Bastian & Haslam, 2006; Bastian & Haslam, 2008). This relationship provides additional insight into the ways in which essentialism may present itself in everyday life.

#### Beliefs about Change

It may be possible that additional factors play a role in the display of essentialist thinking and behaviors. Particular individuals are more inclined to endorse change than others. Lockhart, Chang, & Story (2002) found that young children have unique beliefs regarding the possibility of positive change. She termed this idea protective optimism. In her research, participants were introduced to a series of vignettes about characters. Each

vignette introduced a character with a problem as it related to his or her physical appearance, personality, or ability. Participants were asked to report the likelihood of the character changing and how much control the character would have over creating such a change. Younger children held a more optimistic view of people and their ability to change over time. They believed that individuals can change and ultimately possess extremely positive traits. Results indicated that older children and adults do not share this tendency to such a great extent. Overall, participants were less inclined to report the possibility of change for traits of a biological nature, reflecting a possible constraint on the incremental view. It is also important to note that generally negative biological traits were perceived as less capable of change, when compared to positive biological traits. These findings seem to reflect pessimism or limitation for the changing of biological traits. Genetics tend not to be malleable in favor of the individual. Lockhart's research indicates that age appears to affect views of change. It is probable that other characteristics may also shape perspectives, as well.

The Impact of Religion on Thought and Behavior

For some people, religion is one of the most important aspects of life. Religious views play a role in how individuals interpret the world around them. Religion can be assigned an assortment of definitions and may encompass a variety of beliefs. It has been described as reflecting a quest for a critical encounter with a higher power (Paloutzian, Richardson, & Rambo, 1999). It is sensible to consider that religion may be a significant factor when looking at the ways in which people think about identity and change. It has been suggested that religion may influence how people view the world, and ultimately how they interpret and organize information (Toosi & Ambady, 2011). As individuals

think of their own beliefs, it is probable that the fixed or flexible nature of their religious identities will affect their ability to consider the stability of other traits.

Religious beliefs may establish the boundaries for change or even eliminate them. For example, those who identify as part of a fundamental religion, such as Orthodox Judaism, Calvinism, or Islam, are more likely to report higher levels of optimism indicating a greater belief in the possibility of change (Sethi & Seligman, 1993). This difference may be due to the quantity of religious sermons these individuals hear and the greater optimism found within those sermons (Sethi & Seligman, 1993). For this group, a large emphasis is placed on incorporating religious beliefs into their everyday lives, when compared to individuals of moderate or liberal religions. Those who identify as being part of a liberal religion like Unitarianism or Reformed Judaism report the lowest levels of optimism regarding the future (Sethi & Seligman, 1993). Optimism may lead to a greater endorsement of change and a limited endorsement of essentialist beliefs.

According to Gorsuch & McPherson (1989) religious practices can be driven by differing motivations. As Gordon Allport discovered, religious practices may be described as intrinsic or extrinsic (Allport & Ross, 1967). Intrinsic religious practices involve an individual's personal satisfaction with religious involvement. This includes personal gains from religious activity, such as reading scriptures or praying, as well as self-denial. Activities that involve social connections to others or fellowship are considered as extrinsic religious practices. They also involve the benefits of being a part of one's religious group. Essentially, intrinsic religiosity is viewed as a more mature and heartfelt motivation. (Allport & Ross, 1967). Gorsuch & McPherson (1989) measured these two aspects of religion by modifying Allport's Religious Orientation Scale to

develop the Intrinsic/Extrinsic-Revised Scale of Religiosity. This scale was administered to a sample of college students. Results verified that the scale did measure two independent factors of religiosity: intrinsic and extrinsic. From this research, it can be gathered that individuals view religious involvement in many ways. To hold social interactions with high regard, greater emphasis is likely to be placed on human characteristics. From this, it may be gathered that extrinsic religiosity is higher among those who endorse essentialist beliefs critical to social categorization.

Religion is also described in terms of how members become followers and establish religious identities. It can be described as assent-based or descent-based (Morris, 1996). Descent-based religions are based on familial connectedness, often with followers born into families practicing according to these beliefs. These religions are often intertwined with cultural beliefs and practices. Examples of descent-based religions are Judaism or Hinduism. Other religions join people based on common beliefs and views. These are deemed assent-based religions. These include religions in which converts and newcomers are frequently welcomed. Common examples may be Buddhism or Protestant Christianity. Each of these types of religion influence how a person ties themselves to their religious beliefs and may influence perceptions of the possibilities of change. As identity is fused with religion, views of the possibility of change may be more likely as individuals view others as capable of changing.

Religion and culture are often intertwined; together the two are capable of influencing essentialist thought. A study of elementary school children from Israeli secular or orthodox Jewish religions investigated views of teleology and essentialism. For this study, essentialism reflects the belief that an individual or object's membership to a

group is based on their stable traits, while teleology is the belief that everything exists for a reason. Results indicated differences in teleological and essentialist beliefs about animals, artifacts, and social categories (Diesendruck & Haber, 2009). The two groups of schoolchildren agreed about the essentialist nature of animals and artifacts; however, they disagreed about the essentialist nature of social categories and the teleological nature of animals and social groups (Diesendruck & Haber, 2009). Additional research found that among Israeli adults and children, social categories, (indicated by labels), played a critical role in categorization of individuals (Diesendruck & haLevi, 2006). From this it can be gathered that the environment shapes views of essentialism to a marked degree, including its religious and social climate. In addition, essentialism is demonstrated to be a fundamental aspect of development and understanding.

Particular denominations have also been found to specifically endorse essentialist beliefs. Lukenbill (1998) observed particular views of change in a Universal Fellowship of Metropolitan Community Churches congregation. This predominantly homosexual Christian congregation was found to endorse essentialist beliefs in regard to the innate nature of the individual. This view of essentialism proved to promote self-esteem in this often stigmatized and stereotyped group. In this way, religion and essentialism are in alignment working together to accomplish a goal. There may be other groups in which essentialism is a fundamental component of religious belief systems and doctrines. Toosi & Ambady (2011) sought to discover how individuals demonstrate essentialist thinking concerning members of other religious groups. They asked participants to rate eight religious identities (Atheists, Buddhists, Catholics, Hindus, Jews, Muslims, Protestants, and Spiritual-but-not-religious) in terms of essentialism. Two dimensions of essentialism

were measured: entitativity and natural kind-ness. Entitativity indicates to what extent a category seemed like its own separate entity, while natural kind-ness is a measure of how much category membership is determined by the presence of unconditionally necessary, natural traits. Results indicated that participants held stronger essentialist beliefs on all dimensions about Muslims, Hindus, and Jews. These groups were considered as culturally and family related, and individuals of these faiths were viewed as held together by commonality. Atheists and Spiritual-but-not-religious religious groups were given the lowest ratings of essentialism. These religious identities were associated with more flexibility and freedom to choose. Buddhists, Catholics and Protestants were rated moderately on all dimensions. There were no significant differences between participant responses; however, this may be due to a relatively small sample size. While this study examined the perceptions individuals have about other religious groups, there is support for the notion that some religions are associated with greater levels of essentialism. From this, it is reasonable to consider whether religious groups who are related to higher levels of essentialism actually demonstrate essentialism at higher rates than others.

#### The Power of Conversion

Conversion is also an important component when considering the impact of religion on essentialist behavior. Mahoney & Pargament (2004) sought to explain in depth the mystical event of conversion. For the purposes of their research, religion is defined as "a search for significance in ways related to the sacred" (Mahoney & Pargament, 2004, p.2). Emphasis is placed on the idea that the event of conversion is of upmost importance to the individual, is the answer which people have been looking for throughout the course of their lives, and God or a higher power is at work. In regard to this, conversion marks a

pivotal point in an individual's life when religion becomes a primary influence on behavior and thought. The ideas, beliefs and emotions associated with each religion are capable of affecting perceptions of the world. As conversion marks a time of change, ideas regarding change may be influenced.

Research supports the idea that those undergoing religious conversions are likely to experience changes in their goals, actions, beliefs, and personality (Paloutzian et al., 1999). Many individuals who alter their religious views through conversion feel as though they experience positive feelings about themselves and the desire to help others (Paloutzian et al.,1999). These conversions may serve as agents of change in the beliefs concerning people and the surrounding world.

Perspectives on conversion are likely to influence other perceptions of change, and ways to approach social issues. Mock (1992) sought to investigate differences between the kinds of social contributions made by evangelical, moderate and liberal church groups. Evangelical churches were found to be more involved in their communities and social causes than were liberal churches. He went on to group members of various denominations based on their views of conversion and salvation. Those who viewed the process as instantaneous were deemed Conversionists, while those viewing salvation as a slow and gradual process were described as Gradualists. Evangelical churches were most often considered conversionists with liberal churches not quite fitting the criteria for either classification. This difference in view reflects fundamental differences in perceptions of social and spiritual change.

#### Purpose of Research

The current study seeks to examine the relationship between essentialist beliefs and religion, in regard to the ability to view changes in others as plausible. The measures created by Lockhart et al. (2002) were designed to measure participants' views of change concerning biological, hybrid, and psychological traits. These items comprise the Change Vignettes. Items developed by Bastian & Haslam (2006) were used to measure essentialist beliefs in the areas of biological basis, discreteness, and informativeness. The Essentialist Belief Scales are comprised of these items. The Intrinsic/Extrinsic-Revised Scale of Religiosity developed by Allport & Ross (1967) and modified by Gorsuch and McPherson (1989) measures intrinsic and extrinsic religiosity.

Many predictions may be made regarding the effects of religion on the thoughts and perceptions of individuals. It can be hypothesized that those with gradualist religious views will be more likely to endorse essentialist views than those with conversionist religious views. It can also be predicted that those who essentialize most will be less likely to endorse the possibility of change. In addition, it is reasonable to predict that those with high levels of extrinsic religiosity are more likely to demonstrate essentialist beliefs. Last, it is proposed that individuals will view change as more plausible as they are determined to be more intrinsically religious.

II.

#### Methods

#### **Participants**

Participants were undergraduate students at Western Kentucky University enrolled in introductory psychology courses. They were recruited through the university study board to complete a survey on beliefs about people and change. Surveys were completed in a clinic in groups of six. Unlimited time was provided to complete the survey. Participants ranged in age from 18 to 67 and included freshmen, sophomores, juniors, and seniors. One hundred participants completed the survey. The sample included 67 freshmen, 13 sophomores, 5 juniors, and 10 seniors (4 participants did not report their class standing). Thirty one males and 68 females participated in the study. The Human Subjects Review Board of Western Kentucky University approved all procedures.

#### Measures

Each participant completed an identical survey. The survey contained four sections. The first section contained questions related to cultural background, religious views, and denomination affiliation. These items are found in Appendix A. Responses to these items determined participant classification as Fundamentalist, Liberalist, or Other.

Classification as a gradualist or conversionist was based on responses to the item "Do you believe salvation is something that happens slowly or all of a sudden?" The second section contained the Intrinsic/Extrinsic-Revised Scale of Religiosity, which measures intrinsic and extrinsic religiosity. This scale is found in Appendix B. The third section contained the Essentialist Belief Scales comprised of items developed by Bastian & Haslam (2006). These items measure essentialist beliefs in terms of three domains:

biological basis, discreteness, and informativeness. Items are found in Appendix C. The last section of the survey contained the Change Vignettes developed by Lockhart et al. (2002). These items measure the feasibility of change for biological, hybrid, and psychological characteristics. Characteristics have positive and negative valences. Items are found in Appendix D.

#### Religiosity

The Intrinsic/Extrinsic-Revised Scale of Religiosity was administered to students. These items are found in Appendix B. The scale consists of 14 items created to measure religiosity in terms of beliefs about God, church attendance, or prayer. This scale was derived from the original work of Allport & Ross (1967). It was modified by Gorsuch and Vernable (1983) to increase the readability of the items across education levels. The scale was later evaluated by Gorsuch and McPherson (1989) to determine item and scale reliability. Reliabilities for the intrinsic and extrinsic items are .86 and .65, respectively. Items are answered using a Likert scale of 1 to 5. This scale measures intrinsic religiosity and extrinsic religiosity. Intrinsic religiosity refers to personal motivation in religious practices, such as "It is important to spend time in personal thought and prayer." Extrinsic religiosity is described as personal or social. The personal aspect reflects personal benefits of religion, including ideas like, "I pray mainly to gain relief and protection." The social aspect reflects a value of interactions with others. Ideas indicative of this view include, "I go to church because it helps me make friends" or "I go to church mainly because I enjoy seeing people I know there." Intrinsic orientation is measured by items 1, 3, 4, 5, 7, 10, 12, and 14. Extrinsic personal is measured by items 6, 8, and 9, while items 2, 11, and 13 measure extrinsic social. Items 3, 10, and 14 are reversed during scoring.

The results of this scale determined each participant's level of intrinsic and extrinsic religiosity. Each participant received an intrinsic religiosity score and an extrinsic religiosity score, which were the sums of the items for each category. Sums were used to allow for greater variability of scores during categorization. Means were utilized to allow for meaningful comparisons between scales.

#### Essentialism

Bastian & Haslam (2006) measured views about essentialism in their research with the Essentialist Belief Scales which assess the domains of biological basis, discreteness and informativeness of human attributes. These items aim to determine how individuals describe and form conclusions about others. The Biological Basis Scale items assessed the extent to which individuals believe that genetics determine the nature of a person, such as, "The kind of person someone is can be largely attributed to their genetic inheritance." The Discreteness Scale items measured individual beliefs regarding a person's place in multiple categories. Sample items from this category include, "The kind of person someone is, is clearly defined; they either are a certain kind of person or they are not" and "People can behave in ways that seem ambiguous, but the central aspects of their character are clear-cut." Items of the Informativeness Scale determine how a person uses information to better understand others, including items like, "It is possible to know about many aspects of a person once you become familiar with a few of their basic traits." Items are answered using a 6-point Likert scale (1=strongly agree; 6=strongly disagree). Each participant received a biological basis essentialism score, a discreteness essentialism score, and an informativeness essentialism score. These scores are the average of the responses given for each of the items for each area. Participants also

received an essentialism total score which is the sum of the responses across the three domains. Sums were used to allow for greater variability of scores during categorization. Means were utilized to allow for meaningful comparisons between scales. Items are found in Appendix C.

#### Feasibility of Change

Lockhart et al. (2002) found that young children, more so than older children, have a tendency to believe that people can change for the better. Her items consisted of vignettes and related questions which were used to develop the Change Vignettes included in this study. These items served as indicators of the endorsement of change. Twelve vignettes are found in the Change Vignettes. Each vignette is accompanied by three possible outcomes. There are four vignettes for each of the three areas of interest: biological traits, hybrid traits (a combination of biological and psychological trait interaction), and psychological traits. Each vignette also contains a positive or negative valence. Of the four vignettes for each area, two include positive (socially desirable) traits and two negative (socially undesirable) traits. Participants indicated which of three outcomes is mostly likely to occur to characters described in the vignettes. They were also able to explain their rationale. Participants were also asked if any of the other outcomes were possible, and to explain how they might occur. Each participant received a psychological total score for vignettes based on psychological traits, a biological total score for vignettes based on biological traits, and a hybrid total score for vignettes based on traits which may be considered a combination of biologically or psychologically based traits. Each total score is the numerical response for each vignette (1=no change; 2=some change; 3=extreme change). Participants also received a total change score which is the

average of the psychological total score, the biological total score, and the hybrid total score. Means were utilized to allow for meaningful comparisons between scales. These items are contained in Appendix D.

#### Results

Based on Mock's (1992) study I proposed that those with gradualist religious views would be more likely to endorse essentialist views. It is probable that those who believe change occurs slowly will be reluctant to view others as capable of changing.

Participant responses were used to determine classification as gradualist or conversionist. An independent samples t-test was conducted to compare biological basis, discreteness, and informativeness essentialism scores, as well as essentialism total scores for gradualists (N=28) and conversionists (N=69). No significant differences were found. All p-values were greater than .05. Figure 1 shows the results. These results suggest that those who view salvation as a slow process are not more likely to endorse essentialist views when compared to those who view the process as a sudden change.

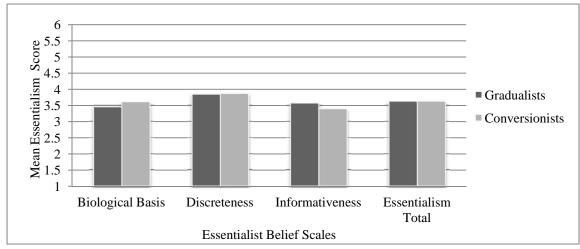


Figure 1. Mean essentialism scores on the Essentialist Belief Scales for gradualists and conversionists. Higher scores indicate higher levels of essentialism. No significant difference was found.

A second hypothesis based on Bastian & Haslam (2008) was that those who essentialize most would be less likely to endorse the possibility of change. Essentialist beliefs are associated with behaviors like stereotyping and prejudice indicating limited

possibilities for change in others. Participants were classified as low essentializers and high essentializers based on their essentialist total score. The essentialist total score ranged from 23 to 138. The sample was separated into two groups by a median split: high essentializers (N=40) and low essentializers (N=40).

An independent samples t-test was conducted to compare endorsement of the possibility of change in regard to biological, hybrid, and psychological characteristics for high essentialists and low essentialists. No significant differences were found. All p-values were greater than .05 and r (94) =-.10, p < .05. Figure 2 shows the results. From these results, it can be proposed that those who are considered high essentializers are not less likely than low essentializers to endorse the possibility of change.

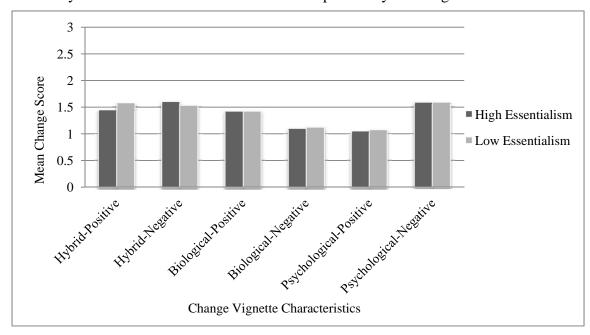


Figure 2. Mean change scores for those with high levels of essentialism and those with low levels of essentialism. Higher scores indicate greater belief in the possibility of change. No significant differences were found.

A third hypothesis claimed that those with high levels of extrinsic religiosity are more likely to demonstrate essentialist beliefs. From Allport & Ross (1967) it can be

gathered that extrinsically religious individuals are involved in religious activities to make themselves appealing to others and to create relationships.

An independent samples t-test was conducted to compare essentialist beliefs for high and low extrinsically religious individuals. Participants were classified as low extrinsics and high extrinsics based on their extrinsic religiosity score. Scores for extrinsic religiosity ranged from 6 to 36. A median split was used to separate the sample into two groups: high extrinsics (N=23) and low extrinsics (N=77). Due to limited sample size, all subjects were categorized as high extrinsic or low extrinsic.

Significant differences were not found and all p-values were greater than .05. No relationship between level of extrinsic religiosity and the endorsement of essentialist beliefs was found. Results are found in Figure 3.

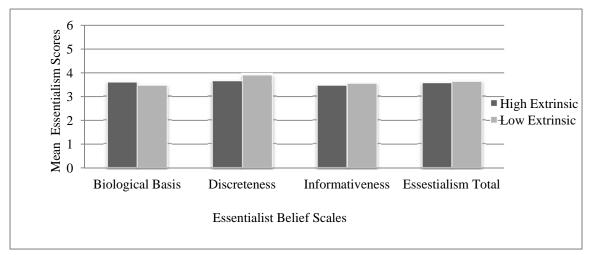


Figure 3. Mean essentialism scores for high extrinsics and low extrinsics. Higher scores indicate higher levels of essentialism. No significant differences were found.

A fourth hypothesis stated that individuals would view change as more plausible as they are determined to be more intrinsically religious. Intrinsically religious individuals are inclined to internalize their religious beliefs and to allow those beliefs to guide their behavior. They are also likely to engage in personally challenging behavior.

An independent samples t-test was conducted to compare endorsement of the possibility of change in regard to biological, hybrid, and psychological traits for high intrinsics and low intrinsics. Participants were classified as low intrinsics and high intrinsics based on their intrinsic religiosity score. Intrinsic scores ranged from 8 to 48. A median split was used to separate the sample into two groups: high intrinsics (N=40) and low intrinsics (N=56). There was not a significant difference found. All p-values were greater than .05. Figure 4 shows the results. This suggests that level of intrinsic religiosity is not related to views of the plausibility of change.

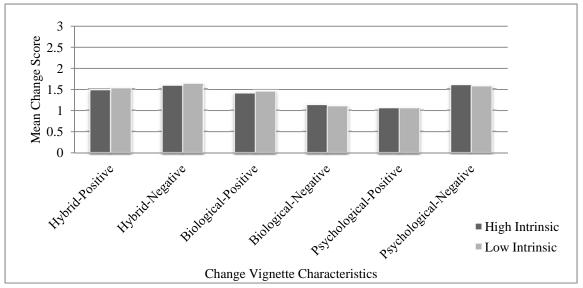


Figure 4. Mean change scores for high intrinsics and low intrinsics. Higher scores indicate greater possibility of change. No significant differences were found.

Participants were classified as Fundamentalists, Liberalists, and Other based on reported denomination. Criteria for classification were determined by Smith (1986). Fundamentalists are described as those who advocate that the Bible is without error and absolute; accept Christ; are saved or born again; believe Christ will return; believe others should be saved and converted; and hold traditional Protestant beliefs like the existence of the Trinity, the Virgin birth, angels and devils. Liberalists do not interpret the Bible

literally and view it as incomplete or metaphorical. They tend to be greater advocates of social change rather than focusing on salvation and do not believe that Christ will return. Liberalists also view modern changes as progressive and not threatening to religious ideas. Those who are not included into either of these categories are classified as Others. Fundamentalists for this sample included the following denominations: Baptist, Church of Christ, Jehovah's Witness, and Pentecostal. Liberalists included Christians, Catholics, Disciples of Christ, and United Church of Christ. Participants who identified themselves as Buddhist, Wiccan, Atheist, Non-Denominational, and Spiritual were classified as Others. The sample included 58 Fundamentalists, 28 Liberalists, and 12 Others.

Fifty-five percent of Fundamentalist participants indicated they interpreted the Bible literally. The majority of Fundamentalists reported to believing in being born again at 88%. Seventy-one percent reported they were raised to follow their religion and 60% believed salvation occurs slowly. Liberalists endorsed the literal interpretation of the Bible to a lesser degree, as well as being born again. Ninety percent reported being raised to follow their religion and 86% expressed the belief that salvation occurs slowly. Others indicated no literal interpretation of the Bible. Approximately one-third were raised to follow their religious beliefs and indicated a belief in being born again. Seventy-five percent of Others reported that salvation occurs slowly. The percentage of participants that reported belief in the literal interpretation of the Bible did differ significantly by denominational group,  $c^2(2, N = 100) = 14.66$ , p < .05. The percentage of participants who reported being raised to follow their religion differed significantly by denominational group,  $c^2(2, N = 99) = 11.50$ , p < .05. Significant differences were found between groups based on the number of participants to report belief that salvation occurs

slowly,  $c^2(2, N=100) = 5.92$ , p < .05. In addition, the percentage of participants who reported belief in being born again did differ significantly by denominational group,  $c^2(2, N=100) = 5.92$ , p < .05. In addition, the percentage of participants who

N = 99) = 17.05, p < .05. Results are found in Figure 5.

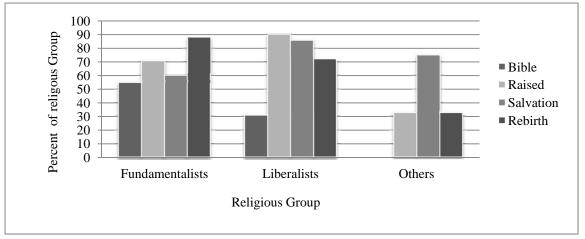


Figure 5. Percentage of religious group reporting belief in the literal interpretation of the Bible, being raised to follow their religion, belief in salvation occurring slowly, and belief in rebirth or being born again. Significant differences were found.

A one-way between subjects ANOVA was conducted to compare the effect of religious group on the importance of good deeds for Fundamentalists, Liberalists, and Others. There was not a significant effect of good deeds at the p<.05 level for the three groups [F(2, 96) = 0.28, p = 0.76]. All conditions view good deeds of approximately equal importance. Figure 6 shows these results.

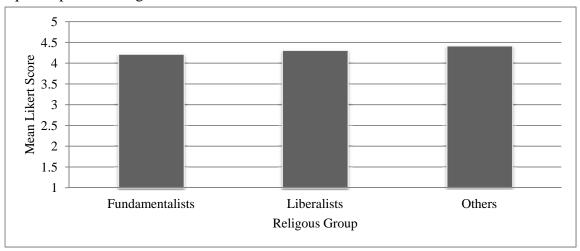


Figure 6. Mean Likert scores (1-not important, 5-important) for good deeds for religious groups. No significant differences were found.

Fundamentalists and Liberalists did not significantly differ on any of the items, excluding an item from the Essentialist Belief Scales ("People can have many attributes and are never completely defined by any particular one"). Fundamentalists were found to believe this statement was false more so than Liberalists, indicating less support for the idea of the flexibility of identity.

Religious groupings were further subdivided into those high on religiosity versus those low on religiosity as determined by the Intrinsic/Extrinsic-Revised Scale of Religiosity. Because all of the individuals classified as "Others" were low in religiosity, religiosity and denominational grouping were not factorial. Thus, this variable was treated as a single factor with five levels (Religious Grouping). A repeated measures ANOVA was conducted having three levels of type of characteristic (biological, psychological, and hybrid), two levels of valence (positive and negative), and five levels of religious grouping (Fundamentalist High, Fundamentalist Low, Liberalist High, Liberalist Low and Others) as the between-subjects variable. A main effect of type of characteristic was found, F(2,184) = 25.06, p<.01. Single df contrasts showed that hybrid characteristics had higher change scores than psychological characteristics, F(1,184) = 30.90, p<.01 and biological characteristics, F(1,184) = 43.81, p.<.01. Results are found in Table 1. The average change scores for each vignette and its type are found in Table 2.

Table 1
Significant Main Effect of Type of Characteristic

Type of Change	M	SD
Biological	1.28	.03
Psychological	1.33	.03
Hybrid	1.55	.04

Table 2
Mean Scores for Change Vignettes

	Fundamentalists	Gradualists	Others	Total
Vignette	M	M	M	M
Hybrid	1.58	1.50	1.50	1.55
Pretty	1.57	1.59	1.58	1.58
Muscular	1.43	1.48	1.25	1.42
Learning	1.75	1.59	1.58	1.68
Clumsy	1.59	1.36	1.58	1.52
Biological	1.27	1.28	1.38	1.28
Vision	1.19	1.25	1.42	1.23
Height	1.64	1.62	1.83	1.66
Pinky	1.13	1.00	1.25	1.10
Sugar	1.11	1.24	1.00	1.13
Psychologic	eal 1.35	1.30	1.31	1.33
Friendly	1.05	1.07	1.08	1.06
Brave	1.09	1.04	1.00	1.06
Messy	1.54	1.52	1.42	1.52
Not Nice	1.75	1.60	1.82	1.72

Type of characteristic x valence interaction was significant, F (2,184) = 61.98. Single contrasts showed that positive psychological characteristics had lower change scores than negative psychological characteristics F (1,184) = 91.20, p<.01. On the contrary, positive biological characteristics had higher change scores than negative biological characteristics, F (1,184) = 38.35, p<.01. For hybrid characteristics, there was no difference in change scores as a function of valence F (1,184) = 2.13, p=.15. See Figure 7 for results.

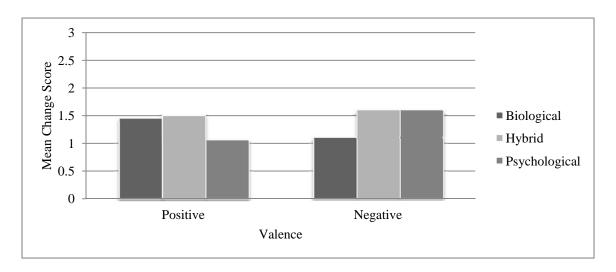


Figure 7. Mean change scores for biological, hybrid, and psychological characteristics of positive and negative valence. A significant type of characteristic x valence interaction was found.

A significant main effect of domain was found F(2,188) = 8.78, p<.01.

Informativeness F(1,188) = 10.72, p<.01 and biological basis F(1,188) = 15.24, p<.01 were lower than discreteness. Table 3 contains these results.

Table 3
Significant Main Effect of Domain

Domain	M	SD
Informativeness	3.52	.46
Discreteness	3.83	.79
Biological Basis	3.49	.62

Valence was also significant, F (1, 92) = 5.92, p<.01. Positive characteristics (M = 1.34, SD = 0.42) had lower change scores than negative characteristics (M = 1.44, SD = 0.51).

There was no main effect of religious group F (4,188) = .86, p=.49. See Figure 8 for results.

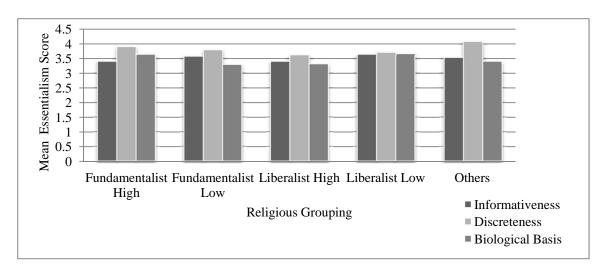


Figure 8. Mean essentialism scores for religious groupings (Fundamentalist High, Fundamentalist Low, Liberalist High, Liberalist Low, and Others). No significant religious grouping x domain interaction was found.

Table 4
Sample Demographics

1 0 1		
Demographic Factors	N	
Sex		
Female	68	
Male	31	
Age		
18-20	82	
21-26	11	
27 and older	6	
Class Standing		
Freshman	67	
Sophomore	13	
Junior	5	
Senior	10	
Race		
White	85	
Black	8	
Asian	1	
American Indian	1	
Biracial	4	
Hometown		
Farm	29	
Small Rural	19	
Suburban	12	
Small City	20	
Large City	19	
$N_{-4}$ $N_{-}00$		

*Note. N*=99.

#### Discussion

The goal of this research was to find a relationship between religion, beliefs about change, and essentialism. The first hypothesis that those with gradualist religious views will be more likely to endorse essentialist views was not indicated based on results. No significant differences were found between those classified as gradualists and conversionists. It can be proposed that views on conversion and salvation do not have an effect on essentializing behaviors. Perhaps this classification can be better made by using multiple items to better determine gradualist and conversionist classification as opposed to a single item.

The second hypothesis that those who essentialize most will be less likely to endorse the possibility of change was not supported by findings. Those who essentialized at higher levels did not significantly differ in beliefs about change when compared to those who essentialized at lower levels. These findings indicate no relationship between essentialism and beliefs about change. Ratings for the entire sample were considerably high for essentialism.

The third hypothesis that those with high levels of extrinsic religiosity are more likely to demonstrate essentialist beliefs was not confirmed by results. No significant differences were found between high extrinsics and low extrinsics. Extrinsic religiosity scores were considerably low for the entire sample.

The fourth hypothesis was that individuals would view change as more plausible as they were determined to be more intrinsically religious. This hypothesis was not supported by results and no significant differences were found. Most participants

indicated no change would occur or that vignette characters would change to demonstrate average levels of the characteristic in question.

Overall, participants reported a greater possibility of change for hybrid characteristics than for psychological or biological characteristics. Positive characteristics had lower change scores than negative characteristics. This may reflect a sense of optimism as found in Lockhart's research. As people, we would like to believe that others can change for the better. As found in Lockhart's research, change scores for negative psychological traits were greater than change scores for positive psychological traits. Characters that were mean and messy were viewed as more capable of changing when compared to characters that were brave and outgoing. As also found by Lockhart's research, positive biological traits were viewed as more likely to change than negative biological traits. Characters that became sick from foods and lacked physical body parts were viewed as less likely to change than those who were very tall or could see very well.

Responses may reflect a tendency to believe that people become average or typical over time. Mean or messy people may improve their attitudes to gain more relationships, while brave and outgoing people may learn to be more cautious or selective. Further, those who are very tall when they are young may be considered average when their peers reach growth spurts and vision tends to deteriorate over time. Findings mirrored Lockhart's research in which subjects viewed negative psychological traits as most likely to change and negative biological traits as least likely of change.

#### General Discussion

When comparing traditional denominational beliefs as indicated by Smith (1986), with questionnaire results, many participants did not adhere to the beliefs associated to

their denominational groups. Fundamentalists, although the largest religious grouping of the current research, adhered to the literal interpretation of the Bible in modest percentages.

## Youth and Religion

Perhaps there is an overall move toward modern beliefs in which individuals are able to leave behind predetermined practices and values. There may also be a movement among younger members of denominational groups deciding how to interpret religious practices and doctrines in a modern world. There are trends among young adults indicating a decline in religious affiliation and church attendance (Pond, Smith, & Clement, 2010). Although, an individual considers himself or herself to belong to a certain religious group, they may not be considered by others to be a member. It seems, for young people, religion has become a less important aspect of identity.

## Fluidity of Religious Identity

According to the U.S. Religious Landscape Survey (2008), research shows a trend in the blending of religions, as well as a growing trend in individuals changing religious affiliations at least once within their lifetime. Many Americans do not identify with a single religious group or denomination. As indicated by the results of this study, all participants stressed the importance of good deeds regardless of religious affiliation. This may be an indication of a push toward social change among all denominations. There may have been no effect of religious group due to trends such as these. Religion as a concept may contain a larger, overarching purpose.

#### Limitations

There were several limitations of this study. First, the sample was relatively homogenous including a large majority of young, white, Baptist participants. Second, the study relied on self-report in which participants may be inclined to respond according to what they feel is expected rather than what is actually true. Third, many of the major religious groups and denominations were not represented in numbers large enough to detect trends within the group or to make comparisons with confidence.

Additional research in the area of essentialism and religion should rely less on subject report of religious affiliation. Responses to items created from most recently established criteria should be utilized to determine religious affiliation. Further, more diverse samples in regard to age, race, and religious affiliation would provide additional information that can be applied to a number of populations. Lastly, opportunities to indicate reasoning should be provided within any surveys used. Many participants wrote in statements such as "it depends" or "sometimes" in addition to selecting a response. Any elaborations that can better explain participant explanations only provide richer data and support for analysis. Administration of the items in the form of an interview may be best to allow for thorough responses and follow-up questions as needed. A phone interview allows for data collection from a larger, more diverse sample. With a more representative sample, significant differences may have been revealed among religious groups based on traditional beliefs. Further, comparisons may have been made between younger and older participants to better support trends within age groups or trends in thinking across the lifespan.

#### APPENDIX A

# CONSENT FORM, RELIGIOUS BACKGROUND QUESTIONS & DEMOGRAPHICS QUESTIONS

## INFORMED CONSENT DOCUMENT

Project Title: Beliefs about People and Change

Investigator: Keshia Porter, B.A. and Kelly Madole, Ph.D., Dept. of Psychology, 745-

6475

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your signed agreement to participate in this project.

The investigator will explain to you in detail the purpose of the project, the procedures to be used, and the potential benefits and possible risks of participation. You may ask him/her any questions you have to help you understand the project. A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have.

If you then decide to participate in the project, please sign on the last page of this form in the presence of the person who explained the project to you. You should be given a copy of this form to keep.

- 1. **Nature and Purpose of the Project:** The goal of this study is to determine how people think about a variety of different concepts including religion, possibilities for change and the nature of human characteristics.
- 2. **Explanation of Procedures:** You will be asked to provide general information about yourself. Then you will be asked to complete three different questionnaires. One is about your religious beliefs. Another is about your beliefs about human characteristics. You will also be asked to read 12 short stories and then answer some brief questions about the possibility of change for the person in the story. In addition, you will be asked to supply your reasons for these answers. The entire procedure should take no more than 45 minutes.
- 3. **Discomfort and Risks:** This study has no risks beyond those you would incur in everyday life.
- 4. **Benefits:** Your instructor may provide you with course credit or extra credit for participating.
- 5. **Confidentiality:** Your participation in this research is confidential. Your name will not appear on any answer sheet. In the event of publication of this research, only group data will be reported. No personally identifying information will be disclosed.
- 6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

	to identify all potential risks in an hat reasonable safeguards have been taken to t unknown risks. Participants under the age of
Name (Please Print)	Age
Signature of Participant	Date

Witness

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Paul Mooney, Human Protections Administrator

Date

TELEPHONE: (270) 745-4652

Age:	Year in College:	
Major:		
Sex:	Male	Race (Check all that apply):
	Female	American Indian/Alaskan Native
		Asian
		Black/African American
		Native Hawaiian/Pacific Islander
		White
		Hispanic
How wo	uld you describe your hometown?	
	_ farm community	
	_ small rural town (less than 5,000 p	eople)
	_ suburban	
	_ small city (50,000 to 200,000 peop	ole)
	_ large city (more than 200,000 peop	ole)

What religion or denomination do you identify with? Please circle one.

- 1. Adventist / Seventh-Day Adventist
- 2. Anabaptist
- 3. Anglican
- 4. Assemblies of God (Assembly of God)
- 5. Association of Unity Churches
- 6. Baptist
- 7. Bible Church/Bible Believing
- 8. Brethren
- 9. Buddhist
- 10. Catholic
- 11. Charismatic
- 12. Christian (Disciples of Christ)
- 13. Christian and Missionary Alliance (CMA)
- 14. Christian Science (Christian

Scientist)

15. Church of Christ (Churches of

Christ)

- 16. Church of God
- 17. Church of England
- 18. Church of the Nazarene
- 19. Calvary Chapel
- 21. Disciples of Christ
- 22. Episcopalian
- 23. Evangelical
- 24. Evangelical Covenant Church
- 25. Evangelical United Brethren
- 26. Evangelical Free Church
- 27. Four Square
- 28. Free Methodist Church
- 29. Friends
- 30. Fundamentalist
- 31. Hindu
- 32. Holiness
- 33. Independent
- 34. Inter-Denominational Protestant
- 35. Islamic (Islam)
- 36. Jehovah's Witness
- 37. Jewish
- 38. Protestant
- 39. Latter Day Saint(s)
- 40. Lutheran
- 41. Mennonite

- 42. Methodist
- 43. Missionary Church
- 44. Moravian
- 45. Mormon
- 46. Nazarene
- 47. Native American
- 48. Non-Denominational
- 49. Orthodox(Eastern, Greek, Russian,

etc.)

- 50. Pagan
- 51. Pentecostal
- 52. Presbyterian
- 53. Ouaker
- 54. Reformed
- 55. Roman Catholic
- 56. Salvation Army
- 57. Scientology
- 58. Unitarian-Universalist
- 59. United Church of Christ (UCC)
- 60. Unity Church
- 61. Vineyard Fellowship
- 62. Wesleyan Church
- 63. Wiccan
- 64. Willow Creek
- 65. Other

Please identify:

66. Don't Know

Do you identify as another religion? If yes, please specify
Were you raised to follow your religion or have you become religious since you turned 12?
1=Raised 2= Since 12 years of age

Please rate the following on importance in your religion. Each item is accompanied by a scale ranging from 1 to 5 (1=not important, 2=somewhat important, 3=neither important nor unimportant, 4=important, 5=very important).

1.	Personal pr	ayer			
1		2	3	4	5
2.	Reading a r	eligious te	ext		
1		2	3	4	5
3.	Meditation				
1		2	3	4	5
4.	Attendance	at religion	us services		
1		2	3	4	5
5.	Healing				
1		2	3	4	5
6.	Corporate p	orayer			
1		2	3	4	5
7.	Outreach/ E	Evangelisn	n		
1		2	3	4	5
8.	Salvation				
1		2	3	4	5
9.	Baptism				
1		2	3	4	5

Please rate the following on importance in your religion. Each item is accompanied by a scale ranging from 1 to 5 (1=not important, 2=somewhat important, 3=neither important nor unimportant, 4=important, 5=very important).

10. Comm	nunion				
1	2	3	4	5	
11. Fastin	ng				
1	2	3	4	5	
12. Obser	vance of rel	igious holid	lays (your own)		
1	2	3	4	5	
13. Fellov	wship				
1	2	3	4	5	
14. Tradit	tions (i.e. di	et, attire)			
1	2	3	4	5	
15. Good	deeds				
1	2	3	4	5	
Do you believone). Slowly			ng that happens s	slowly or all of	a sudden? (Check
Do you believ	ve in being ' No	'born again'	"? (Check one).		
Do you interp		e literally?	(Check one).		

# APPENDIX B

# THE INTRINSIC/EXTRINSIC-REVISED SCALE OF RELIGIOSITY

Each item is accompanied by a scale ranging from 1 to 5 (1 = I strongly disagree, 5 = I strongly agree).

1.	I enjoy readin 1	ng about my 1 2	religion.	4	5
2.	I go to church	because it h	elps me to mak	te friends. 4	5
3.	It doesn't mu	ch matter wh 2	at I believe so	long as I am go 4	ood. 5
4.	It is importan	t to me to spe	end time in priv 3	vate thought an 4	d prayer. 5
5.	I have often h	nad a strong s 2	ense of God's	presence. 4	5
6.	I pray mainly 1	to gain relie	f and protection 3	1. 4	5
7.	I try hard to li	ive all my life 2	e according to	religious belief 4	Ss. 5
8.	What religion	offers me m 2	ost is comfort	in times of trou	able and sorrow.
9.	Prayer is for 1	peace and hap	ppiness.	4	5
10.	Although I ar	n religious, I 2	don't let it affe	ect my daily lif 4	e. 5
11.	I go to church	n mostly to sp	pend time with	my friends.	5
12.	My whole app	proach to life 2	is based on m	y religion. 4	5

Each item is accompanied by a scale ranging from 1 to 5 (1 = I strongly disagree, 5 = I strongly agree).

13. I go to church mainly because I enjoy seeing people I know there.

14. Although I believe in my religion, many other things are more important in life.

1 2 3 4

# APPENDIX C

# ESSENTIALIST BELIEF SCALES

Each item is accompanied by a scale ranging from 1 to 6 (1 = strongly agree, 2 = agree, 3 = mostly agree, 4 = mostly disagree, 5 = disagree, 6 = <math>strongly disagree).

3 = mc	ostly agree, 4 =	= mostly disa	gree, 5 = aisag	gree, o = stron	gly disagree)	).
Biolog	ical Basis Sca	le				
•		of person so	meone is can	be largely a	attributed to	their genetic
	inheritance"	2	3	4	5	6
	1	2	3	7	3	O
•	"Very few tra	its that peop	le exhibit can b	e traced back	to their biolo	gy"
	1	2	3	4	5	6
•	"I think that someone is"	genetic pred	lispositions hav	e little influe	nce on the k	ind of person
	1	2	3	4	5	6
	((33.71 .1		1	.1	. 1	. 11 4.
•	biological ma		ne kind of per	son or anoth	er is determ	ined by their
	1	2	3	4	5	6
	·	- 00				
•		• •	of people and aced back to get	_	scientific kn	owledge these
	1	2	3	4	5	6
•	"A person's a	attributes are 2	something that 3	can't be attrib	uted to their 5	biology" 6
	1	2	3	4	3	U
•	_		nowledge, the	-	-	n has could be
	traced back to	o, and explain	ned by, their bid	ological make- 1	up" 5	6
	1	2	3	4	3	U
•	"A person's t	raits are neve	er determined b	y their genes"		
	1	2	3	4	5	6
Discre	teness Scale					
•		person some	eone is, is clear	ly defined; the	ey either are	a certain kind
	of person or t	hey are not"	2		_	_
	1	2	3	4	5	6
•	"People can l	oehave in wa	ys that seem ar	mbiguous, but	the central a	spects of their
	character are	clear-cut"				-
	1	2	3	4	5	6

•	"A person's categorized"	basic quali	ities exist in	varying degre	es, and are	never easily
	1	2	3	4	5	6
•	"Everyone is	either a certa	in type of pers	on or they are	not"	
	1	2	3	4	5	6
•	"A person's b	asic characte	er is never easil	ly defined"		
	1	2	3	4	5	6
•	"A person eit	her has a cert	tain attribute o	they do not"		
	1	2	3	4	5	6
•	"No matter w	-	a person has,	those qualities	s are always	indefinite and
	1	2	3	4	5	6
•	"People can particular one	•	attributes and	l are never co	ompletely de	efined by any
	1	2	3	4	5	6
Inform	ativeness Scal	0				
•		ng to know a	a person it is	possible to ge	t a picture o	of the kind of
	1	2	3	4	5	6
•	"It is possible with a few of		out many aspec	cts of a person	once you be	come familiar
	1	2	3	4	5	6
•			select number	of contexts ca	n never tell y	ou a lot about
	the kind of pe	2	3	4	5	6
•	_		have some ba about how they			•
	1	2	3	4	5	6
•			you know son			s it is possible
	1	2	3	4	5	6
•	"It is never po	ossible to jud 2	ge how someo	ne will react in	new social s	situations"
	1	<i>L</i>	J	4	J	U

Each item is accompanied by a scale ranging from 1 to 6 (1 = strongly agree, 2 = agree, 3 = mostly agree, 4 = mostly disagree, 5 = disagree, 6 = strongly disagree).

Each item is accompanied by a scale ranging from 1 to 6 (1 = strongly agree, 2 = agree, 3 = mostly agree, 4 = mostly disagree, 5 = disagree, 6 = strongly disagree).

• "There are different 'types' of people and it is possible to know what 'type' of person someone is relatively quickly"

1 2 3 4 5 6

#### APPENDIX D

## **CHANGE VIGNETTES**

A. When Karen was 5, she was very attractive compared with most girls her age. Everyone thought she was really very pretty. Karen liked being the most beautiful.

When Karen was 10, she was still very good looking. Everyone still thought she was beautiful compared with other girls. Karen still liked being prettier than the other girls.

Now Karen is much older, 21. Karen has never been in an accident or to a hospital for an operation and she takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to Karen? (Please circle your response.)

- 1. Karen is still very good looking. Most people think she is very beautiful compared with other girls her age.
- 2. Karen now looks about as pretty as most girls her age. She's not uglier than most girls and she's also not prettier than most girls. She is about as attractive as everyone else her age.
- 3. Karen is no longer beautiful at all. She is much less attractive than most girls her age. Most people think she is ugly.

Do you think the other outcomes are possible? If yes, which outcome(s)?
How could these changes be explained?

B. When Jessie was 5, he was one of the most muscular, well-built boys in his class. Jessie liked being really muscular and well built.

When Jessie was 10, he was still one of the most muscular and well-built boys in his class. He still enjoyed having lots of muscles and being well built compared with other boys.

Now Jessie is much older, 21. Jessie has never been in an accident or to a hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to Jessie? (Please circle your response.)

- 1. Jessie is still one of the most muscular and well-built people among boys his age.
- 2. Jessie is no longer one of the most muscular and well-built people. He now looks about the same as most boys his age. He has about the same amount of big muscles as most boys.
- 3. Jessie is no longer one of the most muscular and well-built boys. He is very out of shape and fat compared with other boys his age.

Do you think the other outcomes are possible? If yes, which outcome(s)?		
How could these changes be explained?		

C. When Tom was 5, he had a lot of trouble learning things in school. He wished he could be smarter. He often thought about learning lots of things and being really wise.

When Tom was 10, although he knew more than when he was 5, he still had a lot of trouble learning things in school compared with the other kids in his class. Tom still thought a lot about being really smart. He wanted to be a real whiz at school.

Now Tom is much older, 21. Tom has never been to the hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most* likely to have happened to Tom? (Please circle your response.)

- 1. Tom still has trouble learning things in school compared with most boys his age. He still isn't very smart.
- 2. Tom no longer has so much trouble learning things in school. He is about as smart as most boys his age.
- 3. Tom no longer has trouble learning things at all. He does excellent work in school. He is one of the smartest boys among people his age.

Do you think the other outcomes are possible? If yes, which outcome(s)?		
How could these changes be explained?		

D. When Sam was 5, he was very clumsy. He was always tripping over things and couldn't play any sports very well. Sam wished he could run fast, jump high, and kick a ball really far. He often thought about being able to play lots of sports really well.

When Sam was 10, he was still one of the clumsiest boys in his class. He still tripped over things and couldn't do any sports very well at all. Sam still thought a lot about begin a super athlete and being able to jump high, run fast, or hit a ball better than other kids.

Now Sam is much older, 21. Sam has never been to the hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most* likely to have happened to Sam? (Please circle your response.)

- 1. Sam is still clumsy and not good at sports compared with other boys his age. He is still the slowest runner and can't kick or throw a ball very well.
- 2. Sam is no longer one of the clumsiest boys. He can do sports as well as most boys his age.
- 3. Sam is no longer clumsy at all. He is one of the best athletes among the boys his age. He can do all sports very well.

Do you think the other outcomes are possible? If yes, which outcome(s)?
How could these changes be explained?

E. When Josephine was 5, she could see very well compared with other children her age. She never had to wear glasses. She could see everything around her clearly and easily. She liked being able to see so well.

When Josephine was 10, she still had very good eyesight and didn't need to wear glasses. She could see everything very clearly and easily, even things far away. She still liked being able to see everything so clearly.

Now Josephine is much older, 21. Josephine has never been in an accident or to a hospital for an operation and she takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to Josephine? (Please circle your response.)

- 1. Josephine still has really good eyesight compared with other girls her age. She can see more clearly than other girls her age.
- 2. Josephine no longer has really good eyesight. She is able to see things as clearly as most girls her age. Sometimes she needs to wear glasses, sometimes she doesn't.
- 3. Josephine is unable to see as clearly as other girls her age. Things look very fuzzy to her and she must wear very thick glasses all the time in order to see anything.

Do you think the other outcomes are possible? If yes, which outcome(s)?			
How could these changes be explained?			

F. When John was 5, he was very tall. He was one of the tallest boys among his friends. He liked being taller than the other boys.

When John was 10, he was still one of the tallest boys in his class. He still liked being taller than everyone.

Now John is much older, 21. John has never been in an accident or to a hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to John? (Please circle your response.)

- 1. John is still very tall compared with other boys his age.
- 2. John is no longer one of the tallest boys. He is about the same height that most boys his age are.
- 3. John is no longer one of the tallest boys. He is one of the shortest boys compared with other boys his age.

Do you think the other outcomes are possible? If yes, which outcome(s)?			
- <u></u>			
How could these changes be explained?			

G. When Jamie was 5, he was missing a finger on his right hand. Other kids had five fingers, but he only had four fingers. He was missing his pinky finger. Jamie wished he had five fingers on his right hand like most people. He often thought about having five fingers.

When Jamie was 10, he was still missing a finger on his right hand. He still wished he had five fingers like most kids. Jamie often thought about how great it would be to have five fingers.

Now Jamie is much older, 21. Jamie has never been to the hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most* likely to have happened to Jamie? (Please circle your response.)

- 1. Jamie is still missing his pinky finger on his right hand. He still only has four fingers.
- 2. Jamie has a fifth finger on his right hand now, but it is much smaller than most people's pinky fingers. It is just part of a finger.
- 3. Jamie has a fifth finger on his right hand now. His pinky finger looks just like most other people's fingers.

Do you think the other outcomes are possible? If yes, which outcome(s)?			
How could these changes be explained?			

H. When Kendra was 5, she was unable to eat anything with sugar in it. If she did, she would break out in sores and get very, very sick. Kendra wished she could eat foods with sugar in it like other kids. She often thought about eating cake, candy, soda, and cookies.

When Kendra was 10, she still could not eat any food with sugar in it. She knew that if she ate anything with sugar she would get very, very sick. Kendra still thought a lot about being able to eat candy, cake, and all other sorts of sweets like other kids. She wished she could eat anything she wanted and never get sick at all.

Now Kendra is much older, 21. Kendra has never been to the hospital for an operation and she takes no medicine on a regular basis.

Which of the following do you think is *most* likely to have happened to Kendra? (Please circle your response.)

- 1. Kendra still cannot eat any food with sugar in it. She still would get very, very sick if she ate candy bars or cookies with sugar in them.
- 2. Kendra can now eat some things with sugar in them, such as cake and cookies. She still gets a bit sick if she eats too much sugar, such as really sweet candy bars.
- 3. Kendra can now eat anything she wants to without getting sick. She can eat as much sugar as she would like such as candy bars, cookies, sodas, and so on and she never gets sick.

Do you think the other outcomes are possible? If yes, which outcome(s)?			
How could these changes be explained?			

I. When Marvin was 5, he was very outgoing and friendly. He was very talkative and felt comfortable meeting new people. Marvin enjoyed being talkative and outgoing. He liked having lots of friends and feeling comfortable in big groups.

When Marvin was 10, he was still one of the friendliest boys in his class. He still felt comfortable in large groups. He was still very outgoing and still liked meeting new people. He enjoyed having lots and lots of friends.

Now Marvin is much older, 21. Marvin has never been in an accident or to a hospital for an operation and he takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to Marvin? (Please circle your response.)

- 1. Marvin is still very friendly and outgoing. He still is very talkative and feels comfortable in large groups. He has lots of friends.
- 2. Marvin is no longer as outgoing as he once was. Sometimes he is very friendly and talks a lot, but other times he is a bit shy and doesn't say much. He has about the same amount of friends as most people.
- 3. Marvin is no longer one of the most outgoing boys. He has become very shy and does not feel comfortable in large groups or meeting new people. He has only a few friends.

Do you think the other outcomes are possible? If yes, which outcome(s)?		
How could these changes be explained?		

J. When Patricia was 5, she was one of the bravest girls among her friends. She never got scared. She wasn't afraid of movies that had scary things in them; she wasn't afraid of the dark; and she wasn't afraid of spiders and snakes. There was nothing that frightened her. Patricia liked being really brave.

When Patricia was 10, she was still one of the bravest girls in her class. She still was not afraid of scary movies or spiders or snakes or the dark. Patricia still didn't get frightened easily. She still liked being really brave.

Now Patricia is much older, 21. Patricia has never been in an accident or to a hospital for an operation and she takes no medicine on a regular basis.

Which of the following do you think is *most likely* to have happened to Patricia? (Please circle your response.)

- 1. Patricia is still much braver than other girls her age. She loves spooky movies and stories. Most things don't frighten her.
- 2. Patricia is no longer as brave about things as she once was. She is just as likely to get scared as any other girl her age. Some things frighten her, and some things don't.
- 3. Patricia is no longer as brave as she once was. In fact, she now gets more easily frightened by things than most girls her age. She gets really scared by spooky stories or movies. Spiders and snakes now scare her a lot too.

Do you think the other outcomes are possible? If yes, which outcome(s)?			
How could these changes be explained?			

K. When Sharon was 5, she was one of the messiest children in her class. Her papers were always all over the desk and the floor. Her hair and her clothes were messy. Her room at home was always messy too. Sharon wished she could be neater. She often thought about picking things up and having things be neater and tidier.

When Sharon was 10, she was still one of the messiest kids in her class. Her desk was a mess, her homework was a mess, and she still was a messy dresser. Sharon still wished she could be neater. She often thought about being more organized and tidy.

Which of the following do you think is *most likely* to have happened to Sharon? (Please circle your response.)

- 1. Sharon is still one of the messiest people. Her work is always a mess and her clothes and hair are also very messy.
- 2. Sharon is not any messier than other people her age. Sometimes her work is neat and sometimes it is messy. She's just like most girls her age; she's not messier and she's not neater than most girls are.
- 3. Sharon is now very neat. Her work is always organized and she dresses very neatly. She is much tidier than most people her age. She often picks up and straightens things up.

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L. When Ralph was 5, he was very mean. He was always saying mean things to other kids in his class, teasing them, and hurting their feelings. He wished he could be a nicer person and not say so many mean things. He often thought about being a nice person who thought more about others' feelings.

When Ralph was 10, he was still one of the meanest children in his class. He still said mean things and teased and laughed at the other kids. Ralph still thought a lot about being kinder and not teasing others. He still wished he could be a nice person.

Which of the following do you think is *most likely* to have happened to Ralph? (Please circle your response.)

- 1. Ralph is still very mean. He still teases other people and says things that hurt their feelings.
- 2. Ralph is no longer one of the meanest people. Sometimes he might tease someone or hurt their feelings, but no more than any other boy his age.
- 3. Ralph is no longer mean at all. He never teases people and never says things to hurt their feelings. He's always nice to others.

Do you think the other outcome	es are possible? If yes, which outcome(s)?	
How could these changes be exp	plained?	

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