Is Religion Essential? Beliefs about Religious Categories

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Abstract
The purpose of the present study was to assess whether presumed variations in people's values towards intergroup mobility modulate their essentialist beliefs about the groups. Our target population was orthodox Jews, who, on the one hand, value in-group preservation regarding religious affiliation (Jewish or Christian), but on the other, value uni-directional integration regarding religiosity (from secular to orthodox). This population was compared to secular Jews, who do not hold such differential values. Participants were given four different transformation scenarios – addressing both biological and genetic aspects of essentialism – and were asked to rate to what extent the different transformations would change a person's social group membership. Results showed that orthodox participants were more likely than secular participants to respond that people cannot change their religious affiliation. Moreover, orthodox participants considered it more plausible that a secular Jew would become an orthodox Jew, than that an orthodox Jew would become a secular Jew. Secular participants did not manifest such an asymmetry. The implications of these findings to social essentialism are discussed.

Keywords
Essentialism, social categories, religion, group membership

Around the world, people conceive of certain social categories in a way similar to how they conceive of animal categories. Namely, both types of categories are believed to have causal properties which provide for rich inductive potential, and membership in the categories is believed to be immutable and determined by birth (see, for instance, Gelman, 2003, on animals, and Hirschfeld, 1996, on social categories). Researchers have defined these various characteristics of categories as constituting manifestations of a tendency to essentialize categories (Medin and Ortony, 1989). Indeed, evidence for social essentialism have been reported in a number of cultures, with regard to a variety of social categories (see for instance, Hirschfeld, 1996, on race in the USA and France; Taylor, 1996, on gender in the USA; Mahalingam, 2003, on caste in India;
Astuti et al., 2004, on ethnicity in Madagascar; Gil-White, 2001, on ethnicity in Mongolia; Kanovsky, 2007, on ethnicity in Ukrania).

Two broad types of factors have been put forth in an attempt to account for the origin of social essentialism. One type focuses on the potential cognitive foundations of social essentialism. For instance, according to Atran (1990), social essentialism stems from the analogical extension of a conceptual system specialized for living kinds onto the social domain (see also Boyer, 2001; Gil-White, 2001, for similar arguments). Hirschfeld (1996), in turn, claims that the similarities between social and biological essentialism notwithstanding, the former is part of a unique cognitive system that evolved to deal with human kinds. Lastly, Sperber (1996) has emphasized the role of language in the development of social essentialism.

The second line of explanation for social essentialism focuses not on plausible cognitive factors explaining its emergence, but rather on socio-motivational ones. For example, Cosmides et al. (2003) argue that motivational factors are at the bases of all social categories. In their view, race, for instance, serves as a proxy for an evolutionarily primary social drive to differentiate between friends and foes. That is, what guides social essentialism is the search for coalitional alliances, and thus any social category that primes this basic motivation can arguably trigger essentialist beliefs. Consistent with this idea, social psychologists have focused on the role of ideology in the creation and maintenance of social essentialism. In particular, researchers have argued that essentialism is recruited for the sake of intensifying and maintaining power differences between social groups, thus preserving a certain social order (Pratto et al., 1994; Yzerbyt et al., 1997; Haslam et al., 2000; Mahalingam, 2003). In support of this argument, essentialist-like beliefs have been found to reinforce stereotypic conceptions of out-groups (Martin and Parker, 1995; Plaks et al., 2001), and assumptions regarding fundamental differences between in-groups and out-groups (Leyens and Yzerbyt, 1992; Castano et al., 2002). Moreover, group differentiation, prejudice, and stereotypes, have been found to be related to people's beliefs in biological (Estrada, Yzerbyt and Seron, 2004) or even genetic differences (Keller, 2005; Jayaratne et al., 2006) between social groups (see Prentice and Miller, 2007, for a review).

The goal of the current study is to further investigate the role of motivational factors on social essentialism. Our interest was in assessing how presumed variations in cultural values regarding different social groups might lead to differences in the pattern of essentialist reasoning towards such groups. More specifically, while most previous studies have assessed how valuation of “in-group preservation” can endorse essentialist differences between social groups (see for instance, Leyens et al., 2003), our study evaluates, in addition,
how valuation of “integration” can drive people to overlook differences between social groups.

For this purpose, we examined the essentialist beliefs of orthodox and secular Jews in Israel regarding two social categories: religious affiliation (Jewish vs. Christian) and religiosity (Orthodox vs. Secular). We chose to focus on one specific component of essentialist reasoning that seemed crucial to the two kinds of motivations mentioned above. Namely, we assessed participants’ willingness to accept that a person’s religious affiliation or religiosity may change as a consequence of radical physical or environmental transformations (to be described below, see Keil (1989) for a discussion of this component). Orthodox Jews constitute the “target” group because the two types of motivations contrast within this group. On the one hand, orthodox Jews are arguably more concerned than secular Jews about the maintenance of the Jewish people as a separate social group from other non-Jewish groups. In other words, orthodox Jews have a stronger motivation towards in-group preservation regarding the dimension of religious affiliation. On the other hand, while interested in keeping their in-group from dismantling, orthodox Jews are also motivated to bring secular Jews closer to the Jewish faith – secular Jews not having the reverse interest. In other words, orthodox Jews more positively value integration regarding the dimension of religiosity – albeit a uni-directional one, from secular to orthodox.

Our hypotheses were that these values of orthodox Jews would modulate their essentialist beliefs about religious affiliation and religiosity. Specifically, our first hypothesis was that orthodox Jews would be more reluctant than secular Jews to say that a person’s religious affiliation may change. This in itself, however, could be a product not only of differences in motivational factors, but also of differences in observance of Jewish “law”. Namely, according to Jewish orthodox law, Jewishness is determined by matrilineal descent. The strong endorsement of this rule among orthodox Jews would make them less susceptible to admit religious affiliation transformations.

In order to address this possibility, we exposed participants to two different types of transformations: one involving the transference of a vital bodily organ (heart or brain, see, for instance, Mahalingam, 2003), and a second involving a radical change in one’s environment, while maintaining his/her genetic make-up (see Gil-White, 2001). We reasoned that if orthodox Jews determine one’s Jewishness solely in accordance to orthodox law, then they should render both transformation types as equally ineffective means of changing one’s religious affiliation. In particular, they should be reluctant to accept that an environmental change suffices to carry such an effect.

Our second hypothesis had to do with the category of religiosity. We hypothesized that given orthodox Jews’ positive valuation of integration
regarding religiosity, they would be less reluctant to say that a secular Jew could become an orthodox Jew than the other way around. Secular Jews should not manifest such an asymmetry in beliefs.

Method

Participants

The participants in this study were 192 Jewish adults (84 male, 108 female), aged between 18 and 65 years ($M=29.5$, $SD=9.7$). Half of the participants identified themselves as orthodox, and half considered themselves secular. All participants volunteered to participate, signed a consent form, and were debriefed after completion of the procedure.

Design

The study included two between-subjects variables: Population (Orthodox vs. Secular participants), and Direction of Transformations (Secular turning Orthodox or Orthodox turning Secular, and Jewish turning Christian or Christian turning Jewish). Participants were randomly divided into the different conditions formed by the crossing of these variables. In addition, the design also included two within-subjects variables: Category (Religious affiliation transformations vs. Religiosity transformations) and Transformation Type (Biological vs. Environmental). Altogether, all participants responded to 8 questions, 2 on Religious Affiliation with a Biological Transformation, 2 on Religious Affiliation with an Environmental Transformation, 2 on Religiosity with a Biological Transformation, and 2 on Religiosity with an Environmental Transformation.

Procedure

Participants were asked to participate in a study about beliefs on religion and religiosity. Each participant was asked to answer questions related to two sets of four hypothetical stories. The two sets of stories were identical in their format, except that one set included stories about religious affiliation while the other included stories about religiosity.

All stories started by describing a target character in terms of his/her relevant social category membership (i.e., in the religious affiliation stories, as either a Jew or a Christian, and in the religiosity stories, as either an Orthodox or a Secular Jew). The stories continued by describing a different kind of transformation that the target character underwent. Two of the transformations
involved a change in a fundamental biological organ of the target character (the Biological stories). The other two involved a change in the environment of the target character (the Environmental stories) (see Appendix for sample stories and questions).

One of the biological stories consisted of a brain transplant task. This story narrated how a character of religion or religiosity A was transplanted a brain, which had originated from a person of religion or religiosity B. Additionally, based on some pilot interviews with orthodox Jews who suggested that the soul of a person might be more closely associated with the heart, we decided to include also a similar story involving a heart transplant.

One of the environmental stories consisted of a story adapting the switch-at-birth paradigm (see Hirschfeld, 1996; Gil-White, 2001). This story narrated how a child born into parents of religion or religiosity A, got switched at birth and ended up being raised by parents of religion or religiosity B. We also used a second, novel, paradigm, which involved amnesia and a change of social surroundings. This story narrated how an adult of religion or religiosity A, got into a car accident in a foreign country, developed amnesia as a result, and was taken into and cared for by members of religion or religiosity B.

After reading each story, participants were asked to indicate whether they thought the target character had remained the same (scored as “1”), almost the same (“2”), changed almost completely (“3”), or changed completely (“4”), regarding his/her religious or religiosity affiliation. Participants’ answers constituted their “change score”, which varied from 1 to 4. A high score on the biological transformation stories indicated that participants viewed biological organs as essential to religious affiliation and religiosity. In turn, a high score on the environmental transformation stories suggested that participants held an environmental essentialist view of category membership – and complementarily, a non-genetic essentialist bias.

We created four different story orders and counterbalanced the orders between participants. Consequently, all stories appeared the same number of times as the first, second, third, or fourth, that participants read. Additionally, the order of presentation of the sets of stories was also counterbalanced. That is, half of the participants read the fours stories about religion transformations first, and the other half of the participants read the religiosity stories first.

After responding to the stories, each participant was asked to fill out the Index of Religiosity of the Jewish Population in Israel (Ben-Meir and Kedem, 1979). This was done so as to confirm the religious affiliation of the participants. The index helps determine the extent of participants’ belief in various values of the Jewish faith. For example, one of the statements is: “God gave the Torah [Old Testament] to Moses on Mt. Sinai”, to which participants had to
assert whether they (1) do not believe in it, (2) are undecided, or (3) believe in it. The average score was computed for each participant.

Results

Confirming our population division, a preliminary analysis revealed that, indeed, participants who identified themselves as orthodox scored higher on the Index of Religiosity (i.e., answered consistently with orthodox beliefs) ($M=2.87$, $SD=0.26$) than participants who identified themselves as secular ($M=1.83$, $SD=0.57$), $t(190)=16.16$, $p<0.001$. A further analysis revealed that secular participants were significantly older ($M=31.5$ years) than orthodox participants ($M=27.5$ years), $t(189)=2.90$, $p<0.01$. Age was not related to any of the other independent variables. In order to control for the possibility that the age differences might account for possible differences between orthodox and secular participants, the variable age was included as a covariate in all analyses. Unless mentioned otherwise, age was not significantly correlated with the dependent variables.

Our first hypothesis had to do with participants’ concepts of religious affiliation. Namely, the hypothesis addressed how willing were orthodox and secular Jews to accept a change in a person’s religious affiliation, whether the directionality of the transformation was relevant, and what type of transformation might lead to such a change. In order to test this hypothesis, we conducted a $2$ (Population: orthodox vs. secular) $\times$ $2$ (Direction of Transformation: Jewish turned Christian vs. Christian turned Jewish) ANCOVA, with repeated measures for the transformation type (Biological vs. Environmental).

The analysis revealed a main effect for Population, $F(1,186)=24.71$, $p<0.001$, $\eta^2=0.12$, such that orthodox participants ($M=2.01$, $SD=0.67$) gave lower change scores than secular participants ($M=2.49$, $SD=0.66$). There was also a main effect of Transformation Type, $F(1,186)=32.05$, $p<0.001$, $\eta^2=0.15$, with higher scores for the environmental ($M=3.00$, $SD=1.06$) than for the biological transformations ($M=1.49$, $SD=0.68$). Additionally, these main effects were qualified by a significant interaction between Population and Transformation Type, $F(1,186)=16.76$, $p<0.001$, $\eta^2=0.08$. No other significant effects were found.

In order to examine the source of this latter interaction, we examined the simple effects of transformation type for secular and orthodox participants separately, and the simple effects of population for environmental and biological transformations separately. The adjusted means and SD values for the two types of transformations among orthodox and secular individuals are presented in Table 1. We found higher scores for the environmental than for
the biological transformations for both the secular, $F(1,181)=412.43, p<0.001,$ $\eta^2 =0.81$, and the orthodox participants, $F(1,181)=97.86, p<0.001, \eta^2=0.51$. We also found that for the biological transformations, there was no significant difference between secular and orthodox participants, $F(1,181)=3.67, p>0.05$. In turn, for the environmental transformations, we found higher scores for the secular participants compared to the orthodox participants, $F(1,181)=34.49, p<0.001$.

The finding that transformation type was significant in both populations, and that the difference between populations had to do only with one type of transformation – environmental ones – indicates that orthodox participants were not “blindly” following the orthodox lawful definition of Jewishness. If they were, then their scores on the environmental transformations should have been the same as in the biological transformation, namely, they should have responded that the person’s religious affiliation would not have changed at all.

Our second hypothesis had to do with the category of religiosity. We hypothesized that orthodox individuals would perceive transformations as more effective when in the direction of transforming a secular Jew into an orthodox Jew, than when in the opposite direction. We expected not to find such an asymmetry among secular participants. In order to test this hypothesis, we conducted a 2 (Population: orthodox vs. secular) $\times$ 2 (Direction of Transformation: religious turned secular vs. secular turned religious) MANCOVA, on the change scores in the biological and environmental stories. The adjusted means and SDs for the two types of transformations among orthodox and secular individuals are presented in Tables 2 and 3.

A main effect of Population was found, $F(2,183)=3.64, p<0.05, \eta^2=0.04$, as orthodox participants perceived the transformations as less effective than secular participants. This effect was found only for the biological transformations, $F(1,184)=5.10, p<0.05, \eta^2 =0.03$, and not for the environmental transformations, $F(1,184)=2.29, p>0.05$. Additionally, an interaction between Population and Direction of Transformation was found, $F(2,183)=5.14$, 

<table>
<thead>
<tr>
<th>Type of transformation</th>
<th>Orthodox</th>
<th>Secular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td>1.41</td>
<td>1.57</td>
</tr>
<tr>
<td>Environmental</td>
<td>2.60</td>
<td>3.40</td>
</tr>
</tbody>
</table>

Table 1
Means and standard deviations of “change” scores for religious affiliation, by population and type of transformation
Table 2

Means and standard deviations of “change” scores on the biological stories on religiosity, by population and direction of transformation

<table>
<thead>
<tr>
<th>Direction of transformation</th>
<th>Orthodox</th>
<th>Secular</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Orthodox to Secular</td>
<td>1.40</td>
<td>0.59</td>
<td>1.72</td>
</tr>
<tr>
<td>Secular to Orthodox</td>
<td>1.43</td>
<td>0.64</td>
<td>1.58</td>
</tr>
<tr>
<td>Total</td>
<td>1.41</td>
<td>0.61</td>
<td>1.65</td>
</tr>
</tbody>
</table>

Table 3

Means and standard deviations of “change” scores on the environmental stories on religiosity, by population and direction of transformation

<table>
<thead>
<tr>
<th>Direction of transformation</th>
<th>Orthodox</th>
<th>Secular</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Orthodox to Secular</td>
<td>3.46</td>
<td>0.65</td>
<td>3.81</td>
</tr>
<tr>
<td>Secular to Orthodox</td>
<td>3.76</td>
<td>0.36</td>
<td>3.65</td>
</tr>
<tr>
<td>Total</td>
<td>3.61</td>
<td>0.55</td>
<td>3.73</td>
</tr>
</tbody>
</table>

$p<0.01$, $\eta^2=0.05$, which was significant only for the environmental transformations, $F (1,184)=9.63$, $p<0.01$, $\eta^2=0.05$, and not for the biological transformation, $F (1,184)=0.75$, $p>0.05$.

In order to uncover the source of the above interaction regarding environmental transformations, we conducted tests of simple effects. These tests revealed that among orthodox participants, there was a significant difference between the two directions, $F (1,189)=8.08$, $p<0.01$. Namely, orthodox participants responded that it was more likely for a secular person who moved to a religious environment to become religious, than it was for a religious person who moved to a secular environment to become secular. No such difference was found among the secular participants, $F (1,189)=2.46$, $p>0.05$. These findings supported our second hypothesis that orthodox individuals, but not secular ones, would show an asymmetry regarding their acceptance of religiosity category change. It is interesting to note that the asymmetry found among orthodox individuals only held for the environmental transformations, and not for the biological transformations.
Discussion

The goal of the present study was to assess whether variations in people’s motivations towards social groups modulate their essentialist beliefs about those groups. Our target population was orthodox Jews, whom on the one hand advocate a clear separation between Jews and non-Jews, but on the other hand endorse the integration of secular Jews into orthodoxy. Our hypotheses were that these different values would differentially impact orthodox Jews’ essentialist beliefs towards religion and religiosity categories, an effect that would become apparent in comparisons to secular Jews.

In general, the findings were consistent with our hypotheses. First, we found that orthodox Jews were more reluctant than secular Jews to admit that a person can change his religious affiliation. In other words, orthodox Jews upheld stricter boundaries between religion categories. This result is consistent with findings from various cultures, on other social categories, in which an ideology of in-group preservation seems to be endorsed (e.g., Hirschfeld, 1996; Yzerbyt et al., 1997; Leyens et al., 2003; Mahalingam, 2003; Keller, 2005). In such ideological contexts, essentialist beliefs legitimize and promulgate arguments about an inherent difficulty in integrating between social groups, and the preservation of the in-group’s identity.

Importantly, we found that the above effect was significant only in response to the stories involving environmental transformations, not to the stories involving a biological transformation. In fact, biological transformations, such as transplanting the brain or the heart of a Jewish person into a Christian person, had almost no effect on participants’ beliefs about category membership – they rated the person’s religious affiliation as practically unaltered. Thus, in contrast to what has been found with regards to people’s essentialist beliefs about animal categories (Gelman, 2003), and certain social categories (Mahalingam, 2003), our participants did not view these central internal organs as proxies for religion categories essences.

Furthermore, the fact that orthodox Jews were more willing to accept a religious affiliation change following an environmental than a biological transformation counters the notion that they were blindly following Jewish orthodox law regarding the definition of Jewishness. If the latter had been the case, then the only information that could have changed a person’s religious affiliation would have been a revelation correcting the person’s matrilineal descent. Moreover, participants’ overall willingness to accept changes in religious affiliation following environmental transformations indicates that they do not hold a strongly genetic essentialist notion about this category (Keller, 2005; Jayaratne et al., 2006). In fact, we believe that our findings regarding the specific nature of
people's beliefs about religiosity categories indeed point to an alternative construal of social essentialism, which we will expound below.

The main finding about religiosity categories was that while orthodox participants were affected by the directionality of environmental transformations, secular participants were not. Specifically, orthodox participants considered it more plausible that a secular Jew would become an orthodox Jew if he/she were to be transferred into an orthodox environment, than that an orthodox Jew would become a secular Jew if he/she were to be transferred into a secular environment. For secular participants, both directions of change were equally feasible. First and foremost, this finding is consistent with our hypothesis that orthodox Jews’ beliefs about religiosity categories are guided by an ideology of integration. Namely, orthodox Jews believe in, and in fact many work towards, the “recovery” of secular Jews into orthodoxy. Secondly, this finding seems to challenge a notion of genetic essentialism about religiosity for several reasons. First, an obvious reason: both secular and orthodox Jews were quite willing to admit that a change in a person's environment would radically change that person's religiosity. Second, the asymmetry runs against the genetic premise that categories are equal carriers of their essences. In the essentialist conception of animal kinds, the (im-)possibility of change from species A to species B is equal to the (im-)possibility of the reverse direction of change. Third and finally, the finding that the asymmetry was found only with regards to environmental transformations, and not biological ones, intimates that our orthodox participants' concept of religiosity category essence is indeed not couched in biological terms.

Based on the findings regarding both religious affiliation and religiosity, we would like to suggest that orthodox Jews’ essentialist beliefs about these categories may be best explained in terms of a “metaphysical essence”. In particular, their belief may be that, by default, all Jews are born and carry an orthodox Jewish “soul”. As such, if one is born a Jew, then sheer exposure to the spiritual environment that resonates with that soul is sufficient to trigger its manifestation. If one is not born a Jew, then exposure to a Jewish environment will not suffice to produce a category change. It is interesting to note in this regard, that while orthodox Judaism allows for the conversion of non-Jews into Judaism, missionary activities by orthodox Jews mostly target secular Jews rather than non-Jews. According to this point of view, orthodox individuals see all Jews as having this basic Jewish essence and, thus, secular Jews – but not non-Jews – exposed to the appropriate triggering environment will “catch” this essence. In turn, orthodox individuals view secularism – and non-Judaism – as void of an essence that could potentially “contaminate” them, and consequently, living in a secular or non-Jewish culture is less likely to create an
analogous change in them. Evidently, it would be important to assess this interpretation directly in future studies.

Irrespective of the precise nature of orthodox Jews’ essentialist concept, the asymmetry found in their responses regarding religiosity are novel and shed new light on this reasoning bias. On the one hand, this kind of asymmetric belief about the possibility of “contagion” is well-documented in the anthropological (Douglas, 1966) and social-psychological (Rozin and Nemeroff, 1990) literature. Nevertheless, this concept of contagion is usually invoked to account for people’s differential sensitivity to negative factors (e.g., Rozin and Royzman, 2001). In fact, Mahalingam (2003) also found an asymmetry in Indian Brahmans’ beliefs about the possibility of social category change, in which a Brahmin could be “contaminated” by a lower caste and consequently lose status, but not the other way around. Here, however, we see this concept as explaining the differential susceptibility to characteristics presumed to be positive in the eyes of the holders of this concept. It seems to us that one possible reason for this relatively original utilization of such a concept is that it serves its holders’ – orthodox Jews – values; namely, to bring secular individuals closer to religion, while ensuring that orthodox individuals do not stray into the secular community. In other words, the ideology gets translated into a concept of osmotic borders that enable a one-way penetration into the in-group, but do not allow the reverse passage.

Taken together, the findings of the present study provide novel insights on social essentialism. First, the concept of essentialism most consistent with the pattern of responses manifested by our orthodox participants is neither biological nor genetic, as a number of cognitive and social psychological models of social essentialism would have predicted (e.g., Atran, 1990; Gil-White, 2001; Estrada et al., 2004; Keller, 2005; Jayaratne et al., 2006). Rather, we argue that the essence of religious membership according to orthodox Jews seems to lie in the spirit. Second, this concept is not strictly uniform and exclusive, in contrast to findings with other populations on similar social categories (e.g., Haslam et al., 2000). For instance, orthodox Jews have asymmetric beliefs about the possibility of certain changes in social category membership. Third, the concept does not endorse solely an ideology of in-group preservation, as revealed in most other studies on social essentialism (e.g., Yzerbyt et al., 1997; Leyens et al., 2003). Orthodox Jews allow for inclusion of secular Jews into their innermost group. Fourth, the concept does not seem to be defined only in terms of maintaining a less-valued group from penetrating a more-valued one, as found by Mahalingam (2003), but instead recruits a cognitive motive of contagion for the sake of allowing such penetration in a particular social context. Fifth and finally, essentialist beliefs are not
monolithic constructs applied equally to all social categories. The very same individuals – e.g., orthodox Jews – can apply these beliefs in various manners to different social categories.

To a certain extent, the uniqueness of the concept of religion categories manifested by orthodox Jews derives not from its basic components (e.g., essentialism, contagion), but rather from how these cognitive components get combined. A number of cognitive anthropologists argue that this type of concept is indeed the most culturally endurable and easily disseminated (Sperber, 1996; Boyer, 2001). The present findings illustrate how a particular constellation of motives might serve as the catalyst for the creation of such culturally optimal concepts.

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References


Appendix

Sample Stories Used in the Study

1. [heart-transplant story]
Guy is a young, secular man, born to a secular family, who lives his life as a secular person. One day, he had to go through a complicated heart transplant procedure. His transplanted new heart came from a religious person, born to a religious family, who had lived his life as a religious person. Upon Guy's recovery, will he be:

<table>
<thead>
<tr>
<th>Secular as before</th>
<th>Secular almost as before</th>
<th>Religious almost as the donor</th>
<th>Religious as the donor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

2. [brain-transplant story]
Gilad is a young, secular man, born to a secular family, who lives his life as a secular person. One day, he had to go through a complicated brain transplant procedure. His transplanted new brain came from a religious person, born to a religious family, who had lived his life as a religious person. Upon Gilad's recovery, will he be:

<table>
<thead>
<tr>
<th>Secular as before</th>
<th>Secular almost as before</th>
<th>Religious almost as the donor</th>
<th>Religious as the donor</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

3. [amnesia story]
Rami is a young secular man, born to a secular family, who lives his life as a secular person. One day, on a trip to Brooklyn, NY, he had a severe car accident. He woke up at a local hospital, not remembering anything from his past, not his family and even not his name. No one at the hospital knew his identity since he didn't carry any identity card. Upon recovery, the Brooklyn Orthodox Jewish community decided to help him get back on his feet. Till this day he is living in Brooklyn and still has no recollection of his past (before the accident). Do you think Rami is:

<table>
<thead>
<tr>
<th>Secular as before</th>
<th>Secular almost as before</th>
<th>Religious almost as the Brooklyn Jewish community</th>
<th>Religious as the Brooklyn Jewish community</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</table>

4. [switch-at-birth story]
Moshe and Malka are a religious couple, born to religious families, who live their lives as religious people. When Malka gave birth to their first child, the hospital accidentally switched their new born baby with another baby born to a secular couple, who were born to secular families, and who lived their lives as secular people. The mistake went unnoticed and Moshe and Malka
raised the child believing he is their biological son though he was not. As Moshe and Malka's son grow up, do you think he will be:

<table>
<thead>
<tr>
<th>Secular as his biological parents</th>
<th>Secular almost as his biological parents</th>
<th>Religious almost as the parents raising him</th>
<th>Religious as the parents raising him</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
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