Seeing Isn’t Believing: The Effect of Intergroup Exposure on Children’s Essentialist Beliefs About Ethnic Categories

Inas Deeb, Gili Segall, and Dana Birnbaum
Bar-Ilan University

Adar Ben-Eliyahu
Duke University

Gil Diesendruck
Bar-Ilan University

Adults and children seem to essentialize certain social categories. Three studies investigated whether, and how, exposure to ethnic diversity affects this bias. Participants were 516 kindergarten, 2nd grade, and 6th grade Israeli Jewish and Arab children attending regular (mono-cultural) or integrated schools. Study 1 revealed that exposure increased the salience of ethnicity, especially for Jewish children. Study 2 showed no differences among groups at kindergarten regarding the relevance of recalling a story character’s ethnicity, but by 2nd grade, Jewish children attending integrated schools were the most likely to mention such information. Finally, Study 3 revealed that while all kindergarteners started off at a similar level of essentialism towards ethnicity, exposure affected Arab, but especially Jewish, children’s essentialist beliefs. Moreover, there were negative correlations between the salience of and essentialism towards ethnicity. Thus, interethnic exposure alleviated children’s essentialist bias towards ethnicity and did so via making children aware of, rather than blind to, ethnic categories.

Keywords: essentialism, social categories, contact, ethnicity, children

A number of social scientists have characterized people’s social concepts as reflecting essentialist beliefs (Rothbart & Taylor, 1992)—namely, that people conceive of membership in certain social categories, such as race, ethnicity, or gender, as being stable, inherited, causal, and inductively powerful. It has been argued that this cognitive representation of social groups provides an extraordinarily fertile ground for the emergence and maintenance of stereotypes and potentially also of prejudicial attitudes (see Pren- tice & Miller, 2007, for a review). Social psychologists have proposed that one of the primary means by which to remedy such negative outgroup biases is, in general, exposure to or familiarization with social diversity, and in particular, intergroup contact—that is, structured, purposeful, and collaborative integration between diverse group members. Here we investigate whether a similar strategy can be effective in curtiling the development of the very thought—that is, essentialism—that arguably lies at the core of these biases.

Social Essentialism and Intergroup Attitudes

Numerous studies have assessed the relationship between social essentialism and intergroup attitudes. Most reveal that social essentialism is positively linked to adults’ difficulty with switching frames of mind (Chao, Chen, Roisman, & Hong, 2007), stereotypes (Bastian & Haslam, 2006; Levy, Stroessner, & Dweck, 1998), prejudice (Keller, 2005; Leyens et al., 2003), disinterest in intergroup interaction (Williams & Eberhardt, 2008), and justifications of social stratification (Morton, Postmes, Haslam, & Hornsey, 2009; Yzerbyt, Cornelle, & Estrada, 2001).

Looking more closely at this relationship between essentialism and intergroup attitudes, Haslam, Rothschild, and Ernst (2000) identified two aspects of essentialism: natural kind and entitativity.
The first includes beliefs about the immutability, discreteness, stability, and naturalness of social categories. The second encompasses beliefs about the informativeness, uniformity, inherence, and exclusivity of social categories. More important for the present purposes, they found that higher degrees of essentialism, on either aspect, were positively correlated with negative stereotypes towards various social categories. The relationships between these constructs and prejudice were less straightforward, and in some cases (i.e., homosexuality) they were even negative (Bastian & Haslam, 2006; Haslam, Rothschild, & Ernst, 2002; see also Jaryatne et al., 2006).

Overall, given the potential for essentialism to correlate positively with negative intergroup attitudes, we asked whether essentialism can be inhibited.

The Origins of Social Essentialism

Anthropological and developmental studies suggest that social essentialism is fairly robust. First, it is found in a variety of cultures, with regard to a variety of social categories (e.g., in Mongolia with regard to ethnicity, Gil-White, 2001; in India with regard to caste, Mahalingam, 2003; and in Western countries with regard to race, homosexuality, and other categories, Haslam et al., 2000). Second, developmental studies indicate that social essentialism emerges early, with manifestations already at the preschool age (Gelman, 2003; Hirschfeld, 1996). In fact, some of the attitudinal consequences of essentialism listed in the previous section have also been observed with young children. In particular, essentialism has been positively associated with children’s feelings of helplessness (Cimpian, Arce, Markman, & Dweck, 2007; Heyman & Dweck, 1998) and stereotypes (Levy & Dweck, 1999). Third, essentialism seems to require minimal stimulation to appear. For instance, the Vezo children of Madagascar hold essentialist beliefs about a certain social category despite adults’ arguably nonessentialist discourse about the pertinent social group (Astuti, Soloman, & Carey, 2004). Moreover, North American children’s essentialist beliefs towards gender seem to emerge without too much explicit verbal endorsement by parents (Gelman, Taylor, & Nguyen, 2004).

On the one hand, the above findings about the cross-cultural ubiquity and early emergence of social essentialism lend support to the notion that social essentialism is an innate predisposition (Cosmides, Tooby, & Kurzban, 2003; Hirschfeld, 1996; Sperber, 1996). Under this interpretation, cultural and linguistic factors may trigger the disposition and/or direct children towards the relevant social groups onto which to attach essentialism. On the other hand, the fact that cultures vary regarding which social categories are essentialized, and the claim that children apprehend abstract categorical concepts relatively late in development (Sloutsky, 2010), has led some to argue that essentialism per se is a belief children acquire as they immerse into particular essentializing social contexts (Fodor, 1998).

One of the ways in which this theoretical debate can be addressed is by tracing the development of essentialism. Putting it simply, do children start off as essentialists and become less so as they mature? Or is the developmental trend reversed, with children learning essentialism as they immerse into their cultures’ essentializing discourse? Previous studies found that between kindergarten and the early teen years, essentialism seems to drop (e.g., Astuti et al., 2004; Rhodes & Gelman, 2009). Nonetheless, in order to draw a more comprehensive conclusion about the robustness of the development of social essentialism, it seems important to assess development across populations that differ on potentially critical factors regarding essentialism.

In particular, as Medin and Ortony (1989) suggested, essentialism may start off as a placeholder belief—that is, an abstract belief about the form of categories, but without specific details about category content. That is, naïve essentialists believe that a category essence exists, but what that essence might be is undefined. In this light, essentialism might be most effective with regard to “empty” concepts, that is, concepts about which one has very little knowledge. From a developmental perspective, the implication is that essentialism may be especially effective in shaping young children’s social concepts. The acquisition of real-world knowledge about a category can either reinforce essentialism or—in the appropriate social contexts—curb it.

Indirect evidence regarding the importance of knowledge about social concepts is that, first, children seem to conceive novel social categories in an essentialist manner. For instance, Gelman and Heyman (1999) found that categorically labeling a person based on his or her behavior (e.g., “she is a carrot-eater”), as opposed to describing the behavior (“she eats carrots whenever she can”), led children to believe that the behavior in question was more permanent and inherent in the person. Second and complementary, developmental studies suggest that cultural contexts seem to affect children’s essentialist beliefs in either direction. Thus, experiencing racially diverse environments decreased children’s beliefs about the naturalness of racial categories (Rhodes & Gelman, 2009). Conversely, exposure to religious ideologies endorsing creationism about social categories increased children’s essentialist beliefs about ethnicity (Diesendruck & Haber, 2009). Moreover, in Astuti et al.’s (2004) study among the Vezo, they found that young children were more likely to hold essentialist beliefs towards the least familiar of the two ethnicities present in their social environment, even though adults were equally nonessentialist about both.

As these findings on contextual factors imply, the degree of exposure to social category diversity—either via daily contact with members of one’s outgroups or via discourse discussing intergroup relations—might have an important effect on the development of essentialism. Drawing from the social psychological literature on these factors vis-à-vis issues of intergroup attitudes, we asked whether, and how, children’s exposure to diverse ethnicities would provide children with the real-world knowledge capable of moderating essentialist beliefs.

Context, Categorization, and Attitudes

Past research has shown that intergroup contact has significant impact on intergroup attitudes. Allport (1954) argued that contact may effectively diminish prejudice as long as four key requisites are met: (a) equal status between groups, (b) shared goals, (c) cooperation, and (d) support from authorities. Furthermore, it is often the case that certain contact situations involve additional contextual implications. For instance, the ideology of people who choose to engage in intergroup contact may sometimes differ from that of people who choose not to. In a meta-analysis on the effect of contact in intergroup bias, Pettigrew and Tropp (2006) con-
cluded that while Allport’s conditions are optimal, they are not necessary for contact to be effective in reducing biases. Pettigrew and Tropp also found similar effect sizes for contact among children and adolescents. Indeed, studies with children found that intergroup integration was associated with less negative attitudes towards outgroups (Aboud & Fenwick, 1999; Bigler & Liben, 2007; Cameron, Rutland, Brown, & Douch, 2006; McGlothin & Killen, 2006, 2010; Verkuyten, 2001). Interestingly, work with both adults (Tropp & Pettigrew, 2005) and children (Binder et al., 2009; Feddes, Noack, & Rutland, 2009) has found that the effect of contact is smaller among minority than majority groups.

A related question deriving from the above findings is how exposure to social category diversity, and its possible ideological corollaries, alters attitudes towards social groups. One line of work focuses on potential affective factors (e.g., anxiety reduction) that may be responsible for the effect of contact (Brown & Hewstone, 2005; Crystal, Killen, & Ruck, 2008; Turner, Hewstone, Voci, & Vonoakou, 2008). A second line of work focuses on potential cognitive factors that may account for the effect of contact. In particular, there exist two broad cognitive perspectives that make different assumptions about the relationship between categorization and intergroup bias (Cameron et al., 2006; Dovidio, Gaertner, & Kawakami, 2003).

One perspective assumes that the sheer act of categorizing inevitably leads to affective biases (Bigler & Liben, 2007; Tajfel, 1982). According to this perspective, contact should work towards decategorization (Brewer & Miller, 1984) or the creation of a common group identity (Gaertner, Mann, Murrell, & Dovidio, 1989). A more extreme position consistent with this notion is that of color blindness: If people would not see categories based on skin tone, they would not believe that there are substantial differences between racial groups. An alternative perspective is that categorization per se does not necessarily lead to bias. In fact, it is argued that under certain circumstances, acknowledgment of diversity (e.g., multiculturalism) is beneficial to intergroup attitudes (Brown, Vivian, & Hewstone, 1999; Cameron et al., 2006; Katz, 2003; Ryan, Weible, Peterson, & Casas, 2007; Vorauer, Gagnon, & Sasaki, 2009). Under this perspective, negative attitudes can be reduced via the creation of a dual identity; that is, exposure should encourage the creation of a common identity while maintaining separate ones (Gaertner & Dovidio, 2000).

Thus, there is a vast literature on the influence of exposure in general, and contact in particular, on adults’ and children’s attitudes towards social groups and on how exposure may carry its effect. Our interest was to investigate how exposure to outgroup ethnic members—and possibly some of its ideological corollaries—may affect the emergence in children of essentialist beliefs about social groups. Importantly, the same theoretical question regarding the relationship between categorization and attitudes is pertinent vis-à-vis essentialism. That is, does categorization inevitably lead to essentialism? Given that essentialism likely engages different cognitive mechanisms from the ones involved in intergroup attitudes, the answer for this question may differ from ones offered for intergroup attitudes.

For instance, stereotypes are by definition representations of the contents of categories. As such, it is reasonable to posit that people’s social category awareness will be positively related to their stereotypeing (see, for instance, Bigler & Liben, 2007). Essentialism, in turn, may occur even—and arguably especially—with regard to content-less categories. In fact, there is evidence that children essentialize a social category even if they cannot recognize members of that category (Birnbaum, Deeb, Segall, Ben-Eliyahu, & Diesendruck, 2010). Thus, different from the case of stereotypes, with regard to essentialism, it is possible that the more one knows about a particular social category, the less one needs to rely on placeholder essentialist notions, substituting them with a more flexible representation of the nature of the category. The present studies address this possibility.

The Present Studies

We investigated the effect of exposure on children’s social essentialist beliefs among Jewish and Arab children growing up in Israel. Israeli Jewish children show some understanding of the category “Arab” by preschool age, and by kindergarten there is already evidence for negative stereotypes towards Arabs (Bar-Tal & Teichman, 2005). Recent studies also documented that secular Jewish, religious Jewish, and Muslim Arab children living in Israel view ethnicity as a more inductively powerful category than gender, social status, or personality traits (Birnbaum et al., 2010; Diesendruck & haLevi, 2006). In the current studies, we ask how exposure to members of the other ethnic group affects children’s ethnic concepts.

Our most direct proxy for exposure was the degree of interethnic contact participants had based on the schools they attended. In particular, we sampled Israeli children from four groups: secular Jewish children attending Jews-only mono-cultural schools; Muslim Arab children attending Arabs-only mono-cultural schools; secular Jewish children attending integrated and bicultural schools; and Arab children attending the same integrated, bicultural schools. We refer to Jewish and Arab participants as representing different sectors of Israeli society and to the two kinds of schools as regular and integrated.

Secular Jews represent the majority group in Israel. The first group of secular Jewish children mentioned above was recruited from regular public secular schools and kindergartens. These children live in cities inhabited by secular and religious Jews but practically no Arabs. The schools are supervised by the Israeli Ministry of Education and follow a standard curriculum for Jewish nonreligious schools. The schools included only Jewish children.

The Arab children who constituted the second group mentioned above were recruited from an Arab city (Baka al Garbiyah) within Israel. Baka al Garbiyah is almost exclusively Muslim and is exclusively Arab. More than 90% of the children in this city attend the regular public schools. These schools also are administered by the Israeli Ministry of Education, and while they follow the same secular program as the secular Jewish schools, they incorporate Islamic studies (e.g., celebration of Muslim holidays) in their curricula. Although Arab citizens of Israel come from different ethnic and religious backgrounds (e.g., Muslims, Christians, Druze, Bedouin), they are officially referred to as Israeli Arabs. Many Arabs identify themselves as Palestinian Arabs living in Israel. For the sake of brevity, we refer to this group as Arabs.

As the above description points out, exposure to members of the other ethnicity is exceptional for both majority and minority participants, as they live and are educated in a mono-cultural environment. Nonetheless, by definition, it is possible that minority children are more exposed to majority individuals—either in per-
son or through the media—than vice versa. It is also important to clarify that while there are ethnically mixed public schools and cities in Israel, in order to assess the effect of contact most sharply, we chose not to draw our samples from such schools and cities.

The other two groups of participants consisted of Jewish and Arab children attending five bicultural schools. These schools were established by the Center for Arab-Jewish Education in Israel (Hand-in-Hand Foundation), with the aim of fostering equal Arab–Jewish cooperation in education. Their curriculum is the same one offered in the regular schools described above, with the difference that both Hebrew and Arabic are used as languages of instruction by a Jewish and an Arab teacher in each class. Approximately half of the students in each class are Arabs (from various ethnic and religious backgrounds), and half are Jews. The schools attempt to encourage coexistence, mutual understanding, and respect by adding regular special programs, such as activities focused on issues of identity; human relations; bilingualism; and religious, historical, and cultural diversity.

Two other features of the present design are important to point out. First, we assess the effect of contact on both majority (Jewish) and minority (Arab) children. Social essentialism has often been discussed as endorsing ideologies of social dominance and stratification (e.g., Keller, 2005; Leyens et al., 2003; Sidanius & Pratto, 2001; Yzerbyt et al., 2001). As such, essentialism arguably prevails in populations vested in these kinds of ideologies—typically, majority populations in power. In fact, there is some evidence consistent with this prediction among both adults (Mahalingam, 2003) and children (Birnbaum et al., 2010). In turn, others have noted that when minority populations live in a context of constant common threat, a drive towards preserving one’s group identity may flourish (Ellemers, Spears, & Doosje, 2002; Tajfel, 1982; see also Jost, Pelham, Sheldon, & Sullivan, 2003). Consistent with this explanation, recent studies with Israeli children found that, contrary to the widely documented out-group homogeneity effect (Ostrom & Sedikides, 1992), Arab children regarded “Jews” as less homogeneous than “Arabs” (Birnbaum et al., 2010; for experimental findings with adults, see also Doosje, Ellemers, & Spears, 1995; Simon & Brown, 1987). Given these conflicting findings, it is unclear how majority and minority children’s essentialist beliefs may change as a result of contact and exposure to tolerant ideology.

Another feature of the design to be noted is its developmental component. Theoretically, the assessment of how social essentialism emerges and changes as children immerse into their unique school contexts can shed light on the dynamic process we described earlier. Namely, do all children by default hold essentialist beliefs about ethnicity, and exposure changes this pattern? Or do all children start off tolerant, and segregation breeds essentialism? Children from three age groups participated in the present studies: kindergarteners, second graders, and sixth graders. These ages were selected because (a) they represent interesting points in young children’s trajectory of immersion into institutionalized schooling (i.e., preimmersion, after a full year of immersion, and at the end of elementary school) and (b) these ages have been found to capture children’s transition from intuitive to more adult-like beliefs about social categories (Astuti et al., 2004; Hirschfeld, 1996; M. G. Taylor, 1996).

The developmental component also allows firmer conclusions to be drawn about the directionality of the effect of exposure. One of the main interpretive challenges regarding the effect of contact has to do with inferences about causality (Binder et al., 2009; Feddes et al., 2009); simply put, does intergroup contact reduce prejudice, or are less prejudiced people more willing to have intergroup contact? Kindergarten children do not choose where they go to school, and thus, strictly speaking, self-selection bias is unlikely to be a factor. Evidently, children may be subject to their parents’ biases from early on. If so, we would expect to see differences among children from the different groups already at this age. Thus, to the extent that differences between groups increase with age, it would support the hypothesis that intergroup exposure changes children’s beliefs rather than the other way around.

Some a priori qualifications regarding limitations of the present design are nonetheless necessary. In particular, while we have characterized the differences between school types primarily in terms of the degree of interethnic contact, it is important to consider at least two further sources of contextual variation. First, as noted above, integrated and regular schools have slightly different curricula, especially in regard to knowledge of ethnic and cultural differences, tolerance, and respect for diverse values and beliefs. Consequently, predicted differences between children’s awareness of and essentialist beliefs about ethnic categories may be partly due to explicit curricular differences rather than sheer interethnic contact. If curricular differences are solely responsible for school type effects, then we might expect great similarity in how majority and minority children attending integrated schools respond. Thus, to the extent that we find interactions between school type and sector, we can infer that factors other than the curricula influence children’s concepts.

A second source of variation is the home environment in which children attending the different school types are raised. Undoubtedly, Jewish and Arab parents who send their children to integrated schools in Israel are very much aware of the “extraordinariness” of their choice. Ethnographic analyses of the integrated schools that participated in the present study suggest that there might be differences even between Jewish and Arab parents’ motivations for sending their children to these schools. Namely, while Jewish parents justify sending their children to the bilingual schools primarily for political ideological reasons, that is, they explicitly endorse integration, Arab parents justify this choice mostly for “educational” reasons, for example, they value high competence in Hebrew (Bekerman & Tatar, 2009). Thus, arguably, Arab parents emphasize interethnic integration less than do Jewish parents. Given these ideologically diverse home environments, it is possible that as children mature, they become more aware of their parents’ beliefs, and this drives a change in their beliefs about ethnicity (e.g., Astuti et al., 2004; Rhodes & Gelman, 2009).

With these qualifications in mind, we submit that the present studies assess the general contextual effects of exposure to ethnic diversity on children in the very clearly defined boundaries of ethnically diverse versus homogeneous schools.

Overview of the Studies

The article reports three studies. Study 1 asked to what extent exposure may impact the salience of ethnicity. This was assessed in a task in which children had to spontaneously identify people in a game-like situation. Study 2 evaluated the relative relevance for children of coding, storing, and/or reporting the
ethnic membership of different characters in a story. In a sense, these two studies assessed the effect of exposure in ethnic categorization. Previous studies indicate that from a young age children can identify racial (Anzures, Quinn, Pascalis, Slater, & Lee, 2010) or ethnic categories (Birnbaum et al., 2010). The present studies assess which social categories children recognize and choose to use—in other words, which social categories children find most relevant or important. Study 3 addressed whether potential differences in the salience/relevance of ethnic categories due to exposure were accompanied by differences in essentialist beliefs towards ethnic categories. In addition, a portion of the children who participated in Study 3 also took part in Study 2. Correlational analyses of these children’s performance in the two studies allowed a direct assessment of the relationship between category salience and essentialism.

**Study 1**

The goal of this study was to examine the salience of social categories to second and sixth grade children in a naturalistic context. For this purpose, we created a version of the children’s game “Guess Who?” in which children have to find out the identity of a target character by asking descriptive questions regarding a set of characters. A recent study used a similar methodology to assess the salience of racial categories to Caucasian American third to fifth grade children (Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008). The present version of the game included a set of 28 characters who varied on a number of social and physical dimensions, such as gender, ethnicity, religiosity, and body build. All the characters were depicted with visual markers stereotypical of the various dimensions. The experimenter held a card depicting one of the characters—out of view from the participants—and the participants had to discover which character the experimenter held by asking yes/no questions (e.g., “Is it a woman?”). The task thus provided an assessment of which dimensions of variation across characters children found most salient.

**Method**

**Participants.** A total of 104 children participated in this study. The sample consisted of children from two age groups—51 second graders ($M_{age} = 7$ years, 10 months) and 53 sixth graders ($M_{age} = 11$ years, 9 months)—and from each of these four groups—32 secular Jews attending regular schools (17 girls), 32 Arabs attending regular schools (19 girls), 21 secular Jews attending integrated schools (10 girls), and 19 Arabs attending integrated schools (7 girls). There were no significant age differences across sectors or school types. Signed parental permission was obtained for all participants.

**Materials.** The game included 28 pictures (12 cm × 12 cm) placed on a table in four rows of seven pictures each. Each picture consisted of a professionally line-drawn black and white full-body human character. Each character was represented with a combination of markers typical of the following six categories: ethnicity (Jew/Arab), social status (rich/poor), religiosity (religious/secular), gender (male/female), profession (physician/teacher), and body build (fat/thin). For instance, Jewish male religious characters were depicted wearing a yarmulke, and Arab male religious characters were depicted wearing a keffiyeh. In addition, characters varied on other markers such as hair style, clothes, and accessories. Table 1 presents a full list of the characters in terms of their category membership. As can be seen in Table 1, out of the 28 characters, 14 were Jews and 14 were Arabs. Figure 1 shows examples of some of the characters.

**Procedure.** In all studies, a female experimenter tested participants individually in a quiet area of their school. Jewish children were tested by Jewish research assistants in Hebrew, and Arab children were tested by Arab research assistants in Arabic.

The procedure started with the experimenter placing the pictures randomly in four rows in front of the participant, with their faces up, and telling the child that she had one of these characters in her hands. She explained that the child had to find out who the experimenter had by asking yes/no questions. After the child asked a question (e.g., “Is it a man?”), the experimenter told the child to turn upside down all the pictures that could not be the target (e.g., all the women, if the experimenter had answered affirmatively). The child was then asked to look at the remaining pictures and ask another question. The experimenter did not correct the child if he or she turned the wrong pictures upside down. The game ended when only one picture was left with its face up. (To avoid frustration, if the last picture did not match the one the experimenter held in her hands, she helped the child by turning up three of the pictures—one of them the correct one—and asking the child to ask questions again.) The experimenter wrote down every question the child asked immediately after the child asked it. Our dependent measure was whether or not, during the game, an explicit question about each of the six categories was asked (i.e., using a category label).

**Results and Discussion**

To analyze potential differences in the frequency with which children from the different groups asked questions regarding the various categories, we first conducted six step-wise binary logistic regressions using whether children mentioned each of the six categories as the predicted variables. The main effects of school type, sector, and age were entered in the first step; the three two-way interactions were entered in the second step; and the

---

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Characters Used in the Game of Study 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jewish religious fat woman</td>
</tr>
<tr>
<td></td>
<td>Jewish religious rich woman*</td>
</tr>
<tr>
<td></td>
<td>Jewish religious teacher woman</td>
</tr>
<tr>
<td></td>
<td>Jewish secular doctor woman*</td>
</tr>
<tr>
<td></td>
<td>Jewish secular thin woman</td>
</tr>
<tr>
<td></td>
<td>Jewish secular poor woman</td>
</tr>
<tr>
<td></td>
<td>Arab religious thin woman</td>
</tr>
<tr>
<td></td>
<td>Arab religious rich woman*</td>
</tr>
<tr>
<td></td>
<td>Arab religious doctor woman</td>
</tr>
<tr>
<td></td>
<td>Arab secular teacher woman*</td>
</tr>
<tr>
<td></td>
<td>Arab secular fat woman</td>
</tr>
<tr>
<td></td>
<td>Arab secular poor woman</td>
</tr>
<tr>
<td></td>
<td>Arab secular doctor man</td>
</tr>
</tbody>
</table>

* Denotes an item depicted in Figure 1.
three-way interaction was entered in the third and final step. The regressions on the categories of religiosity and gender were not significant. Table 2 presents details of the regressions on the four other categories. We followed up significant findings with non-parametric chi-square analyses. Table 3 presents the percentages of children who mentioned each of the six categories broken down by school type, sector, and age.

As can be seen in Table 2, regarding social status, the only significant effect was the interaction between school type and sector. As can be seen in Table 3, among Arab children, slightly more children in the integrated schools mentioned social status than did those in the regular schools. The difference between schools among Jewish children was smaller. Neither of the two chi-squares tests was significant ($p > .2$).

Following up on the three-way interaction regarding profession, we analyzed potential developmental effects within each school type by sector cell. These analyses revealed no significant age differences in the Jewish-integrated group and a significant decline in the Jewish-regular group, $\chi^2(1, N = 32) = 4.39, p < .05$. In the Arab-integrated group, the visible increase with age approached significance ($p = .069$), as did the visible decline with age in the Arab-regular group ($p = .07$). In general, one can see that Arab children were more likely than Jewish children to mention a character’s profession.

We followed the same strategy for analyzing the interactions regarding body build. As can be seen in Table 3, in general, while mentions of body build decreased with age among Jewish and Arab children attending regular schools, the opposite occurred among Jewish and Arab children attending integrated schools. In fact, the analyses revealed that the decrease among Arab-regular children was not significant ($p > .2$) and that among Jewish-regular children it approached significance ($p = .055$). The increases in both Arab- and Jewish-integrated groups were significant, $\chi^2(1, N = 19) = 8.93, p < .005$, and $\chi^2(1, N = 21) = 10.83, p < .005$, respectively.

Our final analyses followed up on the interactions regarding ethnicity. It was only with regard to this category that we found differential effects of school type for the two sectors. In particular,
while there was no significant difference between school types among Arab children, Jewish children attending integrated schools were significantly more likely to mention ethnicity than were Jewish children attending regular schools, \( \chi^2(1, N = 53) = 9.94, p < .005 \). This finding is consistent with the notion that intergroup contact is particularly effective in raising majority members’ awareness of minority groups (Feddes et al., 2009; Tropp & Pettigrew, 2005).

As for the developmental effects, we found that among Jewish children attending regular schools, there was no developmental change in the mentions of ethnicity \( (p > .8) \), with children at both ages infrequently asking questions using this category. In turn, among Jewish children attending integrated schools, again there was no significant increase from second to sixth grade \( (p > .2) \), but here children at both grades mentioned ethnicity fairly frequently. Finally, among Arab children attending both regular and integrated schools, there was a significant increase from second to sixth grade, \( \chi^2_{\text{regular}}(1, N = 32) = 15.68, p < .001 \), and \( \chi^2_{\text{integrated}}(1, N = 19) = 8.93, p < .005 \).

One possible explanation for the above age differences among Arab children is that with development, these children become more exposed to Jews, either in the media or in social encounters (e.g., visits to major Israeli cities). It is interesting, nonetheless, that this developmental pattern is the opposite of that reported by Apfelbaum et al. (2008). In their study, 10- to 11-year-olds were less likely than 8- to 9-year-olds to mention race. Apfelbaum et al. explained this decline as possibly deriving from older children’s higher awareness of the inappropriateness of mentioning race. One crucial difference between the two studies that might help explain this divergence in findings is that while Apfelbaum et al. investigated majority children, the developmental increase reported here came from minority children. In other words, this too may be

### Table 2

**Significant Binary Logistic Regressions in Study 1**

<table>
<thead>
<tr>
<th>Predicted category and predictor</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>p</th>
<th>Model ( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Type × Sector</td>
<td>4.90</td>
<td>1.95</td>
<td>6.34</td>
<td>.012</td>
<td>40.41, ( p &lt; .001 )</td>
</tr>
<tr>
<td>School Type × Age</td>
<td>3.60</td>
<td>1.59</td>
<td>5.15</td>
<td>.023</td>
<td></td>
</tr>
<tr>
<td>School Type × Sector × Age</td>
<td>−2.55</td>
<td>0.80</td>
<td>10.17</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Social status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Type × Sector</td>
<td>4.93</td>
<td>1.96</td>
<td>6.34</td>
<td>.012</td>
<td>18.52, ( p &lt; .005 )</td>
</tr>
<tr>
<td>Body build</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Type × Sector</td>
<td>1.99</td>
<td>0.74</td>
<td>7.34</td>
<td>.007</td>
<td>10.42, ( p &lt; .05 )</td>
</tr>
<tr>
<td>School Type × Age</td>
<td>1.20</td>
<td>0.43</td>
<td>7.89</td>
<td>.005</td>
<td></td>
</tr>
<tr>
<td>School Type × Sector × Age</td>
<td>1.08</td>
<td>0.44</td>
<td>5.98</td>
<td>.014</td>
<td></td>
</tr>
<tr>
<td>Profession</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Type × Sector × Age</td>
<td>−1.39</td>
<td>0.51</td>
<td>7.62</td>
<td>.006</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* All values refer to the final step in the regressions.

### Table 3

**Percentage of Children in Each Group and Grade Level Who Asked Questions Mentioning Each of the Six Categories in Study 1**

<table>
<thead>
<tr>
<th>Category and age group</th>
<th>Arab-regular</th>
<th>Jewish-regular</th>
<th>Arab-integrated</th>
<th>Jewish-integrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>6%</td>
<td>13%</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>6th grade</td>
<td>75%</td>
<td>12%</td>
<td>78%</td>
<td>64%</td>
</tr>
<tr>
<td>Social status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>6%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>6th grade</td>
<td>19%</td>
<td>6%</td>
<td>56%</td>
<td>36%</td>
</tr>
<tr>
<td>Body build</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>75%</td>
<td>80%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>6th grade</td>
<td>56%</td>
<td>47%</td>
<td>78%</td>
<td>82%</td>
</tr>
<tr>
<td>Profession</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>94%</td>
<td>60%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>6th grade</td>
<td>69%</td>
<td>24%</td>
<td>89%</td>
<td>36%</td>
</tr>
<tr>
<td>Religiosity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>25%</td>
<td>27%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>6th grade</td>
<td>56%</td>
<td>65%</td>
<td>44%</td>
<td>46%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>75%</td>
<td>73%</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>6th grade</td>
<td>73%</td>
<td>77%</td>
<td>100%</td>
<td>82%</td>
</tr>
</tbody>
</table>

*Note.* Regular and integrated refer to school type.
indicative of the different dynamics of contact in majority and minority children. It is also possible that the difference in results derives from cultural differences between Americans and Israelis regarding political correctness norms or from the difference in the categories studied (i.e., race vs. ethnicity).

Another way to look at the developmental trends regarding ethnicity is that in second grade, Jewish children attending integrated schools were more likely than children from the other three groups combined to mention ethnicity, \( \chi^2(1, N = 51) = 5.56, p < .05 \). In sixth grade, the outstanding cell was the Jewish-regular group, who were the least likely compared to the other three groups to mention ethnicity, \( \chi^2(1, N = 53) = 16.94, p < .001 \). In other words, for the Jewish children attending integrated schools, ethnicity “jumped out” so forcefully that already by second grade it was more salient to them than to all other groups of children— including Arab children attending the same schools. By sixth grade, Arab children in any school context were as aware of ethnic diversity as Jewish children attending integrated schools. Jewish children in the regular schools remained “blind” to ethnicity throughout elementary school.

Our final analyses compared the frequency of mentions of the six categories to each other among children from each group (all comparisons conducted with McNemar’s test at \( p = .05 \)). These analyses were important because they controlled for the general propensity of children from the different groups to mention categories. Overall, the results of these analyses were consistent with the ones reported above. Namely, ethnicity was least salient among Jewish children attending regular schools, who mentioned ethnicity significantly less often than all the other categories except for social status. Ethnicity was somewhat more salient among Arab children attending regular and integrated schools. In the former group, ethnicity was mentioned significantly less often than gender and profession and more often than social status; in the latter, ethnicity lost out only to gender. Finally, ethnicity was most salient among Jewish children attending the integrated schools. In this group, ethnicity was mentioned as frequently as any of the other categories.

Taken together, the present findings suggest that daily exposure to ethnic diversity substantially—and quite selectively—affects majority children’s awareness of the relevant categorical dimension. This effect was already apparent among majority children who had been in interethnic schools for just over 1 year.

An important question this finding raises is whether the school context was responsible for this effect or if for some other reason (e.g., prior parental input) majority children attending these schools came in already more sensitive to ethnicity. Note that the finding that the effect was stronger amongst majority than minority children attending the same integrated schools suggests that the curriculum itself could not have been the sole factor accounting for the effect. In Study 2 we address this question by also testing kindergarten children, who are in their first months of intensive exposure to members of the ethnic outgroup. A second question is whether contact (i.e., for Jewish children attending integrated schools) increased the general salience of ethnicity, as argued here, or the more basic capacity to recognize the visual markers used here to represent ethnic categories. Study 2 also addressed this question.

### Study 2

The goal of Study 2 was to assess the relative salience of ethnic categories among children from different backgrounds using a nonvisual assessment of salience. Moreover, in order to more precisely evaluate the direct impact of school integration on the salience of ethnic categories, we included kindergarteners in addition to second and sixth graders. The study was based on a task originally developed by Hirschfeld (1993) for his studies on racial concepts in children and is guided by the same rationale as the one underlying “memory confusion” paradigms used to assess adults’ automatic coding of social category information (e.g., S. E. Taylor, Fiske, Etcoff, & Ruderman, 1978).

In the present task, children were read a four-episode story in which a young boy goes looking for his lost dog, and in his searches, he comes across four different adults. Each adult was described with a unique combination of four social categories: gender, ethnicity, religiosity, and social status. Once the story was over, children were asked to retell it. In general, children were not expected to remember all the social category information precisely for all characters. The measure of salience builds on this memory overload and assesses which social category information children nonetheless found most relevant to record and report.

### Method

**Participants.** A total of 192 children participated in this study. The sample consisted of children from three age groups—60 kindergarteners (Mean age = 5 years, 9 months), 66 second graders (Mean age = 7 years, 7 months), and 66 sixth graders (Mean age = 11 years, 7 months)—and from each of four groups—47 secular Jews attending regular schools (33 girls), 48 Muslim Arabs attending regular schools (30 girls), 49 secular Jews attending integrated schools (25 girls), and 48 Arabs attending integrated schools (23 girls). There were no significant age differences across sectors or school types. Signed parental permission was obtained for all participants.

**Design and materials.** An experimenter read all children a similar story about a young boy who, having lost his dog, goes with his mother to look for the dog in a park. In the park, they ask for help from four different people, each described and labeled with a unique combination of the social categories gender (man/woman), ethnicity (Jew/Arab), social status (rich/poor), and religiosity (religious/secular; e.g., a rich secular Arab woman). To avoid memory biases, 16 different versions of the story—all with the same four characters—were created via counterbalancing between participants (a) the position of the characters in the story (four different orders) and (b) the order of the categories presented about each character (four different orders). One version of the story is provided in the Appendix.

**Procedure.** Before the experimenter read the story, children were asked to listen carefully to it but were not told that they would later have to retell it. The story was told in one sitting, without interruptions. Only when the experimenter finished the story were children asked to retell it in their own words. Children’s responses were recorded in writing online. They were later coded simply in terms of how many times children mentioned the characters’ ethnicity, religiosity, or social status. Accuracy was not assessed. Mentions of gender were not computed because that
information is implicit in virtually any Hebrew or Arabic pronoun, verb, or adjective used to refer to a person, thus making the explicit mention of gender categories somewhat odd pragmatically. Nonetheless, children presumably coded and stored gender information, thus adding to the memory load of the task.

Results and Discussion

To examine the effects of sector, age, and school type, we conducted a multivariate analysis of variance (MANOVA) using the number of mentions of each of the three social categories as dependent variables. Significant effects were found only for age. F(6, 356) = 26.89, p < .001, η² = .312, and sector, F(3, 178) = 2.68, p < .05, η² = .043. There was no overall effect for school type and no significant interactions.

The individual analyses of variance (ANOVAs) on each social category showed that the effect of age was true for all three social categories: ethnicity, F(2, 180) = 48.33, p < .001, η² = .35 (M_jewish = 0.37, SD = 0.76; M_kinder = 1.09, SD = 1.22; M_2nd = 2.36, SD = 1.43); religiosity, F(2, 180) = 63.62, p < .001, η² = .41 (M_jewish = 0.25, SD = 0.54; M_kinder = 0.82, SD = 1.16; M_2nd = 2.38, SD = 1.45); and social status, F(2, 180) = 71.76, p < .001, η² = .44 (M_jewish = 0.45, SD = 0.77; M_kinder = 0.83, SD = 0.97; M_2nd = 2.50, SD = 1.32). In all of them, older children mentioned social category information more often than younger children. This finding could be due to the better memory capacity of older children. The individual ANOVAs further revealed that the effect of sector was significant for all categories: ethnicity, F(1, 180) = 4.78, p < .05, η² = .026 (M_Arab = 0.96, SD = 1.25; M_jewish = 1.40, SD = 1.59); religiosity, F(1, 180) = 4.78, p < .05, η² = .026 (M_Arab = 0.96, SD = 1.25; M_jewish = 1.40, SD = 1.59); and social status, F(1, 180) = 4.04, p < .05, η² = .022 (M_Arab = 1.09, SD = 1.20; M_jewish = 1.48, SD = 1.51). In general, Jewish children mentioned social category information more often than Arab children.

Importantly, the individual ANOVAs further revealed that only with regard to ethnicity mentions were there significant interactions between sector and age, F(2, 180) = 4.14, p < .05, η² = .044, and sector and school type, F(1, 180) = 4.22, p < .05, η² = .023 (see Figure 2). Looking at the effect of sector in each age group, we found that only at sixth grade did Jewish children mention ethnicity significantly more often than Arab children, F(1, 64) = 9.22, p < .005, η² = .126. That is, it was not the case that Jewish children at all ages were more “verbal” in volunteering categorical information about ethnicity. Looking at the effect of school type on each sector separately, we found that only among Jews did children attending integrated schools mention ethnicity significantly more often than those attending regular schools, F(1, 94) = 6.07, p < .05, η² = .061. Further analyses revealed that this was true in terms of mentions of both Jewish and Arab story characters. Thus for majority children, interethnic contact increased the salience of the whole category, not only of the outgroup.

Given the significant effect of age, and in order to directly address the hypothesis that interethnic exposure is especially significant for majority children, our final analyses were three planned contrasts comparing the scores of Jewish children from integrated schools against the other three groups at each age separately (see Figure 2 for relevant means). These analyses revealed no differences across groups at kindergarten age. This is an important addition to the findings from Study 1. It reveals that children started off with similar sensitivity to ethnic information, and thus, it was not the case that Jewish children attending integrated schools were a priori more sensitive to this category. In other words, whatever parental input these children might have been getting, it did not impact the relevance of ethnicity by kindergarten age. By second grade, Jewish children attending integrated schools were already mentioning ethnicity more often than children from the other three groups, t(62) = 2.40, p < .05, a pattern that became even more robust at sixth grade, t(62) = 3.29, p < .005. Thus, consistent with the findings from Study 1, after just over 1 year in an interethnic school setting, majority children attributed substantially more importance to someone’s ethnic membership than did children from all other groups.

Takent together, the findings from Study 2 corroborate the interpretation put forth in Study 1. Intercultural contact does not simply make children better capable of visually recognizing members of different ethnic groups but more profoundly raises children’s awareness of ethnic diversity. These effects are especially noticeable among majority children, who otherwise are not as frequently exposed to outgroup (minority) members as are minority children. This finding again suggests that the curriculum of the integrated schools did not seem sufficient to also cause Arab children’s sensitivity to ethnicity to change substantially. As noted earlier, it is plausible that given that minority children are more likely to encounter majority members on a regular basis, integration or a bicultural curriculum are not sufficient to change the salience of ethnicity. Another remaining question is how this increased awareness of ethnic categories affects children’s beliefs about them.

Study 3

The goal of Study 3 was to assess potential differences across ages, sectors, and school types in terms of children’s essentialist beliefs towards ethnic categories. For this purpose, we used the Essentialism Components Questionnaire (ECQ) developed by Diesendruck and Haber (2009), which evaluates children’s beliefs about a number of essentialist components. The ECQ was inspired by Haslam et al.’s (2000) adult questionnaire and thus attempts to capture children’s
beliefs about both natural kind and entitativity aspects of essentialism. In particular, the questions target beliefs about natural kind aspects such as stability of category membership, possibility of changing category membership, and inheritance of category membership, and more entitative-like aspects such as degree of category distinctiveness and the informativeness of category membership. Diesendruck and Haber found that Israeli first and fifth graders’ responses to the ECQ varied across groups (e.g., religious vs. secular Jewish children), categories, and questions, with mean ratings on some categories being above the midlevel of the scale (e.g., on the distinctiveness of ethnicity among religious Jewish children) and on others below it (e.g., on the distinctiveness of race for both groups). These findings suggest that the ECQ is sensitive enough to capture subtle belief differences in this age range.

In our main assessment, we compared the extent to which school settings affected children’s essentialist beliefs—thus paralleling previous studies on the effect of contact on children’s attitudes (Aboud & Fenwick, 1999; Bigler & Liben, 2007; Cameron et al., 2006; McGlothlin & Killen, 2010; Verkuyten, 2001). In a second assessment, we gave the ECQ to children who had participated in Study 2 and evaluated the correlations between the two tasks.

In principle, contact could either increase or decrease children’s ethnic essentialism. For instance, by increasing awareness of ethnic categories, contact could lead to a compatible rise in ethnic essentialism. This possibility is consistent with theories reviewed earlier that intergroup attitudes inevitably follow from social categorization and that consequently, category blending or blindness is best for reducing biases. In turn, by making children knowledgeable of outgroup categories, contact under “optimal” circumstances may arguably lead to reduced intergroup biases, and even more so naïve essentialist beliefs. Thus, to the extent that the integrated schools studied here correspond to such optimal settings, increased awareness of ethnic categories may be accompanied by reduced levels of essentialism.

**Method**

**Participants.** A total of 375 children participated in this study. The sample consisted of children from three age groups—95 kindergarteners (Mage = 5 years, 8 months), 148 second graders (Mage = 7 years, 8 months), and 132 sixth graders (Mage = 12 years)—and from each of four groups—107 secular Jews attending regular schools (69 girls), 107 Muslim Arabs attending regular schools (66 girls), 76 secular Jews attending integrated schools (40 girls), and 85 Arabs attending integrated schools (45 girls). There were no significant age differences across sectors or school types. Signed parental permission was obtained for all participants.

**Design.** All participants answered the same questionnaire. Of the entire sample, 124 children (33%) answered it after participating in a different version of Study 2 not reported here (64 from the integrated schools and 60 from the regular schools), 157 children (42%) answered the questionnaire after participating in Study 2 (97 from the integrated schools and 60 from the regular schools), and the remaining 94 children (25%), all from the regular schools) participated only in Study 3.

**Materials.** The ECQ consisted of 14 questions presented in a fixed order. The first four questions regarded external or psychological differences between members of the two ethnic categories. They were as follows: “To what extent do Arabs and Jews differ in the way they think/what they like/in the way they behave/in the way they look?” The fifth and sixth questions regarded internal physiological differences, namely, “To what extent do Arabs and Jews differ in what they have inside their body/kind of blood they have?” The options for answering Questions 1–6 were as follows: 1 = not at all different, they are similar; 2 = differ a little; 3 = very different; 4 = totally different. In a sense these four questions address the uniformity and informativeness of categories (see Haslam et al., 2000).

The seventh and eighth questions regarded the possibility of changing one’s ethnicity from Jew to Arab and vice versa, presented in counterbalanced order. Specifically, the questions were “Let’s say a Jew/Arab wants to become an Arab/Jew, is it possible for him to do some things and then become an Arab/Jew?” The ninth and tenth questions regarded the inheritance of ethnicity, also presented in counterbalanced order: “Is it possible that a Jewish/Arab mother will give birth to an Arab/Jewish baby?” The 11th and 12th questions regarded the effect of environment on changing ethnicity, also presented in counterbalanced order: “If a child is born and raised within a Jewish/Arabic family since he was a baby, is it possible that he will become an Arab/Jew?” The options to answer Questions 7–12 were as follows: possible, maybe possible, or impossible. For the sake of uniformity in scores across the questionnaire, these answers were coded as 1, 2.5, and 4, respectively. Notice that the higher the score on any of the questions, the more strongly essentialist the child’s answer was. Questions 7–12 corresponded to Haslam et al.’s (2000) stability and immutability components.

Questions 13 (about informativeness) and 14 (acquaintance with outgroup members) were not coded due to children’s difficulty in understanding them.

**Procedure.** Participants were tested individually in their native language. For kindergarten children, the procedure started with a short task, aimed to help them understand the rating scale. In this task, children had to rate the degree of similarity between groups of colored circles using the rating scale. Before starting the questionnaire, the experimenter told participants she was going to ask them questions about Jews and Arabs. The experimenter told children that there were no right or wrong answers and that she simply wanted to know what the child thinks. The experimenter asked the questions one by one, recording children’s answers in writing.

**Results and Discussion**

In order to reduce the number of dependent variables and assess the structure of the ECQ, we entered children’s responses on all 12 questions into an exploratory factor analysis. To assess potential effects of group differences in the factor analysis, we conducted an additional factor analysis in which we first standardized children’s scores on each question in each cell of the design (i.e., per age group, sector, and school type). The factor analysis conducted on these standardized scores yielded a very similar factor structure and accounted for 68% of the variance. The only difference between this analysis and the one reported in the text was that here the pairs of Questions 7–8 and 11–12 did not converge onto the same factor (i.e., Possibility of Change) and instead yielded two separate factors—leading to a total of five rather than four factors, as in the analysis reported in the text. Given the conceptual similarity between these pairs of questions and the fact that four factors seemed more than adequate to capture the structure of a 12-item questionnaire, we conducted all our analyses on these four factors.
varimax rotation and a principal components extraction method, yielded four factors with eigenvalues above 1, which accounted for 69% of the variance. The first factor, which we labeled Possibility of Change, consisted of children’s responses to the Questions 7, 8, 11, and 12, which concerned the possibility that a Jew may become an Arab or vice versa (eigenvalue = 3.55, 29.6% of the variance accounted for, factor loadings above 0.73). The second factor, which we labeled Inheritance, consisted of children’s responses to Questions 9 and 10, which had to do with the ethnicity of a baby given the birth mother’s ethnicity (eigenvalue = 1.61, 13.4% of the variance accounted for, factor loadings above 0.90). The third factor, which we labeled Psychological Characteristics, consisted of children’s responses to Questions 1–4 (eigenvalue = 1.30, 11.1% of the variance accounted for, factor loadings above 0.55). The fourth factor, which we labeled Physiological Characteristics, consisted of children’s responses to Questions 5 and 6 (eigenvalue = 1.20, 10.0% of the variance accounted for, factor loadings above 0.82). For all subsequent analyses, children’s responses to the pertinent questions were averaged in order to compose four scores representative of the four factors obtained in the factor analysis. These “essentialism component” scores could vary from 1 (least consistent with essentialism) to 4 (most consistent with essentialism).

Preliminary analysis. We conducted a preliminary analysis in order to check whether there were differences in the responses to the ECQ between children who had completed one of the versions of Study 2 prior to Study 3 versus children who participated only in Study 3. All children from the integrated schools participated in Study 2 first. In the regular schools, in contrast, we had two groups of children, mostly from second and sixth grades: one group who participated only in Study 3 (n = 62) and another who first participated in Study 2 and then in Study 3 (n = 106).

Thus, for the purpose of the preliminary analysis, we conducted a MANOVA using these two experimental groups as an independent variable and each of the essentialism component scores as dependent measures. The overall MANOVA revealed no significant effect of experimental group, F(4, 163) = 1.21, p > .30, η² = .029, a pattern that was true for each of the components (p > .09). These findings indicate that there was no effect of priming as a result of undergoing Study 2 first. Thus, the fact that all children from the integrated schools were first exposed to a version of Study 2 would not be able to account for any difference between school types we might find. Consequently, in the main analyses, we included all 375 children.

Main analyses. We entered the Possibility of Change, Inheritance, Psychological Characteristics, and Physiological Characteristics scores into a MANOVA with age (kindergarten, second grade, and sixth grade), sector (Arabs, Jews), and school type (integrated schools, regular schools) as between-subjects factors. The overall MANOVA revealed significant main effects of age, F(8, 720) = 18.57, p < .001, η² = .17; sector, F(4, 360) = 15.68, p < .001, η² = .15; and school type, F(4, 360) = 8.20, p < .001, η² = .083; a significant interaction between age and school type, F(8, 720) = 2.35, p < .05, η² = .025; and an almost significant three-way interaction between age, sector, and school type, F(8, 720) = 1.92, p = .054, η² = .021.

As can be seen in Table 4, individual ANOVAs on each essentialism component revealed that age had a significant effect on all four essentialism components, with older children being less essentialist than younger ones: Possibility of Change, F(2, 363) = 43.22, p < .001, η² = .20 (Mkindergarten = 3.19, SD = 0.97; Msecond grade = 2.76, SD = 1.00; MD6th grade = 1.97, SD = 0.97); Psychological Characteristics, F(2, 363) = 24.63, p < .001, η² = .12 (Mkindergarten = 2.89, SD = 0.67; Msecond grade = 2.76, SD = 0.63; MD6th grade = 2.40, SD = 0.51); Inheritance, F(2, 363) = 24.44, p < .001, η² = .12 (Mkindergarten = 3.53, SD = 0.94; Msecond grade = 3.19, SD = 1.22; MD6th grade = 2.48, SD = 1.28); and Physiological Characteristics, F(2, 363) = 7.80, p < .001, η² = .04 (Mkindergarten = 2.04, SD = 0.95; Msecond grade = 1.76, SD = 0.90; MD6th grade = 1.55, SD = 0.73). This decline on ethnic essentialism

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Mean Scores on Essentialism Components in Study 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essentialism component and age group</td>
<td>Jewish-regular</td>
</tr>
<tr>
<td>Psychological characteristics</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>3.05</td>
</tr>
<tr>
<td>2nd grade</td>
<td>2.78</td>
</tr>
<tr>
<td>6th grade</td>
<td>2.40</td>
</tr>
<tr>
<td>Group means</td>
<td>2.66</td>
</tr>
<tr>
<td>Physiological characteristics</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>1.84</td>
</tr>
<tr>
<td>2nd grade</td>
<td>1.76</td>
</tr>
<tr>
<td>6th grade</td>
<td>1.35</td>
</tr>
<tr>
<td>Group means</td>
<td>1.60</td>
</tr>
<tr>
<td>Inheritance</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>3.16</td>
</tr>
<tr>
<td>2nd grade</td>
<td>3.36</td>
</tr>
<tr>
<td>6th grade</td>
<td>2.52</td>
</tr>
<tr>
<td>Group means</td>
<td>2.98</td>
</tr>
<tr>
<td>Possibility of change</td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>2.90</td>
</tr>
<tr>
<td>2nd grade</td>
<td>2.44</td>
</tr>
<tr>
<td>6th grade</td>
<td>1.70</td>
</tr>
<tr>
<td>Group means</td>
<td>2.20</td>
</tr>
</tbody>
</table>

*Note.* Regular and integrated refer to school type.
across this developmental period is similar to the one reported by M. G. Taylor (1996) regarding gender essentialism. The results are also consistent with Bar-Tal’s (1996) findings that while Jewish kindergarten and second grade children describe Arabs primarily in negative terms, by 10–12 years of age children describe Arabs more multidimensionally.

Regarding sector, the ANOVAs revealed significant effects on all components, with Jewish children being less essentialist than Arab ones: Possibility of Change, F(1, 363) = 40.11, p < .001, \( \eta^2 = .10 \) (M\(_{\text{Jewish}}\) = 2.21, SD = 1.06; M\(_{\text{Arab}}\) = 2.94, SD = 1.01); Psychological Characteristics, F(1, 363) = 5.25, p < .05, \( \eta^2 = .01 \) (M\(_{\text{Jewish}}\) = 2.57, SD = 0.63; M\(_{\text{Arab}}\) = 2.76, SD = 0.62); Inheritance, F(1, 363) = 10.99, p < .001, \( \eta^2 = .03 \) (M\(_{\text{Jewish}}\) = 2.80, SD = 1.30; M\(_{\text{Arab}}\) = 3.24, SD = 1.16); and Physiological Characteristics, F(1, 363) = 17.88, p < .001, \( \eta^2 = .05 \) (M\(_{\text{Jewish}}\) = 1.56, SD = 0.77; M\(_{\text{Arab}}\) = 1.95, SD = 0.93).

Finally, school type had significant effects on Inheritance, F(1, 363) = 18.32, p < .001, \( \eta^2 = .05 \) (M\(_{\text{Regular}}\) = 3.25, SD = 1.14; M\(_{\text{Integrated}}\) = 2.74, SD = 1.32), and Psychological Characteristics, F(1, 363) = 13.90, p < .001, \( \eta^2 = .04 \) (M\(_{\text{Regular}}\) = 2.76, SD = 0.59; M\(_{\text{Integrated}}\) = 2.55, SD = 0.66), with children from the integrated schools answering in a less essentialist way than children going to regular schools.

Importantly, as revealed in the MANOVA, some of these main effects were qualified by two- and three-way interactions. Specifically, the individual ANOVAs revealed that the interaction between age and school type was significant with regard to the Psychological Characteristics component, \( \eta^2 = .02 \). One-way ANOVAs looking at the effect of school type separately for each age group (see Figure 3) revealed that in kindergarten the effect of school type was not significant (p > .90). In second grade, there was a small but significant effect, F(1, 146) = 5.11, p = .025, \( \eta^2 = .034 \), such that children in the integrated schools had lower essentialism scores than children attending the regular schools. By sixth grade, this effect was even more substantial, F(1, 130) = 22.26, p < .001, \( \eta^2 = .15 \).

The interaction between age and school type was also significant with regard to the Inheritance component, F(2, 363) = 4.18, p < .05, \( \eta^2 = .02 \), but this interaction was subsumed under a three-way interaction among age, school type, and sector, F(2, 363) = 4.38, p < .05, \( \eta^2 = .02 \). In order to figure out the source of this interaction, we conducted two follow-up analyses. Figure 4 displays the relevant means.

First, we conducted one-way ANOVAs looking at the effect of age group on each sector by school type pair, following those up with Scheffe post hoc comparisons at p < .05. These analyses revealed that for Arabs attending regular schools, there was a significant effect of age group, F(2, 104) = 8.23, p < .001, \( \eta^2 = .137 \), stemming from the fact that sixth graders were less essentialist than both kindergarteners and second graders and that the latter two groups did not differ significantly. An identical pattern of age differences was found for Arabs attending integrated schools, that is, a significant effect of age group, F(2, 82) = 7.22, p = .001, \( \eta^2 = .15 \), deriving from the fact that sixth graders were less essentialist than both second graders and kindergarteners and that there was no significant difference between the latter two groups. A similar pattern was also found for Jews attending regular schools, F(2, 104) = 6.08, p < .005, \( \eta^2 = .105 \), though sixth graders were significantly different only from the second graders. The second graders and kindergarteners were not significantly different. The one exceptional cell on these analyses was the group of Jewish children attending the integrated schools. Again there was a significant effect of age group, F(2, 73) = 13.42, p < .001, \( \eta^2 = .27 \). However, different from the other three groups of children, here there was no significant difference between sixth and second graders, and both groups scored significantly lower than kindergarteners. In other words, for Jewish children attending integrated schools, the drop on essentialism occurred earlier, between kindergarten and second grade, rather than between second and sixth grade.

In our second set of follow-up analyses, we looked at the effects of sector and school type for each age group. In kindergarten, there was no main effect of school type or of sector (ps > .2). However, there was a significant interaction between school type and sector, F(1, 91) = 6.20, p < .05, \( \eta^2 = .064 \). Follow-up analyses on this interaction revealed that Arab children attending integrated schools scored significantly lower on inheritance than those attending regular schools, F(1, 54) = 5.39, p < .05, \( \eta^2 = .09 \), but there was no significant effect of school type among Jewish children. In second grade, there was a main effect of school type,
integrated schools being less essentialist than those attending regular schools. There was also a main effect of sector, $F(1, 144) = 13.84, p < .001, \eta^2 = .09$, with Jewish children scoring lower than Arab children. Importantly, there was also a significant interaction between school type and sector, $F(1, 144) = 3.91, p = .05, \eta^2 = .03$. Follow-up on this interaction revealed that while the effect of school type was significant in both sectors, it was stronger among Jewish, $F(1, 71) = 18.15, p < .001, \eta^2 = .20$, than among Arab children, $F(1, 73) = 5.39, p < .05, \eta^2 = .07$. Finally, in sixth grade, there was only a significant effect of school type, $F(1, 128) = 7.68, p < .005, \eta^2 = .057$, with children attending integrated schools scoring lower than those attending regular schools.

These interaction findings indicate that the main effects of sector reported above were driven primarily by the lower essentialism scores of the Jewish children attending the integrated schools. As can be seen in Figure 4, Jewish children attending regular schools scored no differently than their Arab counterparts on all components.

Summing up these analyses, one can see that (a) there were no overall differences between sectors or school types at kindergarten age, and in fact, Jewish children from either school type started off in kindergarten at a similar level of essentialism towards ethnicity; (b) integration affected both Arab and Jewish children’s essentialist beliefs towards ethnicity; and (c) the significant drop in essentialism occurred earlier, and more markedly, for Jewish children attending the integrated schools than for all other children.

**Relationship Between Studies 2 and 3**

As noted in the Design section, 60 of the children attending the regular schools and 97 of the children attending the integrated schools participated in both the salience task of Study 2 and the essentialism questionnaire of Study 3. In order to directly address potential relations between these measures, we conducted two sets of partial correlations between the number of mentions of “Jews” and of “Arabs” in Study 2 and scores on each of the essentialism components of the ECQ in Study 3.

The first set of correlations partialled out the effect of group. We found that the number of mentions of Jews was significantly and negatively correlated to two of the four essentialism components ($r_{\text{Psychol}} = -28, r_{\text{Change}} = -23, ps < .005$). In turn, the number of mentions of Arabs was significantly and negatively correlated to all essentialism components ($r_{\text{Physiol}} = -21, r_{\text{Psychol}} = -35, r_{\text{Stereot}} = -18, r_{\text{Change}} = -34, ps < .05$). The second set of correlations partialled out the effect of age group. Here we found no significant correlations in terms of mentions of Jews and any of the essentialism components. In turn, the number of mentions of Arabs was negatively correlated to two essentialism components ($r_{\text{Psychol}} = -20, r_{\text{Change}} = -16, ps < .05$).

These analyses reveal that, in general, the tendency was that the more a child mentioned ethnicity, the less essentialist he or she was. It is interesting that these negative correlations were found with regard to both essentialist components associated with a natural kind construal (e.g., possibility of change) and essentialist components associated with an entitativity construal (e.g., psychological properties). Previous studies reported positive correlations between both kinds of essentialist components and stereotype endorsement (Bastian & Haslam, 2006). Speculatively integrating these two sets of data would suggest that under certain circumstances, by decreasing essentialist beliefs, increased awareness of social category diversity may be conducive to a decline in certain negative intergroup attitudes (e.g., Cameron et al., 2006; Vorauer et al., 2009). In this light, it is important to note that the most robust correlations found in the present data were with regard to mentions of Arabs. In other words, increased awareness of a minority group may be especially beneficial towards reducing intergroup cognitive biases.

**General Discussion**

Numerous studies have documented that young children and adults from diverse cultures hold essentialist beliefs about various social categories (e.g., Astuti et al., 2004; Diesendruck & haLevi, 2006; Gil-White, 2001; Hirschfeld, 1996; Keller, 2005). This cross-cultural ubiquity and early emergence suggest that social essentialism is a robust bias that requires minimal explicit support to appear (e.g., Gelman et al., 2004). At the same time, the fact that cultures vary in terms of the particular social categories essentialized (e.g., race vs. caste vs. ethnicity), and the finding that within cultures the degree of essentialization varies even among kindergarten-aged children from different subgroups (e.g., Birnbaum et al., 2010), intimates that one’s sociocultural environment may have a critical role in the emergence of such beliefs. Inspired by the adult social psychological literature on intergroup biases, the present studies assessed the role of interethnic exposure in the development of social essentialism among Israeli Jewish and Arab children.

The sample composition of the present studies allowed us to address a number of related questions: (a) Does exposure to ethnic diversity affect children’s concepts of ethnic groups? (b) does exposure reduce an essentialist bias, or does lack of exposure generate one? (c) when does exposure start having an effect? (d) do answers to these questions differ for majority and minority children? and (e) what is the relationship between children’s awareness of, and beliefs about, ethnic categories?

**The Relevance of Ethnicity**

Studies 1 and 2 assessed in different and complementary ways whether and when exposure affects children’s awareness of ethnic categories. Study 1 evaluated this in a game-like situation in which children could use a variety of visual cues to identify characters. While this study revealed various effects of age, sector, and school type regarding different social categories, the only significant interaction between school type and sector regarded mentions of ethnicity. Specifically, in second grade, Jewish children attending integrated schools were more likely to use ethnicity than any of the other three groups of children. By sixth grade, both groups of Arab children referred to the characters’ ethnicity as often as did the Jewish children in the integrated schools.

In Study 2, kindergarten children were added to second and sixth graders, and the task was one in which category information was presented verbally rather than visually. In general, the findings from Study 2 confirmed and extended those of Study 1. First, again we found that it was only among Jews that children attending the integrated schools mentioned ethnicity more often than those at-
tending the regular schools. Second, again we found that Jewish children attending the integrated schools were more sensitive to ethnicity than the other three groups of children already at second grade. Third, the fact that these two patterns emerged in a verbal task reinforces the conclusion that integration increased the general salience of ethnicity rather than simply sharpening children’s capacity to recognize visual markers of ethnicity. Fourth and finally, Study 2 revealed no substantial differences among groups of children at kindergarten age. Significant group differences appeared at second grade and became even more marked at sixth grade. Thus, rather than coming in already more sensitive to ethnicity, Jewish children became more sensitive as a result of integration.

The fact that only majority children seemed to be influenced by interethnic exposure is consistent with related findings in the developmental literature and with the daily experiences of Jewish and Arab children in Israel. For instance, Bar-Tal (1996) reported that Jewish Israeli children attending integrated kindergartens are better at recognizing stereotypical visual depictions of Arabs than those attending regular kindergartens. As for their daily experiences, Arab children living in Israel are more likely to come across Jews—either directly or in the media—than are Jewish children to encounter Arabs. Thus for Arab children, the integration experienced in school may not have substantially increased the visibility of ethnic categories.

As qualified in the introduction, while most of our discussion regarding school type differences focuses on the role of contact, at least two other factors could potentially explain differences between school types: (a) differences in parental input and (b) differences in the schools’ curricula. The null finding of school type differences among kindergarteners in Study 2 suggests that whatever differential parental input children attending integrated and regular kindergarteners were getting, it did not yet have an effect at this age. Of course it is still possible that as children matured, they also became more competent at absorbing their parents’ values, and thus, parental input may partly account for the increase with development of differences between school types. In turn, the findings from Studies 1 and 2 that only Jewish children were affected by integration suggests that the curriculum of the integrated schools could not by itself account for the school type differences—otherwise we should have found a similar effect of integration among Arab children.

More generally, it is important to point out a critical difference between the categorization measures used in Studies 1 and 2 and other categorization measures used in the developmental literature. One line of research in the developmental literature has attempted to uncover whether and when children can categorize or discriminate people along various social dimensions (e.g., Anzures et al., 2010; Bar-Haim, Ziv, Lamy, & Hodes, 2006; Quinn, Yahr, Kuhn, Slater, & Pascalis, 2002). In this respect, it has been found that kindergarten children living in Israel can distinguish between Jews and Arabs—they have concepts for these categories (Bar-Tal, 1996; Diesendruck & haLevi, 2006). The present studies, however, assessed whether children use social categories in their spontaneous processing of people. In other words, the present studies evaluated the relevance of these categories to children (Sperber & Wilson, 1986). Namely, did children believe that it was worthwhile to record and communicate to the experimenter the ethnicity of a character—either in Study 1’s game or Study 2’s story? Did they consider ethnicity to have special informational value? We found that children—primarily majority ones—attending integrated schools indeed come to believe that ethnicity is a relevant dimension to use for describing individuals. For instance, it became important for these children to mention that the woman who the boy met in Study 2’s story was not “only” a woman; she was an Arab woman. Putting it differently, integration raised the status of ethnicity as a marker of identity. Thus, at least in the context of the schools sampled here, integration engendered group differentiation (Gaertner & Dovidio, 2000) rather than fusion (Brewer & Miller, 1984).

Changing Beliefs

Study 3 directly tackled the more central questions of the present work, namely, the effect of exposure on children’s essentialist beliefs about ethnicity. The basic answers to the questions we raised at the start of the General Discussion are (a) children in integrated schools are less essentialist than children in regular schools, (b) interethnic exposure decreases children’s tendency to essentialize ethnicity—rather than lack of exposure increasing it, (c) the effect has already appeared after less than 2 years of integration, and (d) the effect is stronger for majority than minority children.

The finding that children in the integrated schools were less essentialist about ethnicity than those in regular schools may have important implications regarding the effectiveness of the educational programs in the integrated schools. As discussed in the social psychological literature, there seem to be optimal conditions under which contact is most effective for reducing intergroup biases. These involve equality in the status of the groups, shared goals, collaborative practices, and institutional support (Allport, 1954; Pettigrew & Tropp, 2006). A possible inference from the reduction in essentialism in the integrated schools found here is that these schools match these optimal conditions. It is interesting in this regard that although in Studies 1 and 2 we found no evidence for an effect of contact on Arab children, in Study 3 we did. Thus, while integration was effective in raising the relevance of ethnic categories exclusively among Jewish children, integration tempered ethnic essentialism among both Jewish and Arab children (see also Hirschfeld, 1996, on compatible findings regarding race).

A second important finding from Study 3 had to do with the direction of change in children’s essentialist bias. Logically, two possibilities were available: (a) Children start off fairly nonessentialist, but lack of familiarity with members of the different ethnicity (likely combined with stereotype-endorsing cultural input) incites essentialism, or (b) children intuitively essentialize social categories, and familiarity tames this disposition. Our findings support the latter possibility. In particular, while all children started off at a relatively high level of essentialism in kindergarten, by second grade, and even more so by sixth grade, there were significant drops in essentialism. The decline was most accentuated in children attending integrated schools, but they also occurred among those attending regular schools. Overall these findings are consistent with those reported by Rhodes and Gelman (2009). They found that while kindergarteners and second graders from ethnically heterogeneous or homogeneous communities held similar beliefs about the “naturalness” of gender and racial cate-
categories, fifth graders in the heterogeneous community started to reveal a more “relativist” construal of these categories. Here, the change in essentialist beliefs among Jewish children attending the integrated schools occurred even earlier.

The above developmental pattern is relevant to debates about the origins of essentialism and the role of culture in this process. Some have argued that essentialism is a learned bias that requires cultural input to emerge (Fodor, 1998). Others have claimed that essentialism is an intuitive bias and that culture functions so as to either sustain it and/or direct it towards relevant social categories (Hirschfeld, 1996; Sperber, 1996). The present findings are most consistent with the latter position. For instance, children in the regular schools did not become more essentialist as they immersed into their mono-cultural institutions—innstitutions that arguably stimulate ethnic essentialism (Al-Haj, 2002). In fact, the opposite was the case.

These developmental findings are also relevant for discussions about the directionality of causation vis-à-vis contact; that is, does intergroup contact reduce bias, or do less biased individuals select to engage in intergroup contact? The fact that all kindergarteners, for the most part, started off with similar levels of essentialism indicates that whatever selection bias might have existed on the part of the parents, it did not substantially differentiate between the children who eventually attended integrated versus regular schools (see also Feddes et al., 2009; Rhodes & Gelman, 2009). It is plausible that parents did contribute to the increasing differentiation between groups of children as they matured. For instance, it is plausible that children attending the integrated schools would bring home some of their “discoveries” about ethnic differences in customs, holidays, and so forth, and parents would respond to them. Plausibly parents could also initiate such conversations on their own. A more definitive differentiation of how much of the school type effects were driven by contact versus by parents’ ideologies requires a detailed analysis of parental input and values. We are currently undertaking such an analysis (Segall & Diesendruck, 2011).

Aside from the finding that integration decreased essentialism in both sectors, an additional finding of Study 3 was that integration led to a substantial drop in ethnic essentialism earlier among Jewish children than among Arab children. For instance, while for Jewish children in the integrated schools there was a significant drop in the belief about the heritability of ethnic membership between kindergarten and second grade—staying at that level across sixth grade—for all other groups of children, an equivalent drop occurred only between second and sixth grades. This finding suggests that consistent with work on intergroup attitudes with both adults (Tropp & Pettigrew, 2005) and children (Binder et al., 2009; Feddes et al., 2009), integration may be more effective in changing majority than minority children’s beliefs. This sectorial difference further suggests that while curricular differences between school types may have promoted differences in essentialism, there is likely also a different interaction between the curricula and particular characteristics of the two sectors. For instance, differences in Jewish and Arab parents’ motivations for sending their children to integrated schools may have contributed to this interaction effect (Bekerman & Tatar, 2009).

A final finding from Study 3 was the overall difference between Jewish and Arab children in terms of their essentialist beliefs. In particular, for two of the four components of essentialism—Possibility of Change and Physiological Characteristics—we found a main effect of sector, without an interaction with school type. In general, Jewish children became less essentialist than Arab children. While this main effect was partly driven by the scores of the Jewish children attending the integrated schools, it is nonetheless potentially indicative of the different processes sustaining majority and minority children’s essentialism. As discussed in the introduction, social essentialism has often been portrayed as endorsing majority ideologies (e.g., Keller, 2005; Leyens et al., 2003; Sidanius & Pratto, 2001; Yzerbyt et al., 2001). The finding that minority children were the most essentialist, and the most resistant to abdicating this bias given integration, may be partly due to the unique social context in which they live, namely, as a minority in the context of a long-standing conflict. It has been argued that in these kinds of contexts, minorities may develop a strong ideology towards preserving an exclusive group identity (Ellermers et al., 2002; Tajfel, 1982). As Morton et al. (2009) advised, one needs to take into account “who is essentializing who, under what conditions, and to what ends” (p. 662).

In general, the fact that these interactions among ideology, group identification, group status, and essentialism may be occurring already at such a young age is quite revealing and may carry important practical implications. Future studies may shed light on this matter by directly assessing the role of the various hypothesized mediating variables in majority and minority children’s essentialist reasoning.

Seeing Isn’t Believing

The final main issue addressed in the present studies was the relationship between the salience of ethnic categories and children’s essentialist beliefs about them. The analogous relationship between categorization and attitudes has given rise to mixed findings. On the one hand, developmental models suggest that category salience may lead to negative intergroup attitudes (Bigler & Liben, 2007), which is consistent with the recommendation that integration should act towards erasing categorical divides (Brewer & Miller, 1984; Gaertner et al., 1989). In contrast, others have argued that under certain circumstances, acknowledgment of categorial distinctions is beneficial (Brown et al., 1999; Gaertner & Dovidio, 2000; Vorauer et al., 2009), perhaps especially on the part of majority members (Ryan et al., 2007). Some developmental studies support this latter conjecture. For instance, in her review of longitudinal studies, Katz (2003) noted that 6-month-old infants’ racial categorization capacities were negatively related to their racial biases 6 years later. Further, Cameron et al. (2006) found that the most effective intervention for reducing majority children’s negative attitudes towards a refugee minority was one emphasizing group differentiation.

Consistent with the latter position, we found negative relationships between categorization and essentialism. At the group level, we found that while Jewish children attending the integrated schools were the ones most attentive to ethnic categories, they were also the least essentialist about these categories. At the individual level, we found mostly negative correlations between children’s attention to ethnicity and their ethnic essentialism. That is, the more a child mentioned a character’s ethnicity in recalling a story, the less essentialist about ethnicity the child was. Interestingly, these correlations were found with regard to both the natural
kind and entitativity dimensions of essentialism identified by Haslam et al. (2000).

This general difference between mixed findings regarding categorization and attitudes versus the negative relationship between categorization and essentialism revealed here may be interpreted in light of a key logical distinction between attitudes and essentialism. Stereotypes are by definition about the content of categories. One cannot have a stereotype without knowing the category and some of its characteristics. One cannot hold a prejudice without knowing who is to be prejudiced. In contrast, as Medin and Ortony (1989) noted, essentialism in its initial form is a placeholder belief about the nature of a category. One can be an essentialist about Category X without knowing what an X really is or looks like.

The argument, then, is that for naïve individuals—such as young children—labeling social groups marks potentially relevant categories. These vacuous social categories get intuitively construed in essentialist terms. In other words, it is at this initial stage of concept formation that labeling may boost social essentialism (Diesendruck & HaLevi, 2006; Gelman, 2003). This interpretation can thus account for the findings that categorically labeling a made-up category reinforces its essentialist status (Gelman & Heyman, 1999) and that children hold strong essentialist beliefs about real labeled social categories despite not being able to recognize members of that category (Birnbaum et al., 2010; Hirschfeld, 1996).

We postulate that just as a “carrot-eater”—to use Gelman and Heyman’s (1999) made-up concept—is by default construed in essentialist terms, so is the concept “Arab” by a young Jewish child attending a regular school. As children mature, various cultural factors may drive them to keep essentializing ethnic categories: Parents’ political ideology (Birnbaum et al., 2010), religious beliefs (Diesendruck & Haber, 2009), and segregation are candidate examples. Critically, the opposite values on these factors can weaken children’s default essentialist construal. In particular, exposure to environments, and possibly discourse, that display ethnic diversity may counter children’s essentialist beliefs by making it present, relevant, and familiar. A child’s concept of ethnic categories may thus transform from one based on a naïve placeholder belief to one based on personal knowledge.

Concluding Remarks

Essentialist beliefs about social groups are found across cultures and ages. These beliefs potentially provide cognitively fertile foundations for the emergence and sustenance of negative attitudes towards outgroups. The present studies reveal that children—especially majority ones—attending ethnically mixed schools are less prone to such beliefs. It is important to note that this change occurs from fairly early on and by making children aware of, rather than blind to, ethnic diversity. The generalizability of the present findings to other contexts is not a trivial matter. Yet, the fact that these results were obtained in the particular political context surrounding these children is quite encouraging.

References


Chao, M. M., Chen, J., Roisman, G. I., & Hong, Y. (2007). Essentializing...


Once upon a time, there was a little boy who was looking for his dog. He went with his mother to look for his dog in the park. The first man he saw in the park was a poor secular Jewish man. The boy asked him, “Excuse me sir, did you see a small black and white dog walking here alone?” The poor secular Jewish man thought and said, “No, I did not see. Go and ask the man who is eating an apple.” The boy went on with his mother to ask the poor religious Arab man who was eating an apple, “Excuse me sir, where can I find my dog? It is black and white.” The poor religious Arab man looked for a second and said, “I think I saw a small dog, but I am not sure if it was black and white. I am so sorry young boy.” He took out a candy from his pocket and gave it to the boy. “You better talk to the woman who is sitting there and reading the paper.”

The boy and his mother went on walking towards the rich secular Arab woman, and the boy asked her, “Excuse me ma’am, I am looking for my dog, did you see him by any chance walking around here?” The rich secular Arab woman looked very angry and said to the boy, “Do you think I do not have other important things to do but look for dogs? Go and ask the lady that is walking with the baby.” The boy ran to the rich religious Jewish woman who was walking with the baby, “Excuse me ma’am, did you see my dog?” “No, I did not see him,” the woman replied. The boy’s mother then said, “Let’s go home; he is a smart dog, maybe he is back!” They left the rich religious Jewish woman and went back home. When they arrived home, they found the dog waiting for them at the doorstep. The boy hugged his dog, was very happy, and said, “From now on we will stay together all the time.”