ETHNIC IDENTITY IN ADVERTISING: A REVIEW AND META-ANALYSIS
Jeremy J. Sierra, Michael R. Hyman, and Robert S. Heiser

ABSTRACT
The corpus of research on ethnic identity in advertising indicates that (1) ethnic identity influences commonly examined attitudinal and purchase-intention outcomes, and (2) attitudes toward both actor(s)/model(s) and the ad moderate attitudes towards brands depicted in ethnically resonant ads. Individual studies often differ by underlying theoretical framework, measurement type (i.e., single-item measure versus multi-item scale), study design (i.e., experiment versus survey), and diversity of respondent sample. Seemingly, ethnic-identity effects are higher for atheoretical studies that relied on single-item measures, experimental designs, and less diverse samples. Implications and future research directions are suggested.

Effective advertising draws and holds viewers’ attention. Creating distinctive ads has become increasingly challenging as ad clutter has worsened. Ads with ethnically resonant cues have been effective in breaking through clutter and creating favorable responses. In particular, consumers cognizant of a firm’s efforts to target their ethnic group are more likely to (1) recall and respond favorably to that firm’s ads (Cui 1997; Whittler and Spira 2002), and (2) respond more favorably to that firm’s brand (Grier and Brumbaugh 1999; Sierra, Hyman, and Torres 2009).

Ethnic identity, which is a lasting and robust sense of connection to a social group (Tajfel 1978), encompasses self-identification as a group member, a sense of belonging to a group, and favorable attitudes toward one’s group (Phinney 1990). Because ethnic identity can influence consumers’ responses to marketing strategies and shopping behaviors (Davis and Gandy 1999; Green 1999), its role within the advertising hierarchy-of-effects has been studied extensively.

Despite the prevalence of ethnic cues in ads and the importance of ethnic identification for marketers (e.g., Green 1999; Whittler and Spira 2002), findings of ethnic identity in advertising research are inconsistent. Some studies show that Whites (Blacks) identify more with White (Black) actors than Black (White) actors, respond more favorably to ads with White (Black) actors, and are more likely to buy the advertised brand when White (Black) actors are featured (Whittler 1989). In contrast, other studies show that Whites respond similarly to point-of-purchase displays with all Black models, all White models, or an amalgamation of White and Black models (Bush, Gwinner, and Solomon 1974). Using Asian models in ads favorably affects attitudes and purchase intentions toward the featured brand for both Asian and White consumers (Martin, Lee, and Yang 2004). Asians, Blacks, and Hispanics identify most with ads that use Black actors; and Asians, Blacks, Hispanics, and Whites evaluate ads that use Black actors more positively than ads featuring White actors (Appiah 2001b). These inconsistent findings cloud the role of ethnic identification in advertising and complicate decisions about ad design.

Two possibilities that may explain these inconsistent findings are (1) a mismatch between ethnic-identity effects and one or more constructs typical to advertising hierarchy-of-effects models, and (2) inter-study methodological artifacts. This first systematic review of the ethnic identity in advertising literature explores these possibilities. Our exposition proceeds as follows. First, we briefly describe the various theoretical frameworks that ground these studies. After we review commonly examined advertising constructs and posit related hypotheses, we suggest potential causes of artifactually biased findings. Then, we present our sampling procedure, meta-analysis methods, and results. Finally, we discuss implications and recommend avenues for future research.
THEORETICAL FRAMEWORKS

A literature search revealed eight theoretical frameworks used to explain the effects of ethnic identity in advertising. Each framework, which offers unique explanatory power, may be encapsulated as follows.

- **Accommodation Theory** proposes that people generally like other people who share similar traits (Byrne 1971), which suggests, for example, that Black viewers will respond favorably to ads with Black actors.

- **Cultural Script Theory** emphasizes the portrayal of cultural themes and values, distinct to an ethnic group, through social communication (Triandis et al. 1984), which suggests that the use of Spanish or Spanglish verbiage in ads may resonate favorably with Hispanic viewers.

- **Distinctiveness Theory** posits that a person’s distinctive or unique characteristics are more important to him/her than other local peoples’ common traits (McGuire 1984). This theory suggests why Hispanics living in a Hispanic-minority-White-majority region are more likely to trust a Hispanic rather than a White actor in an ad.

- The **Elaboration Likelihood Model** (Petty and Cacioppo 1996) suggests that attitudinal responses stem from central route (i.e., high elaboration) or peripheral route (i.e., low elaboration) processes. As a result, Hispanic viewers may peripherally assess an ad for a Hispanic product with a Hispanic actor, and may centrally assess an ad for a Hispanic product with a White actor.

- The **Heuristic-Systematic Persuasion Model** posits that message credence is evaluated either heuristically (i.e., casual evaluation) or systematically (i.e., scrutinized evaluation) (Chaiken 1980). For example, Asian viewers may systematically evaluate ads embedded with Asian cues because they trust an ethnically resonant source.

- **Identification Theory** suggests that people examine their similarity with environmental sources and then make similarity judgments (Kelman 1961), which may lead to Black viewers identifying more with ads with Black actors rather than White actors.

- **In-Group Bias Theory** proposes that people favor in-group members, based on some characteristic (Brewer 1979), more than out-group members. As a result, Whites should evaluate White actors more favorably in ads with White and Asian actors.

- **Polarized Appraisal Theory** suggests that in-group members will evaluate in-group stimuli less extremely than out-group stimuli (Linville and Jones 1980). This theory implies that Hispanics will evaluate an ad with a Black spokesperson more thoroughly than an otherwise identical ad with a Hispanic spokesperson of comparable character.

- **Social Identity Theory** posits that people’s self-concept stems from their social- and self-identity, which in turn contribute to self-image and satisfaction (Tajfel and Turner 1985). If true, then ads with embedded ethnic cues allow viewers in the targeted ethnic group to differentiate themselves from others, which reinforces their self-identity and uniqueness.

Collectively, these theoretical frameworks suggest that favorable advertising effects may ensue from ethnic identification with ads. They offer insights about greater responsiveness to ads that reflect resonant cultural values, increased trustworthiness of actors of similar ethnicity, and enhanced attitudes toward ads that imply cultural sensitivity to ethnic minorities; yet, as will be shown later, researchers’ reliance on these various frameworks does not explain the inconsistent findings on ethnic-identity effects in advertising.
ETHNIC IDENTITY IN ADS AND THE HIERARCHY-OF-EFFECTS MODEL

Consumer responses to ethnically resonant ads may operate throughout the well-known hierarchy-of-effects model. The basic model and its variants are a mainstay of advertising research. Although the number of stages may differ among variants, the basic model posits an initial cognitive or awareness stage followed by affective response(s) that ultimately lead to behavioral outcomes (Vakratsas and Ambler 1999). Although the effect sizes between antecedent attitudes and behavioral outcomes may be modest, overall support for affective responses to ads is overwhelming (Vakratsas and Ambler 1999). Hence, advertising scholars often focus on attitude toward the ad (A_AD), attitude toward the actor or model (A_AM), attitude toward the brand (A_AB), and intentions to purchase the advertised brand (PI_B) (e.g., Petty, Cacioppo and Schumann 1983).

Unsurprisingly, research on ethnic-identity effects in advertising has focused on the same attitudinal and behavioral constructs. However, the role of ethnic identity within the hierarchy-of-effects model is unclear. Ethnic identity may exert indirect influence through A_M or direct influence on A_AD and/or A_AB. Given the limited number of published studies, we conducted preliminary regression-based tests on the mechanism by which ethnic identity influences the model. Findings related to these constructs, along with the hypotheses tested here, are now discussed.

Attitude toward the Ad (A_AD)

The literature strongly indicates that viewers’ ethnic identification with an ad and A_AD correlate positively (Grier and Brumbaugh 1999; Sierra, Hyman, and Torres 2009). For example, Blacks relative to Whites respond more favorably to ads with Black actors (Pitts et al. 1989; Whittler 1989), Asians relative to Whites respond more favorably to ads with Asian actors (Forehand, Deshpandé, and Reed 2002), and Hispanics, based on believed cultural sensitivity of the advertiser, respond favorably to ads with Hispanic actors (Koslow, Shamdasani, and Touchstone 1994). Strong Hispanic identifiers respond more favorably than weak Hispanic identifiers to ads in Spanish language media (Deshpandé, Hoyer, and Donthu 1986); similarly, strong Black identifiers respond more favorably than weak Black identifiers to ads with Black models (Green 1999). Viewers respond favorably to ads with ethnic cues supportive of their self-concept (Forehand and Deshpandé 2001; Lee, Fernandez, and Martin 2002). However, Blacks, Whites, Hispanics, and Asians rate ads with Black actors more favorably than ads with White actors (Appiah 2001b). These findings imply the following hypothesis:

H1: Ethnic identification with the ad relates positively to A_AD.

Attitude toward the Actor or Model (A_AM)

The extant literature suggests that viewers respond more favorably to ethnically resonant models in ads. Ads with ethnic cues that match viewers’ self-concept produce more favorable responses to the spokesperson (Forehand and Deshpandé 2001; Lee, Fernandez, and Martin 2002); for example, Asians respond more favorably to Asian spokespeople (Forehand, Deshpandé, and Reed 2002), and strong Black identifiers respond favorably to ethnically resonant celebrity endorsers (Whittler and Spira 2002; Williams and Qualls 1989). Minority-group members are more likely than majority-group members to trust like-ethnicity spokespeople (Deshpandé and Stayman 1994). These findings imply the following hypothesis:

H2: Ethnic identification with the ad relates positively to A_AM.

Attitude toward the Brand (A_AB)

The extant literature suggests that viewers respond favorably to brands featured in ads with resonant ethnic cues or like-ethnicity actors (Deshpandé and Stayman 1994; Lee, Fernandez, and Martin 2002). For example, Blacks’ brand evaluations improve for ads with Black actors and worsen for ads with White actors (Qualls and Moore 1990); similarly,
Whites respond less favorably to brands featured in ads with Black actors (Whittler and DiMeo 1991). For strong Black identifiers, ads featuring Black models elicit favorable brand responses (Whittler and Spira 2002; Williams and Qualls 1989). In contrast, greater ethnic salience stemming from minority status leads to less positive brand responses (Grier and Deshpandé 2001). Based on these findings, the following hypothesis is posited:

H₃: Ethnic identification with the ad relates positively to Aₐ.

**Purchase Intentions toward the Advertised Brand (PIₐ)**

In general, the extant literature suggests ethnic identification with the ad relates positively to PIₐ. For example, viewers reported a higher PIₐ in response to ads with resonant ethnic cues and/or a like-ethnicity actor/model (Lee, Fernandez, and Martin 2002; Martin, Lee, and Yang 2004; Sierra, Hyman, and Torres 2009; Whittler 1989). Relative to weak Hispanic (Black) identifiers, strong Hispanic (Black) identifiers reported a higher PIₐ in response to ads with Hispanic (Black) ethnic cues (Deshpandé, Hoyer, and Donthu 1986; Green 1999). Interestingly, Whites responded similarly to point-of-purchase displays with all Black models, all White models, or a mix of Black and White models (Bush, Gwinner, and Solomon 1974). These findings imply the following hypothesis:

H₄: Ethnic identification with the ad relates positively to PIₐ.

**POSSIBLE RESEARCH ARTIFACTS**

Although most ethnic identification studies relied on test ads evaluated by subjects in experimental or quasi-experimental settings, differences in method and research context could affect variance homogeneity across studies (Sultan, Farley, and Lehman 1990). To assess this homogeneity, four sources were examined: measurement type (single-item measure versus multi-item scale), study type (survey-based versus experiment-based), sample type (student or random adult), and media type (print versus television).

**Measurement Type**

In many cases, single-item measures can provide good assessments of concrete and well-accepted constructs, such as immediate purchase intention (Rossiter 2002; Urban and Hauser 1993). However, single-item measures tend to reflect attitudinal and complex constructs less reliably (Peter 1981), and lower reliability may cause less stable correlations. Conversely, typically more reliable and valid multi-item scales should yield more stable correlations. Hence, ethnic-identity effect size may interact with the use of single-item measures versus multi-item scales.

**Study Type**

Relative to surveys, experiments—by permitted control of extraneous factors that otherwise would interact with studied constructs—can generate larger effect sizes and imply inter-construct relationships that ultimately prove artifactual (Lynch 1982). Although the potentially interactive extraneous factors are infinite, many of them become known as a research stream matures. Thus, stronger relationships among constructs may be implied by experiments than by surveys.

**Sample Type**

Heterogeneous samples tend to attenuate effect size, especially in experimental studies (Fern and Monroe 1996). Conversely, homogeneous samples may produce restricted responses due to similar respondent backgrounds, incomplete self-identity, strong need for approval, and unstable group relationships (Calder, Phillips and Tybout 1981; Sears 1986). Although some marketing scholars have found that students respond more homogeneously (Calder, Phillips, and Tybout 1981), and other social scientists have found limited evidence that student samples yield larger effect sizes (Greenberg 1997; Henry 2008), a recent comprehensive meta-analysis suggests otherwise (Peterson 2001).
Nonetheless, published studies imply a possible moderation of effect sizes when students serve as respondents.

**Media Type**

Ads with higher-quality arguments are more persuasive to highly involved viewers because such arguments are easier to process (Petty and Cacioppo 1996). If viewers believe ads with ethnic cues are higher quality, directly targeted messages, then such ads may trigger positive thoughts and feelings that boost ad attention and awareness. In ads for low-involvement products, ethnic identity may create stronger consumer affiliation and bonding with the actor/model or message. Thus, various cognitive and affective mechanisms may trigger ethnic-identity effects in ads for low- and high-involvement consumer products.

Although previous research showed that television ads are more effective than print ads (Grass and Wallace 1974; Jones 1998), recent studies suggest that television ads only may dominate print ads on ad awareness (Hansen, Olsen and Lundsteen 2006). Perhaps ethnic-identity effects are larger for television ads than print ads because television’s multi-channel visual and auditory cues induce higher-quality thoughts and feelings for ethnically resonant ads.

**METHOD**

**Sampling Frame**

Studies that qualified for our meta-analysis examined advertising-related effects of ethnic identification. In most studies, ethnicity was manipulated as an independent variable. Typically, respondents first read a magazine with filler and test ads. The test ads were identical in all regards but model ethnicity. Then respondents indicated their attitudes and/or purchase intentions toward the target ads and brands. Many studies assessed ethnic identification with an ethnic-identity or perceived-similarity measure.

Studies for analysis were identified through (1) a keyword search of journal aggregator databases in business, communications, education, and psychology (e.g., ABI/Inform, EBSCO, ERIC, PsycInfo), (2) a search for conference proceedings in Papers First and marketing society web sites (e.g., AMA, SMA), (3) an online search for articles using keywords from uncovered articles, and (4) listserv requests to business and psychology researchers for copies of published or unpublished manuscripts. Excluded studies examined effects of ethnic identification on non-advertising outcomes, such as political affiliation, psychological assessments, and educational outcomes. Because few studies examined brand-related outcomes—such as brand prestige, brand loyalty, and brand awareness—those constructs were ignored. Ultimately, 25 articles qualified for meta-analysis (see Table 1).

**Characteristics of Studies on Ethnicity and Advertising**

The most recurrent research question was response differences among ethnic groups—Blacks, Whites, Hispanics, and Asians—to ads with various ethnic cues. At least one ethnic cue appeared in the test ads for all but two studies. The most common ethnic cues were targeted at Whites, Blacks, and then Hispanics. Test ads depicted only two ethnic groups in 80% of studies, which may inhibit the generalizability of reported findings (Brumbaugh and Grier 2006). Print or television ads were assessed in 92% of studies. The mean sample size, which ranged from 62 to 648 (excluding an ethnographic study with 13,443 observations), was 236. The samples represented much of the U.S.: seven were drawn from the Western U.S., six from the Southwestern U.S., four from the Midwestern U.S., and three from the Southeastern U.S. Thirteen studies relied on student samples—nine of undergraduate students, two of MBA students, and two of high school students—and twelve studies relied on adult samples. Thus, reported findings reflect responses of a roughly even mix of students and adults located throughout the U.S. The majority of studies examined at least one ad-related attitude (i.e.,
A\textsubscript{AD} in 20 studies, A\textsubscript{M} in 10 studies, and A\textsubscript{B} in nine studies), and eight studies examined PI\textsubscript{B}.

Regarding the theoretical underpinnings for these studies, eight studies had none, ten studies relied on Distinctiveness Theory (McGuire 1984), two studies each relied on Identification Theory (Kelman 1961), In-Group Bias Theory (Brewer 1979), Accommodation Theory (Koslow, Shamdasani, and Touchstone 1994), and the Heuristic-Systematic Persuasion Model (Chaiken 1980), and one study each relied on Social Identity Theory (Tajfel and Turner 1985), Cultural Script Theory (Triandis et al. 1984), Polarized Appraisal Theory (Linville and Jones 1980), and the Elaboration Likelihood Model (Petty and Cacioppo 1996).

Without an a priori theory about the theoretical frameworks for ethnic identity studies, only differences in effect size by framework could be examined.

RESULTS

The population correlation \( \rho \) was estimated by adjusting the observed correlations for sampling error (Hunter and Schmidt 1990). All correlations reported in Table 1 were converted from other summary statistics (e.g., \( t \), \( F \), \( \chi^2 \)) using formulae suggested by Hunter and Schmidt (1990), Rosenthal (1991), and Wolf (1986). Because several studies reported multiple correlations with ethnic identity, the mean correlation for each reported outcome was used (Wolf 1986). Each correlation was weighted by sample size and adjusted for sampling error.

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Insert Table 1 here
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The sample-weighted estimates of ethnic identity’s influence on all advertising constructs were medium-sized effects with composite \( r \) ranging from 0.18 to 0.30 (see Table 2). Five studies reported small effect sizes (\( r<0.10 \)) and none reported large effect sizes (\( r>0.50 \)). All correlations between ethnic identity and A\textsubscript{AD}, A\textsubscript{M}, A\textsubscript{B}, and PI\textsubscript{B} were significant (\( p<0.05 \)). The large file drawer N estimates of publication bias also support the significance of these ethnic-identity relationships (N>230). Thus, there is strong support for hypotheses H1-H4. Measurement errors may attenuate the estimates of true population parameters (Hunter and Schmidt 1990). Because estimates of measurement error were unavailable for some studies, correlations were adjusted by artifact distributions. Although all advertising construct \( \rho \) estimates increased after correcting for measurement reliability, the percentage of variance explained by measurement error was small. Jointly, measurement and sampling error accounted for roughly 12% of total meta-analysis variance. Finally, all study effect correlations were adjusted for random effects (Rosenthal and DiMatteo 2001). The Figure shows the adjusted correlation and confidence intervals for all studies displayed as a standard plot.

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Insert Table 2 and Figure here
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Homogeneity

Homogeneity tests were conducted for all construct effects using the statistic \( Q \) on the corrected correlations (see Table 2). The results indicate significant heterogeneity for A\textsubscript{AD}, A\textsubscript{M}, A\textsubscript{B}, and PI\textsubscript{B}, which suggests the presence of moderating variables. As a first step, studies with larger variances were eliminated from each correlation set. Unfortunately, stepwise removal of studies with larger variances failed to eliminate the large amount of heterogeneity from study effects.

Regression Analysis of Ethnic-Identity and Advertising Constructs

To better explain shared variance with ethnic identity, regression analysis was conducted on the meta-analytically derived relationships between A\textsubscript{AD}, A\textsubscript{M}, A\textsubscript{B}, and PI\textsubscript{B}. Table 3 shows the squared semi-partial correlations between PI\textsubscript{B} and the three ad-related attitudes. After controlling for A\textsubscript{AD} and A\textsubscript{M}, A\textsubscript{B} accounted for significant incremental variance in PI\textsubscript{B}. However, after controlling for
A_M, A_AD did not account for the incremental variance in A_B. Thus, support for a hierarchy-of-effects within ethnic-identity studies is mixed, and A_M may moderate the effect of advertising attitudes on brand perceptions. To investigate the influence of A_M on the A_AD→A_B relationship, we conducted a series of regressions using A_AD, A_M, and A_M×A_AD as independent variables and A_B as the dependent variable; the presence of A_M moderation was confirmed (B_M=0.912, t=52.72, p<0.001; B_AD=0.083, t=4.92, p<0.001; B_M×AD=0.346, t=18.06, p<0.001 (Baron and Kenny 1986)).

Insert Table 3 here

Tests of Possible Research Artifacts

To test for artifactual results, studies were first partitioned by moderator type. After evaluating these subgroups for corrected correlations and overall effect sizes, significant differences between them were tested by examining between- and within-group variances (i.e., ANOVA) (Lipsey and Wilson 2001). The large number of theoretical frameworks and small number of published studies limited framework comparisons to no-stated framework, distinctiveness theory, and in-group bias theory. Studies with no-stated framework reported significantly higher effect sizes than in-group bias studies, which in turn reported higher effect sizes than distinctiveness theory studies. Type of measurement (single-item measure versus multi-item scale) and study design (survey versus experiment) help to explain some heterogeneity in A_AD, A_M, A_B, and P_I_B (see Table 4). As expected, ethnic-identity effect sizes were larger in experiment-based than survey-based studies. Studies with respondents from only two ethnic groups (e.g., Hispanic and Caucasian or Black and Caucasian) produced lower effect sizes than studies with more diverse samples of three or more ethnic groups. Surprisingly, single-item measures yielded larger correlations than multi-item scales, perhaps due to the larger variety of multi-item scales used in ethnic-identity studies.

Insert Table 4 here

DISCUSSION

Because consumer identification with marketing stimuli influences the decision-making process (Forehand, Deshpandé, and Reed 2002), ethnic-identity research should advance advertising theory and practice (Bhattacharya, Rao, and Glynn 1995). The meta-analysis shows that ethnic identification with an ad generally enhances A_B, A_AD, A_M, and P_I_B.

Ethnic identity influences all elements of the advertising hierarchy-of-effects, producing the largest effect on A_B. The regression analysis of unique variances shows a direct connection between A_M and A_B. The moderation analysis suggests methodological artifacts; for example, ethnic-identity effects are larger in experiment-based than survey-based studies. In addition, three studies with single-item measures produced higher correlations than studies with multi-item scales, especially with A_AD. Two of these studies examined A_AD only, and thus may have captured overall attitudes within a single-item A_AD measure. Use of advanced measurement techniques, such as confirmatory factor analysis, in future studies should mitigate measurement artifacts.

Although methodological heterogeneity accounts for some unexplained variance in ethnic-identity research, the relatively few studies with significant findings makes this result tenuous. Other meta-analytic studies have been unable to estimate moderators when complex measurement or models were present (e.g., DiMateo, Lepper, and Croghan 2000; Rosenthal and DiMatteo 2001). Although researchers continue to debate the merits of student samples, studies with student versus non-student respondents did not differ systematically. In the many experiment-based studies, researchers were able to maintain high internal validity and boost statistical power. As
expected, questionnaire-based studies produced lower ethnic-identity effect sizes. Although it does not account for response differences among ethnic groups, previous research suggests that ethnic-identity effects are activated in ethnic groups other than portrayed in test ads. Thus, generalizability concerns about ethnic-identity studies in advertising may include both the limited range of test stimuli (Brumbaugh and Grier 2006) and respondent samples. Finally, ethnic-identity effect size differed by theoretical framework. Many earlier ethnic-identity studies with larger effect sizes employed no framework, perhaps prompting research with fewer dependent variables. Examining only one construct such as $A_{AD}$ and not integrating findings into a framework may have boosted effect size artificially.

Managerial Implications

If consumers are more likely to notice and respond favorably toward an ad if it contains ethnically resonant cues, then advertisers would benefit from running ads with such cues. Assuming ad placement in a media outlet popular with a targeted ethnic group, advertisers should accentuate same-ethnicity models’ skin color, facial features, demeanor, verbal expression, and apparel styles. For example, ads targeting Mexican-Americans could include Mexican slogans and argot to commemorate Cinco de Mayo. Likewise, esteemed Black icons could endorse Black History Month. As the popularity and efficacy of animated spokescharacters increases (Heiser, Sierra, and Torres 2008), their physical traits (e.g., skin color, hairstyles, facial features) may be adapted to the targeted ethnic viewer. Although ethnic-identity effects pervade the entire advertising hierarchy-of-effects, ethnic-identity strategies may work best for new brands.

Limitations and Suggestions for Future Research

Because ethnic identity significantly influences all stages of the hierarchy-of-effects model, future studies should explore the indirect and mediation pathways between advertising and ethnic identity, particularly within different advertising contexts and products. For example, prior research has shown that product involvement alters consumer elaboration of advertising stimuli (e.g., Petty, Cacioppo, and Schumann 1983). Lower-involvement products may be more likely to trigger ethnic identity and associated affective advertising responses. Researchers also should unravel the causal sequence and other complexities of ethnic identity’s cognitive, emotive, and behavioral influences with longitudinal models. Perhaps ethnic identity directly and indirectly influences advertising attitudes or reverse causality from the advertised actor triggers ethnic identity effects.

The relative efficacy of different types of ad cues (e.g., slogans, argot, apparel worn by models) to induce ethnic identification is unknown. Although moderating factors seemingly explain some variance in ethnic-identity effects, further research is needed to answer questions like “Does the tagline or actor’s appearance in an ad creates stronger ethnic-identity effects?” In addition to informing advertising theory, the answers to such questions should suggest effective strategies for advertisers.

REFERENCES


## TABLE 1
Overview of Studies Included in Meta-Analysis

<table>
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<td>2002</td>
<td>160</td>
<td>.08 to .48</td>
<td>x x x</td>
</tr>
</tbody>
</table>
### TABLE 2
Summary, Ethnic-Identity Effects

<table>
<thead>
<tr>
<th>Construct</th>
<th>( k^a )</th>
<th>Cume. ( n^b )</th>
<th>Scale (( \alpha ))</th>
<th>Sample Weighted Corrected ( \rho )</th>
<th>Corrected 95% Confidence Interval</th>
<th>Total Variance</th>
<th>Sampling Error Variance</th>
<th>File Drawer Analysis ( c )</th>
<th>( Q(df)^d )</th>
</tr>
</thead>
</table>
| A\(_{AD}\) | 20 | 4493 | .2062 | .1952 | .1819-.2085 | .053 | .006 | 1059 | 161.67 (19)
| A\(_M\)   | 10 | 1849 | .1920 | .1780 | .1595-.1963 | .049 | .008 | 271 | 41.32 (9)
| A\(_B\)   | 9  | 1626 | .2964 | .2770 | .2474-.3067 | .071 | .013 | 237 | 57.28 (8)
| P\(_{IB}\) | 9  | 2571 | .1779 | .1634 | .1487-.1781 | .040 | .006 | 230 | 172.12 (8)

Notes:

- a: \( k \) = number of correlation coefficients analyzed
- b: Excludes one large-scale study
- c: In accord with Hunter and Schmidt (1990), number of missing studies—averaging null findings—needed to reduce \( r \) to non-significant
- d: Significant at the \( p<0.05 \) level

### TABLE 3
Incremental Variance in Advertising Construct Explained by the Advertising Hierarchy-of-Effects

<table>
<thead>
<tr>
<th>Construct, IV</th>
<th>( r^2 )</th>
<th>Semi-partial Coefficient(^a)</th>
<th>Correlation</th>
<th>( Beta )</th>
<th>( T )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(<em>B), A(</em>{AD})</td>
<td>.950</td>
<td>( A_B(A_M) )</td>
<td>.040</td>
<td>.048</td>
<td>0.83</td>
<td>.393</td>
</tr>
<tr>
<td>P(_{IB}), A(_B)</td>
<td>.658</td>
<td>( P_{IB}(A_{AD}, A_M) )</td>
<td>.338</td>
<td>1.58</td>
<td>2.65</td>
<td>.015(*)</td>
</tr>
</tbody>
</table>

Notes:

- a: Notation for each effect follows Pedhazur (1997). \( A_B(A_M) \) represents the incremental effect on \( A_B \) from \( A_{AD} \) above and beyond \( A_M \). \( P_{IB}(A_{AD}, A_M) \) represents the incremental effect on \( P_{IB} \) from \( A_B \) above and beyond \( A_{AD} \) and \( A_M \).
- b: Significant at the \( p<0.05 \) level
### TABLE 4
Dichotomous Moderator Analyses

<table>
<thead>
<tr>
<th>Moderator $(_0, _1)$</th>
<th>ES$_0$</th>
<th>ES$_1$</th>
<th>$Q_{\text{within (df)}}$</th>
<th>$\chi^2$(sign.)</th>
<th>$Q_{\text{between (df)}}$</th>
<th>$\chi^2$(sign.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single item measure$_0$ vs. multi-item$_1$ scale</td>
<td>.3268</td>
<td>.1528</td>
<td>171.57 (21)</td>
<td>.000</td>
<td>137.86 (1)</td>
<td>.000*</td>
</tr>
<tr>
<td>Survey$_0$ vs. experiment$_1$</td>
<td>.1163</td>
<td>.1788</td>
<td>293.43 (23)</td>
<td>.000</td>
<td>12.00 (1)</td>
<td>.000*</td>
</tr>
<tr>
<td>Random adult$_0$ vs. student sample$_1$</td>
<td>.1782</td>
<td>.1721</td>
<td>309.05 (23)</td>
<td>.000</td>
<td>0.38 (1)</td>
<td>.537</td>
</tr>
<tr>
<td>Print$_0$ vs. television$_1$ media</td>
<td>.1530</td>
<td>.1742</td>
<td>145.11 (16)</td>
<td>.000</td>
<td>0.35 (1)</td>
<td>.632</td>
</tr>
<tr>
<td>No framework$_0$ vs. in-group-bias theory$_1$</td>
<td>.1759</td>
<td>.1645</td>
<td>223.45 (9)</td>
<td>.000</td>
<td>85.98 (1)</td>
<td>.000*</td>
</tr>
<tr>
<td>Distinctiveness$_0$ theory vs. in-group-bias theory$_1$</td>
<td>.1596</td>
<td>.1645</td>
<td>108.42 (9)</td>
<td>.000</td>
<td>201.03 (1)</td>
<td>.000*</td>
</tr>
<tr>
<td>Two ethnic group vs. three or more ethnic group sample</td>
<td>.1274</td>
<td>.1835</td>
<td>284.56 (19)</td>
<td>.000</td>
<td>24.87 (1)</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* Significant at the p<0.05 level
FIGURE

Forest Plot Weighted Correlation Coefficients

Standard Forest Plot—Correlation Coefficients ($r$)—Random Effects