The Ethnic Adornment Survey (EAS):

Measuring Individuals' Use of Clothing to Express Ethnic Identity[1]

Alexandra Diaconu and Stanley O. Gaines, Jr.

Brunel University London

Running Head: THE ETHNIC ADORNMENT SURVEY

Abstract

The present paper introduces the Ethnic Adornment Survey as a measure of the relative frequency with which individuals use clothing to express their ethnic identity. Results of exploratory factor analyses in a pilot study ($n = 174$) and confirmatory factor analyses in a main study ($n = 217$) revealed that the Ethnic Adornment Survey measures two positively correlated, yet distinct, ethnic adornment factors (i.e., socially desirable and undesirable aspects). Moreover, results of regression analyses indicated that (1) self-esteem was *positively* predicted by socially desirable aspects of ethnic adornment (p's < .05 in both studies); whereas (2) self-esteem was *negatively* predicted by socially undesirable aspects of ethnic adornment (p's < .05 in the pilot study and < .10 in the main study). Implications for research on ethnic identity are discussed.

KEYWORDS: Ethnic adornment, ethnic identity, self-esteem, exploratory factor analysis, confirmatory factor analysis.

The Ethnic Adornment Scale (EAS):

Measuring Individuals' Use of Clothing to Express Ethnic Identity

In her classic review of the literature on *ethnic identity* (i.e., the extent to which individuals' sense of who they are reflects their presumed biological and/or cultural heritage; see Markus, 2008), Jean Phinney (1990) observed that 1970s- and 1980s-era researchers were especially likely to operationalize ethnic identity in terms of *ethnic behavior* – or, as Phinney put it, "[i]nvolvement in the social life and cultural practices of [individuals'] ethnic group" (1990, p. 505). However, Phinney's current survey regarding ethnic identity – specifically, the Revised Multigroup Ethnic Identity Measure (MEIM-R; Phinney & Ong, 2007) – does not include ethnic behavior items (for a contemporary review concerning the measurement of ethnic identity, see Ong, Fuller-Rowell, & Phinney, 2010). Despite Phinney's previous attempts to measure ethnic behavior alongside individuals' *exploration* (i.e., the cognitive aspect of ethnic identity) and *commitment* (i.e., the affective aspect of ethnic identity; e.g., Phinney, 1992; R. Roberts et al., 1999), Phinney concluded that ethnic behavior was difficult to measure in a valid manner (see also Verkuyten, 2005).

In this brief report, we introduce the Ethnic Adornment Survey (EAS) as a measure of the degree to which individuals express their ethnic identity via the clothing that they wear. We present the results of a pilot study and a main study in which ethnic adornment is operationalized as a special instance of ethnic behavior (which, in turn, constitutes one aspect of ethnic identity; Verkuyten, 2005). Before we examine the results, we shall state the case for measuring ethnic adornment – not just in its own right, but also as a potential covariate of *self-esteem* (i.e., individuals' positive versus negative evaluation of themselves; Blascovich & Tomaka, 1991). We

draw upon Henri Tajfel's (1981; Tajfel & Turner, 1986) social identity theory in the process of stating our case.

Measuring Ethnic Adornment: Issues of Construct Validity and Criterion-Related Validity

Phinney (1990) referred to "dress" (i.e., ethnic adornment) as one of many miscellaneous aspects of individuals' ethnic behavior. In turn, drawing upon Phinney, Verkuyten (2005) listed "dress" or ethnic adornment as part of the "doing" of ethnic identity. Both Phinney and Verkuyten cited Tajfei's (1981; Tajfel & Turner, 1986) *social identity theory*, which proposes that individuals' self-esteem is a function of (1) individuals' *personal identity* (i.e., the extent to which individuals' sense of "who they are" is based upon individuals' perception of their uniqueness) and (2) one or more *social identities* (i.e., the extent to which individuals' sense of "who they are" is based upon individuals' membership in one or more groups that are defined within a given society; see Swann & Bosson, 2010).

Regarding the importance of "dress" to individuals' expression of their social identities in general (and their ethnic identities in particular), R. Brown (1986) summarized key points from Tajfel's (1981; Tajfel & Turner, 1986) social identity theory as follows: "A distinctive appearance and a distinctive language are the two attributes [that are] most central to [individuals'] social identities" (p. 565). Unlike language (which might be especially salient to members of those ethnic groups who consist largely, if not primarily, of immigrants within a specific society; see Phinney, 1996), ethnic adornment seems to be relatively salient to members of most (if not all) ethnic groups (see Phinney, 1990).

Implicit in the previous two paragraphs are two major assumptions concerning ethnic adornment: (1) Not only can ethnic adornment be measured validly as a

manifestation of ethnic identity; but (2) scores on ethnic adornment can be shown to

covary positively with scores on self-esteem (which frequently emerges as an

outcome of ethnic identity in empirical research across ethnic groups; Umana-Taylor,

2012). However, we are not aware of any previous studies that have tested both of

these assumptions. Hence, we designed the present studies to determine the construct

validity and criterion-related validity (see Nunnally & Bernstein, 1994) of a new

survey, which we call the Ethnic Adornment Survey (EAS).

Goals of the Present Studies

In the present studies, we tested the following hypotheses concerning the

psychometric properties of the Ethnic Adornment Survey: (1) (a) A one-factor model

(i.e., all ethnic adornment items loading onto one dimension) will yield acceptable fit

to the data (i.e., the absolute chi-square value will be nonsignificant); and (b) for the

sake of comparison, adding a second factor will *not* improve the goodness-of-fit (i.e.,

the reduction in chi-square value will be nonsignificant). (2) Ethnic adornment will

covary significantly and positively with self-esteem. We tested Hypotheses 1a and 1b

via exploratory factor analyses (EFA) in the pilot online study, and via confirmatory

factor analyses (CFA) in the main offline study (see Thompson, 2004, regarding the

complementary use of EFA and CFA across studies); and we tested Hypothesis 2 via

regression analyses in both studies.

Method

Participants

Pilot study. A total of 211 individuals (133 women, 39 men, and 39

individuals who did not indicate their gender) participated in the pilot study. The

mean age of participants in the pilot study was 20.62 years (*SD* = 3.78 years). In

terms of ethnic group membership, 33.6% of participants in the pilot study classified

themselves as European-descent, 19.4% as Asian-descent, 16.9% as African-descent, 6.6% as mixed-descent, and 8.1% as "other" (an additional 18.5% did not indicate their ethnicity).

Main study. A total of 218 individuals (163 women, 49 men, and 6 individuals who did not indicate their gender) participated in the main study. The mean age of participants in the main study was 25.00 years (*SD* = 11.74 years). In terms of ethnic group membership, 22.0% of participants in the main study classified themselves as European-descent, 29.4% as Asian-descent, 31.7% as African-descent, 6.9% as mixed-descent, and 7.8% as "other" (an additional 2.8% did not indicate their ethnicity).

Materials

Pilot study. Participants in the pilot study completed the 12-item Ethnic Adornment Survey (EAS), which was developed by the first author under the supervision of the second author. The items were developed following the first author's review of relevant marketing surveys, especially Chattaraman and Lennon's (2008) four-item measure of "consumption of cultural apparel." All of the EAS items were designed to reflect individuals' use of clothing to express their ethnic identity; items 7 through 12 also were designed to reflect the thoughts and feelings that individuals experience while using clothing to express their ethnic identity. In the pilot study, each EAS item was scored according to a 5-point, Likert-type scale (1 = never do this, 5 = constantly do this). We anticipated that higher scores on EAS Items 1-8 and 10-11 would reflect *higher* relative frequencies of ethnic adornment; whereas we anticipated that higher scores on EAS Items 9 and 12 would reflect *lower* relative frequencies of ethnic adornment.

In addition, participants in the pilot study completed the 10-item Self-Esteem Scale (SES), which was developed by Rosenberg (1965). A copy of the SES is available in Blascovich and Tomaka (1991, p. 123). All of the SES items were designed to reflect individuals' positive versus negative evaluation of themselves. Each SES item was scored according to a 5-point, Likert-type scale (1 = strongly disagree, 5 = strongly agree). As results of many previous studies have indicated, higher scores on SES Items 1, 2, 4, 6, and 7 reflect *higher* levels of self-esteem; whereas higher scores on SES items 3, 5, 8, 9, and 10 reflect lower levels of self-esteem (Blascovich & Tomaka, 1991). In our pilot study, after recoding the negatively worded items, results of a reliability analysis indicated that the SES was internally consistent (Cronbach's alpha = .88).

Main study. Participants in the main study completed the aforementioned Ethnic Adornment Survey (EAS). The content and format of the items for the EAS remained the same as in the pilot study. We will comment on internal consistency for the EAS in the Results section.

In addition, participants in the main study completed the aforementioned Self-Esteem Scale (SES; Rosenberg, 1965). The content and format of the items for the SES remained the same as in the pilot study. In our main study, after recoding the negatively worded items, results of a reliability analysis indicated that the SES was internally consistent (Cronbach's alpha = .87).

Procedure

Pilot study. Prior to conducting the pilot study, the second author obtained ethics approval from the research ethics committee in Brunel University London. The present study was conducted in accordance with the ethical guides of the British Psychological Society (BPS, 2005). For approximately half of the 211 participants in

the pilot study (who were recruited from an introductory psychology course, with the study advertised via research assistants' posts to the SONA research administration system), research credit was offered in exchange for taking part; the other half of participants (who were recruited via research assistants' posts to social networking sites, primarily Facebook and Twitter) did not receive any incentive for taking part. The questionnaires were provided online (via the SurveyMonkey website). Participants in the pilot study read and "signed" an informed consent sheet (typically by ticking a box that indicated their consent), describing the purpose of the study in general terms, following which the participants completed the aforementioned survey. Finally, participants in the pilot study read debriefing forms that explained the purpose of the study in more detail; and they were thanked for their participation.

Main study. The second author obtained ethics approval from the Psychology Ethics Committee at the authors' educational institution regarding the main study. Using a print version of the "Affirming Who I Am" questionnaire (including the EAS, SES, and additional surveys that are not covered in the present paper), research assistants collected data from a convenience sample (consisting of 218 individuals with whom the research assistants were directly or indirectly acquainted, and who generally were approached on a one-to-one basis, via e-mail or face-to-face communications), primarily within the greater London metropolitan area. No incentives were offered in exchange for participation in the main study. After reading participant information sheets and signing informed consent sheets, participants in the main study completed the "Affirming Who I Am" questionnaire, read debriefing forms, and were thanked for taking part in the study.

Results

Construct Validity of the Ethnic Adornment Scale (EAS)

Matrices of correlations among the EAS items in the pilot study (below the diagonal) and the main study (above the diagonal) are shown in Table 1. As Table 1 indicates, nearly all of the correlations were significant and positive, even for Item 9 ("How often do you feel worried or bothered by what other people think of you when wearing ethnic/ethnic-inspired wear?") and Item 12 ("How often do you feel inferior to others when wearing ethnic/ethnic-inspired wear?"), both of which we had expected to be *negatively* correlated with all other items (except each other). Subsequently, the matrix of correlations among EAS items for the pilot study was entered into a series of exploratory factor analyses (EFAs); and the matrix of correlations among EAS items for the main study was entered into a series of confirmatory factor analyses (CFAs).

Insert Table 1 about here

Goodness-of-fit regarding one-factor and two-factor models, pilot study. In the pilot study, we conducted a series of EFAs using maximum likelihood extraction, via SPSS 20.0.0 (IBM, 2011). In an initial EFA, we did not specify the number of factors; the result was an uninterpretable solution in which SPSS attempted, but failed, to extract three factors. Subsequently, we conducted additional EFAs in which we constrained SPSS to solve for fewer than three factors.

In a second EFA for the pilot study, we extracted one factor; the result was an interpretable solution in which all ten of the items that were expected to load positively did, in fact, load positively with values well above .32 (see Tabachnick & Fidell, 2007, regarding cutoff points for factor loadings). Unexpectedly, the two items that were expected to load negatively ended up loading *positively* as well,

although the values were below .32. Factor loadings for all EAS items in the one-factor solution for the pilot study are shown in Table 2. Contrary to predictions, the one-factor model in the EFA for the pilot study did *not* provide an acceptable fit to the data (chi-square = 361.26, *df* = 54, *p* < .01).

Insert Table 2 about here

In a third and final EFA for the pilot study, we extracted two factors; the result was an interpretable solution in which the two items that we had intended to load negatively on a single ethnic adornment factor (alongside the other ten items) actually loaded separately and positively on a second factor (loadings for those two items were well above .32). The other ten items continued to load positively on the first factor (see Table 3 regarding factor loadings). We interpreted Factor 1 as reflecting socially desirable aspects of ethnic adornment, and we interpreted Factor 2 as reflecting socially undesirable aspects of ethnic adornment. Compared to the one-factor model, the two-factor model yielded a significant improvement in goodness-of-fit (reduction in chi-square = 168.81, reduction in *df* = 11, p < .01). However, like the one-factor model (and contrary to hypotheses), the two-factor model did *not* provide acceptable fit to the data.

Insert Table 3 about here

Goodness-of-fit regarding one-factor and two-factor models, main study.

Having obtained interpretable results for one-factor as well as two-factor solutions in the pilot study, we conducted a series of confirmatory factor analyses (CFA)

specifying one-factor and two-factor solutions in the main study. Unlike EFA, CFA allows researchers to control statistically for residuals (specifically, higher-than-expected instances of correlated measurement error) when assessing the goodness-of-fit concerning various models, using a ridge adjustment (Kline, 2011). We anticipated that, after controlling for correlated measurement error, we would obtain one-factor and two-factor solutions that yield adequate fit to the data.

Results of the initial CFA for the main study (one-factor solution), using maximum likelihood extraction, ridge option, and ridge constant (via LISREL 9.30; Joreskog & Sorbom, 2017), indicated that all ten items that were expected to load positively did, indeed, load significantly and positively (unlike EFA, CFA provides significance tests for individual item loadings; T. Brown, 2015). Unexpectedly, both of the items that were expected to load negatively ended up loading significantly and positively as well. Factor loadings for all EAS items in the one-factor solution for the main study are shown in Table 2. Consistent with predictions, after controlling statistically for residuals, the one-factor model in the CFA for Study 1 provided an acceptable fit to the data (chi-square = 42.43, df = 54, NS; root mean square error of approximation = .00, 90% confident interval for RMSEA = .00 to .02; comparative fit index = 1.00).

Results of the second and final CFA for the main study (two-factor solution), using maximum likelihood extraction, ridge option, and ridge constant (Joreskog & Sorbom, 2012), indicated that – after controlling statistically for residuals – the two-factor model yielded acceptable fit to the correlational data (chi-square = 38.02, df = 53, NS; RMSEA = .00, 90% confidence interval for RMSEA = .00 to .01; CFI = 1.00). Moreover, contrary to hypotheses, the two-factor model offered a significant *improvement* over the one-factor model concerning goodness-of-fit (reduction in chi-

square = 4.41, reduction in $df = 1$, $p < .05$). The CFA model identified Items 1-8 and

Items 10-11 from the EAS as loading significantly and positively on Factor 1 (social

desirable aspects of ethnic adornment); whereas Items 9 and 12 loaded significantly

and positively on Factor 2 (socially undesirable aspects of ethnic adornment). Item

loadings for the two-factor model in CFA for the main study are presented in Table 3.

Socially Desirable and Undesirable Subscales within the EAS: Internal

Consistency and Covariance with Self-Esteem

Afterward, having established that the EAS is best interpreted as measuring

two aspects of ethnic adornment (i.e., socially desirable and undesirable dimensions),

we conducted additional analyses on the resulting subscales. For the 10-item subscale

regarding socially desirable aspects of ethnic adornment (Items 1-8 and 10-11),

internal consistency was acceptable in both studies (Cronbach's alphas = .91 in the

pilot study and .93 in the main study). For the 2-item subscale regarding socially

undesirable aspects of ethnic adornment (Items 9 and 12), internal consistency was

acceptable in the pilot study (Cronbach's alpha = .82) but not in the main study

(Cronbach's alpha = .53; see Nunnally & Bernstein, 1994, concerning acceptable

levels of internal consistency). Despite the low internal consistency of the socially

undesirable subscale in the main study, scores on social desirable and undesirable

aspects of ethnic adornment were significant and positive in both studies (r's = .24 in

the pilot study and .35 in the main study; p's < .01).

The zero-order correlation between socially desirable aspects of ethnic

adornment and self-esteem was positive in both studies, approaching significance in

the pilot study ($r = .13$, $p < .10$) and reaching significance in the main study ($r = .17$, p

< .05). Conversely, the zero-order correlation between socially undesirable aspects of

ethnic adornment and self-esteem was *negative* in both studies, reaching significance

in the pilot study ($r = -.16$, $p < .05$) but not reaching or approaching significance in the main study ($r = -.05$, *NS*). We hasten to add that all of the correlations in question were below .20 in absolute value (potentially foreshadowing small effect sizes in regression analyses; see J. Cohen, P. Cohen, West, & Aiken, 2003).

When socially desirable and undesirable aspects of ethnic adornment were entered together as regression analyses as predictors of self-esteem, the explained variance in self-esteem was significant in both studies (in the pilot study, R-square = .06, F [2, 171 *df* = 4.99, $p < .01$; in the main study, R-square = .04, F [2, 213 *df*] = 4.46, $p < .05$). Furthermore, the effect of socially desirable aspects of ethnic adornment on self-esteem was positive and significant in both studies (in the pilot study, $B = .18$, $t = 2.29$, $p < .05$, partial eta squared = .03; in the main study, $B = .21$, $t = 2.98$, $p < 01$, partial eta squared = .04); whereas the effect of socially undesirable aspects of ethnic adornment on self-esteem was negative in both studies, with the effect reaching significance in the pilot study ($B = -.21$, $t = -2.66$, $p < .01$, partial eta-squared = .04) and approaching significance in the main study ($B = -.12$, $t = -1.67$, $p < .10$, partial eta-squared = .01). Overall, given that we originally viewed ethnic adornment as socially desirable but subsequently found that ethnic adornment includes socially undesirable as well as desirable elements, we interpreted the results of regression analyses as partially supporting our predictions.

Discussion

Although we designed the EAS to measure ethnic adornment as a single dimension, results of factor analyses revealed that the EAS actually measures two dimensions – specifically, the socially desirable and undesirable aspects of ethnic adornment – that are significantly and positively correlated with each other. Interestingly, the socially desirable aspect of ethnic adornment was a significant

positive predictor of self-esteem (as measured by the SES; Rosenberg, 1965); whereas the socially undesirable aspect of ethnic adornment was a marginal-to-significant *negative* predictor of self-esteem. In retrospect, the emergence of socially undesirable as well as desirable aspects of ethnic adornment might reflect the dual effects of individuals' prioritisation of ethnic identity upon individuals' behaviour (see Swann & Bosson, 2010).

Shortcomings, Strengths, and Implications of the Present Studies

Perhaps the biggest shortcoming of the present studies is the variability of internal consistency for the EAS subscale measuring socially undesirable aspects of ethnic adornment across studies. Conversely, possibly the biggest strength of the present study is the stability of the factor pattern for both EAS subscales (measuring socially desirable as well as undesirable aspects of ethnic adornment) across studies. All in all, considering the primacy of construct validity as a psychometric issue (Judd & McClelland, 1998), we believe that the strengths outweigh the shortcomings in the present studies.

In light of the small, inconsistent associations that we observed between the EAS subscales and self-esteem, we recommend that future researchers undertake additional work to establish criterion-related validity for the EAS as a whole. Although we measured participants' ethnic adornment and self-esteem at the same point in time (in an attempt to assess the *concurrent validity* of the EAS), we found that the magnitude of covariance between ethnic adornment dimensions and self-esteem was modest at best; such results raise additional concerns regarding the potential *predictive validity* of the EAS (which would require the measurement of participants' ethnic adornment and self-esteem at different points in time; Carmines &

Zeller, 1979). Ideally, future studies should examine both aspects of criterion-related

validity, alongside the construct validity of the EAS (see Raykov, 2012).

Conclusion

At the beginning of the present paper, we alluded to Phinney's (1990)

literature review concerning ethnic identity, which emphasized the difficulty of

measuring ethnic behavior in general. We concur with Phinney (as well as

Verkuyten, 2005) that the measurement of ethnic behavior is not always as

straightforward as one might expect. Nevertheless, results of the present study

indicate that – when ethnic adornment is operationalized in terms of socially desirable

and socially undesirable aspects – one can measure ethnic adornment in a valid

manner. In closing, we hope that future researchers will explore ethnic adornment via

the EAS – at least regarding the socially desirable subscale, if not the socially

undesirable subscale (given the reliability issues that emerged regarding the latter

subscale).

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Table 1:

Matrices of Correlations among EAS Items[2]

Correlations

Item	1	2	3	4	5	6	7	8	9	10	11	12
1	1.00	.73	.51	.65	.64	.51	.64	.58	.20	.53	.60	.23
2	.50	1.00	.48	.61	.59	.50	.51	.54	.16	.48	.59	.22
3	.58	.48	1.00	.55	.38	.48	.37	.33	.20	.35	.37	,34
4	.57	.39	.52	1.00	.59	.64	.58	.52	.15	.43	.50	.32
5	.63	.38	.37	.43	1.00	.54	.71	.74	.23	.53	.66	.25
6	.51	.34	.37	.69	.46	1.00	.55	.43	.28	.55	.45	.38
7	.59	.37	.52	.52	.67	.57	1.00	.85	.17	.62	.60	.20
8	.58	.39	.49	.47	.58	.55	.79	1.00	.10	.56	.87	.18
9	.34	.16	.22	.19	.34	.09	.18	.05	1.00	.31	.15	.36
10	.32	.17	.19	.27	.34	.35	.50	.54	.15	1.00	.66	.37
11	.54	.43	.44	.51	.58	.30	.73	.82	.07	.57	1.00	.19
12	.27	-.04	.23	.23	.26	.21	.14	.02	.69	.16	.05	1.00

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[2]NOTE: Correlations for Study 1 (*n* = 174) appear below the diagonal; correlations for Study 2 (*n* = 217) appear above the diagonal. Correlations with absolute values of .15 or higher are significant (*p*'s .05 or lower). The text for the items can be found in Table 2.

Table 2:

Factor Loadings for EAS Items, One-Factor Model

Item	Pilot study	Main study
1. How often do you purchase ethnic/ethnic-inspired apparel?	.73	.79
2. How often do you purchase foreign made ethnic/ethnic-inspired apparel?	.51	.73
3. How often do you use ethnic fashion magazines and ethnic fashion shows as sources of information on apparel?	.67	.54
4. How often do you wear ethnic/ethnic-inspired apparel for casual wear?	.65	.73
5. How often do you wear ethnic/ethnic-inspired apparel to celebrate your racial group's festivals?	.72	.81
6. How often do you wear ethnic/ethnic-inspired apparel for a non-ethnic special occasion?	.68	.67
7. How often do you express pride in your ethnic/ethnic-inspired wear?	.86	.85
8. How often do you feel confident when wearing ethnic/ethnic-inspired wear?	.87	.83
9. How often do you feel worried or bothered by what other people think of you when wearing ethnic/ethnic-inspired wear?	.21	.26
10. When wearing ethnic/ethnic-inspired wear, how often do you think that people look up to you and respect you?	.56	.71
11. How often do you feel pleased with your appearance when wearing ethnic/ethnic-inspired wear?	.84	.83
12. How often do you feel inferior to others when wearing ethnic/ethnic-inspired wear?	.18	.34

Table 3:

Factor Loadings for EAS Items, Two-Factor Model

	Pilot study		Main study	
Item	*Factor 1*	*Factor 2*	*Factor 1*	*Factor 2*
1	.67	.24	.79	
2	.49	.01	.73	
3	.57	.16	.54	
4	.60	.14	.73	
5	.67	.19	.81	
6	.66	.04	.67	
7	.87	-.04	.86	
8	.94	-.23	.83	
9	.02	.83		.52
10	.57	-.03	.71	
11	.90	-.19	.83	
12	-.00	.80		.69