The Material Values Scale: Measurement Properties and Development of a Short Form

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Richins and Dawson (1992) developed the material values scale (MVS) to measure materialism in consumers. Since then, the scale has been used in numerous studies in the United States and elsewhere, and there now exists a substantial base of information about the psychometric properties of this scale and about its relationship to other consumer constructs. Materialism continues to be of great interest to scholars, social commentators, and public policy makers. Since 1992, more than 100 empirical studies have examined materialism, and countless articles in the popular press have discussed materialism in contemporary U.S. society. Given the interest in this construct, a reexamination of materialism and its measurement seems appropriate. This article reports an assessment of the MVS based on an analysis of published studies using the MVS and on an analysis of 15 data sets.

The article also describes the development of a short form of the MVS. A short form of this measure would be useful for a number of reasons. First, it would take up less space on a survey instrument, allowing researchers to include additional measures of other constructs on the same questionnaire. Second, a shorter measure would reduce demand effects or hypothesis guessing when the measure is used in experiments and surveys. The MVS tends to draw attention to itself because of the relatively large number of items dealing with similar (materialistic) issues. It is difficult to disguise so many items by embedding them within other items on different topics. Third, in many research efforts materialism is not the main construct of interest, yet the researcher may have reason to believe that materialism might be a useful variable to explore in relation to the primary construct. If a long form of the materialism measure is the only one available, the researcher may be forced to forego measurement of materialism to keep the survey at a reasonable length or may develop ad hoc measures of materialism of unknown validity.

Finally, a number of national surveys and polls measure materialism-like constructs. Public policy makers and social commentators rely heavily on these polls in interpreting social trends and concerns. The MVS is too long to be used in polling situations, where space is at a premium, so these large-scale surveys frequently resort to proxy measures of materialism or brief, ad hoc measures of unknown validity. A valid materialism measure that is short enough to be used in these surveys would be helpful to public policy makers and would also allow consumer behavior researchers to use public opinion polls as a data source for the empirical investigation of materialism.

BACKGROUND

The Material Values Scale

The MVS (Richins and Dawson 1992) treats materialism as a value that influences the way that people interpret their
environment and structure their lives. Based on qualitative research and a literature review, Richins and Dawson define materialism as the importance ascribed to the ownership and acquisition of material goods in achieving major life goals or desired states, and they conceptualize material values as encompassing three domains: the use of possessions to judge the success of others and oneself, the centrality of possessions in a person's life, and the belief that possessions and their acquisition lead to happiness and life satisfaction. For purposes of brevity, throughout this article these domains are referred to as the success, centrality, and happiness domains, respectively. The MVS contains 18 items that constitute three subscales designed to tap into each of these domains. A five-point Likert scale response format is used. The items in the MVS are shown in appendix A.

Evaluating a Scale

Before proceeding with the evaluation of the MVS, it was necessary to determine criteria in reference to which it should be evaluated. The psychometric literature has been relatively consistent in describing the fundamental qualities a good measure must possess, and these are aptly summarized by Bearden and Netemeyer (1999). The criteria they list are content validity (which for the MVS was dealt with in the original Richins and Dawson [1992] work), dimensionality (the extent to which the empirical factor structure of a measure reflects the theoretical dimensionality of the construct), internal consistency reliability, construct validity, and response set bias. This article evaluates the MVS on these five criteria.

Shortening a Scale

Although a large psychometric body of work addresses the process of scale development, little has been written about how a scale should be shortened. This literature was reviewed by Stanton et al. (2002). Based on this review and their own empirical analyses, Stanton et al. describe a set of criteria and procedures to be used in shortening a scale. They categorize the criteria as internal, external, and judgmental criteria, and the individual criteria bear considerable similarity to the evaluative criteria listed by Bearden and Netemeyer (1999). Internal criteria relate to internal consistency and dimensionality, external criteria are concerned with criterion-related validity, and judgmental criteria involve assessments of content validity and ease of use. As Stanton et al. (2002) point out, application of these criteria in shortening a scale differs slightly from that in developing a scale. These differences are discussed further in study 2.

EVALUATING THE MVS—LITERATURE REVIEW

A review of published studies using the MVS was carried out to examine the performance of the measure. Because the MVS was developed in the United States, only articles reporting data collected in westernized societies in which English is the primary language and only those in which the entire 18-item scale was used are included. The review identified 44 articles encompassing 49 separate data collections that met these criteria. Thirteen other studies that used portions of the MVS are discussed separately below.

Assessments

Information in these 44 articles was used to evaluate the MVS with respect to the evaluative criteria summarized by Bearden and Netemeyer (1999). Specifically, information about internal consistency, dimensionality, and response bias was examined.

Internal Consistency. Coefficient alpha was reported for 32 of the data collections. Of these data collections, alpha was reported most frequently for the summed 18-item scale and ranged from .77 to .88 with a mean alpha of .85. The mean alpha for each of the subscales was .77 for the success subscale, .73 for the centrality subscale, and .75 for the happiness subscale. There was little variation in internal consistency across samples. Internal consistency levels for both the summed scale and the subscales meet the standards set forth in the psychometric literature (see Bearden and Netemeyer 1999).

Dimensionality. Richins and Dawson proposed three interrelated dimensions of materialism and specified the scale items that reflect each dimension; if the scale is valid, this proposed structure should be evident in empirical work. However, the published literature provides only limited information about dimensionality. Only four studies besides Richins and Dawson’s original article reported confirmatory factor analysis, and these had mixed results. Ahuvia and Wong (1995) reported a “normed fit index” of .99 for the confirmatory factor analysis (CFA) but did not describe the model they used. Other researchers, however, found notable problems with scale structure in CFA (e.g., Pinto, Parente, and Palmer 2000). Exploratory factor analyses that appear in the literature also suggest some problems with the scale. Of the 10 studies that reported exploratory factor analysis, two indicated that they obtained results similar to those obtained by Richins and Dawson, but the remainder reported problems of varying magnitude (e.g., Watson 1998).

Response Bias. For materialism, the analysis of potential response bias is particularly important in light of Mick’s (1996) findings concerning the relationship between socially desirable responding (SDR) and materialism. Mick found correlations between SDR and materialism or its subscales ranging from −.17 to −.41. Richins and Dawson, who collected data nearly a decade earlier in a time of economic expansion in which materialism appeared to receive widespread social approval, found much lower correlations ranging from −.03 to −.12. In the literature review, only two other studies were located that reported the relationship between SDR and materialism. Banerjee and McKeage (1994) found no evidence of social desirability bias. More recently, however, Burroughs and Rindfleisch (2002) report a cor-
TABLE 1
DATA SETS FOR STUDIES 1 AND 2

<table>
<thead>
<tr>
<th>Data set</th>
<th>Method</th>
<th>Population</th>
<th>Location</th>
<th>Year</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mail survey</td>
<td>General population, urban and suburban area</td>
<td>Northeastern United States</td>
<td>1988</td>
<td>144</td>
</tr>
<tr>
<td>2</td>
<td>Mail survey</td>
<td>General population, urban and suburban area</td>
<td>Northwestern United States</td>
<td>1989</td>
<td>250</td>
</tr>
<tr>
<td>3</td>
<td>Mail survey</td>
<td>General population, urban and suburban area</td>
<td>Northwestern United States</td>
<td>1989</td>
<td>235</td>
</tr>
<tr>
<td>4</td>
<td>Mail survey</td>
<td>General population, rural area</td>
<td>Northeastern United States</td>
<td>1990</td>
<td>205</td>
</tr>
<tr>
<td>5</td>
<td>Self-administered survey</td>
<td>Undergraduate and MBA students</td>
<td>Northeastern state university</td>
<td>1991</td>
<td>639</td>
</tr>
<tr>
<td>6</td>
<td>Self-administered survey</td>
<td>Undergraduate and MBA students</td>
<td>Eastern state university</td>
<td>1991</td>
<td>156</td>
</tr>
<tr>
<td>7</td>
<td>Intersect survey</td>
<td>Adults waiting for a ferry and undergraduate students</td>
<td>Eastern Canada</td>
<td>1992</td>
<td>246</td>
</tr>
<tr>
<td>8</td>
<td>Self-administered survey</td>
<td>Undergraduate students</td>
<td>Southeastern university</td>
<td>1993</td>
<td>110</td>
</tr>
<tr>
<td>9</td>
<td>Mail survey</td>
<td>General population, statewide</td>
<td>Midwestern state</td>
<td>1994</td>
<td>621</td>
</tr>
<tr>
<td>10</td>
<td>Mail survey</td>
<td>Young adults</td>
<td>Midwestern city</td>
<td>1995</td>
<td>261</td>
</tr>
<tr>
<td>11</td>
<td>Self-administered survey</td>
<td>Undergraduate students</td>
<td>Midwestern state university</td>
<td>1996</td>
<td>344</td>
</tr>
<tr>
<td>12</td>
<td>Self-administered survey</td>
<td>Undergraduate and MBA students</td>
<td>Midwestern state university</td>
<td>1996</td>
<td>226</td>
</tr>
<tr>
<td>13</td>
<td>Self-administered survey</td>
<td>Undergraduate and MBA students</td>
<td>Midwestern and southern state universities</td>
<td>1997</td>
<td>263</td>
</tr>
<tr>
<td>14</td>
<td>Self-administered survey</td>
<td>Undergraduate and MBA students</td>
<td>Southern and southwestern universities</td>
<td>1998</td>
<td>261</td>
</tr>
<tr>
<td>15</td>
<td>Mail survey</td>
<td>General population</td>
<td>Nationwide, United States</td>
<td>2000</td>
<td>373</td>
</tr>
</tbody>
</table>

relation of -.22 between SDR and the summed materialism scale in their nationwide mail survey.

Modifications to the MVS. In addition to the 44 studies examined above, 13 studies were encountered that used portions of the MVS. In 10 of these studies the MVS had been shortened in an ad hoc way. Most of these studies used only six or seven items from the MVS, although in two cases 10 or more items were used. The presence of these studies in the literature indicates the desire among researchers for a shorter version of the MVS.

Summary

The analysis of published studies indicates that the MVS possesses an adequate degree of internal consistency. However, questions remain concerning the dimensional purity of the MVS and possible influences of SDR on responses. In addition, the frequent ad hoc modifications to the MVS to shorten it and the general desirability of using shorter rather than longer scales in data collection suggest that a short version would be useful.

This article reports three studies. Study 1 examines issues concerning the dimensional purity of the MVS and possible influences of SDR on responses via analysis of 15 raw data sets that include the MVS. The second study uses the same 15 data sets to develop a shorter version of the MVS, and the third study reports the collection and analysis of new data used as a cross-validation assessment of the shorter version.

STUDY 1: EVALUATING THE MVS—RAW DATA SETS

Data

Study 1 involved a further evaluation of the MVS using 15 raw data sets that included the MVS measure. Nine of the data sets were developed by myself; an additional six were lent by other materialism researchers for purposes of the analyses reported here. These data sets, described in table 1, were used to evaluate the MVS on the criteria of internal consistency, dimensionality, response bias, and construct validity (see table 2).

Analysis

Internal Consistency. The internal consistency for the 15 data sets was similar to that observed in the literature described above. The alphas for the summed 18-item scale ranged from .80 to .92, with a mean alpha of .86 (see table 2). The mean alphas for the subscales were .77 for the success subscale, .72 for the centrality subscale, and .78 for the happiness subscale.

Dimensionality. Confirmatory factor analysis was conducted for all 15 data sets using a second-order factor model.
TABLE 2  
SUMMARY PSYCHOMETRIC DATA FOR THE MVS BASED ON 15 DATA SETS

<table>
<thead>
<tr>
<th></th>
<th>18-item MVS, study 1</th>
<th></th>
<th>15-item MVS, study 2</th>
<th></th>
</tr>
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<tr>
<td></td>
<td>Range</td>
<td>Mean</td>
<td>Range</td>
<td>Mean</td>
</tr>
<tr>
<td>Cronbach’s alpha:</td>
<td>.80 to .92</td>
<td>.86</td>
<td>.79 to .91</td>
<td>.86</td>
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<tr>
<td>MVS summed scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>.72 to .85</td>
<td>.77</td>
<td>.72 to .84</td>
<td>.76</td>
</tr>
<tr>
<td>Centrality</td>
<td>.64 to .82</td>
<td>.72</td>
<td>.54 to .77</td>
<td>.67</td>
</tr>
<tr>
<td>Happiness</td>
<td>.70 to .83</td>
<td>.78</td>
<td>.70 to .83</td>
<td>.78</td>
</tr>
<tr>
<td>CFA fit indices:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLI</td>
<td>.68 to .94</td>
<td>.84</td>
<td>.85 to .96</td>
<td>.91</td>
</tr>
<tr>
<td>CFI</td>
<td>.74 to .95</td>
<td>.86</td>
<td>.88 to .97</td>
<td>.93</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.049 to .092</td>
<td>.073</td>
<td>.040 to .082</td>
<td>.060</td>
</tr>
<tr>
<td>SDR correlations:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVS summed scale</td>
<td>−.10 to −.28</td>
<td>−.19</td>
<td>−.09 to −.29</td>
<td>−.19</td>
</tr>
<tr>
<td>Success</td>
<td>−.03 to −.28</td>
<td>−.16</td>
<td>−.00 to −.28</td>
<td>−.15</td>
</tr>
<tr>
<td>Centrality</td>
<td>−.04 to −.25</td>
<td>−.12</td>
<td>−.02 to −.22</td>
<td>−.10</td>
</tr>
<tr>
<td>Happiness</td>
<td>−.03 to −.28</td>
<td>−.19</td>
<td>−.03 to −.28</td>
<td>−.19</td>
</tr>
<tr>
<td>Validity index:*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVS summed scale</td>
<td>.34</td>
<td>.35</td>
<td></td>
<td></td>
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<tr>
<td>Success</td>
<td>.30</td>
<td>.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrality</td>
<td>.22</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happiness</td>
<td>.32</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item averages:*</td>
<td>2.85 (1.12)</td>
<td>2.86 (1.11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** MVS = material values scale; CFA = confirmatory factor analysis; TLI = Tucker-Lewis index; CFI = comparative fit index; RMSEA = root mean square error of approximation; and SDR = socially desirable responding.

*Average correlation of the MVS with 72 criterion variables.

Means and standard deviations for individual scale items are averaged across the full scale and across data sets (general population data sets only); standard deviation in parentheses. Averages for the nine-, six-, and three-items scales are 2.91 (1.14), 3.00 (1.16), and 2.86 (1.19), respectively.

In which materialism was the higher-order factor and the three materialism domains were first-order factors, each represented by their respective subscale items. This model is equivalent to the second-order total disaggregation model described by Baggouzi and Heatherton (1994). Models were estimated with the EQS software program using covariance matrices as input, maximum likelihood estimation, and uncorrelated measurement errors. Model fit indices are summarized in Table 2. The root mean square error of approximation (RMSEA) in nine of the 15 data sets exceeded the standard of .06 suggested by Hu and Bentler (1999). Fit indices tended to be more favorable in data sets with student samples and somewhat more problematic when data were collected by intercept or mail survey from members of the general population.

Response Bias. Eight of the data sets included measures of SDR. In all cases, the SDR measure was either the full or a shortened version of the Crowne-Marlowe SDR scale (alphas .67-.78). Findings are summarized in table 2. Although the correlations of materialism and SDR in these data sets do not reach the magnitude obtained by Mick (1996), they are still in some cases statistically significant, indicating that Mick’s cautions that researchers measure and control for SDR when measuring materialism have merit.

Construct Validity. The 15 data sets contained 72 variables that were hypothesized to correlate with materialism. Observed correlations ranged from .15 to .60, and 67 of the observed correlations were statistically significant; the validity index (average correlation) was .34. The construct validity of the subscales was also evaluated and is reported in table 2.

Summary of Study 1

These analyses suggest that the MVS performs well in terms of reliability and empirical usefulness. However, it also seems to possess some imperfect psychometric properties. This is particularly the case with respect to the dimensionality criterion, as factor analyses of the MVS reported in the literature and above suggest that the three-factor materialism model proposed by Richins and Dawson (1992) does not always cleanly emerge in data analysis. This issue is further addressed in study 2, which examines the properties of individual items in the MVS.

**STUDY 2: ITEM ANALYSIS AND DEVELOPMENT OF A SHORT SCALE**

Study 2 had three purposes: first, to identify the best- and worst-performing MVS items with a view toward improving the scale’s dimensional characteristics; second, to determine whether a short version of the MVS could be developed; and, finally, to determine what the optimal size for a short scale would be. Throughout study 2, procedures for reducing scale length advocated by Stanton et al. (2002) were followed. The following criteria were also employed for a shortened version: (1) the MVS short form would possess
levels of reliability and validity similar to those possessed
by the longer scale, and (2) content validity would be main-
tained by including measures of the three validityism do-
mains identified by Richins and Dawson (1992).

Data

The 15 data sets described in table 1 were used for this
study, but in this case the data were divided into two sets.
Data collections 1–5, 7, 8, and 10–14 were used for the
analyses reported below; data collections 6, 9, and 15 were
withheld and used as cross-validation samples. The three
holdout samples were chosen because they all contain SDR
measures and provide a diversity of samples. Data collection
6 is a survey of students, 9 is a statewide mail survey, and
15 is a national survey.

Item Analysis

Following Stanton et al. (2002), the procedure for se-
lecting items for a shorter scale consists of individual item
analysis in three categories: external criteria, internal cri-
teria, and judgmental criteria. These analyses are reported
in the sections below and in table 3.

External Criteria. A short version of an established
scale should provide results that are consistent with the nom-
ological network in which the original measure is embedded;
that is, the short scale should correlate with the same cri-
terion variables and at a similar magnitude as the full scale
(Netemeyer, Pullig, and Bearden 2002; Stanton et al. 2002).
To achieve this objective, Stanton et al. recommend that
item-level indices of external item quality be developed that
reflect the performance of each item relative to a variety of
criterion variables from the nomological net. It is beneficial
to use a large set of criterion variables when creating indices
to avoid developing a short scale that works well with a few
selected criterion variables but performs poorly with others.
Two such indices were used in this study and are
described in appendix B. The performance of each item on
these two indices is reported in table 3.

The best-performing scale item on external criteria, item
17, had an average correlation of .32 with criterion variables
and was the most consistently correlated with them, being
among the top nine predictors for 50 of the 51 criterion
variables. The worst performing scale items, items 6, 7, 10,
and 13, had average correlations of .12 or less and were
rarely among the top predictors of the criterion variables.

Internal Criteria. Internal criteria are especially im-
portant for reaching the objective of improving the dimen-
sional characteristics of the MVS. However, Stanton et al.
(2002) and others have urged caution when using internal
consistency measures such as item-total correlations to select
items for a shorter scale. They argue that too high a coef-
cient alpha will lead to inadequate domain sampling and a
scale that is too narrowly focused. Instead, they recom-
end that moderate levels of reliability should be the goal
in scale reduction (see also Clark and Watson 1995). Three
measures of internal item quality were used and are de-
scribed in appendix B.

Results for the MVS are shown in table 3. Four items
performed poorly in terms of internal criteria. Items 6, 7,
9, and 10 all had corrected item-total correlations below .40,
and three of the four had item-subscale correlations below

<table>
<thead>
<tr>
<th>TABLE 3</th>
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<tbody>
<tr>
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<tr>
<td></td>
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<tr>
<td>Item</td>
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<tr>
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<tr>
<td>1</td>
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<td>2</td>
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<td>3</td>
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<td>17</td>
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<td>18</td>
</tr>
</tbody>
</table>

Note: See appendix B for explanation of criterion indices.
that value. In addition, these four items were most frequently implicated in high residuals in CFA analyses.

**Judgmental Criteria.** Two judgmental measures of item quality were used: an assessment of content validity and an assessment of readability (see app. B). Results are shown in table 3. Two items (7 and 10) were judged as poor indicants of the general materialism construct; item 10 was also judged a poor indicant of the subscale to which it is assigned. In terms of readability, items 3 and 6 received lower ratings than the other items in the MVS.

### Dimensional Characteristics of the MVS

One objective of study 2 was to identify those items that are least consistent with the intended dimensional structure of the MVS. Internal structure analyses identified items 6, 7, 9, and 10 as being most problematic in this regard, and criterion validity analyses and other analyses indicated that three of the these items had other deficiencies as well. Based on these findings, a 15-item MVS was constructed in which the three most problematic items (items 6, 7, and 10) were deleted. Confirmatory factor analysis and other assessments were performed on the 15-item scale and are reported in table 2. To allow direct comparison with the 18-item scale, these analyses were performed on all 15 of the data sets.

On most criteria, the 15-item MVS outperforms the 18-item version. For this reason, it is recommended that the 18-item version of the MVS be replaced in future research with the 15-item version. The 15-item scale has better psychometric properties than the longer version, particularly with respect to dimensional characteristics, with no reduction in explanatory power. The 15-item version also has the advantage of weighting each of the materialism domains equally, as there are five items in each subscale. With the 18-item version, a consequence of using the total summed scale is that the centrality domain (with seven items) is weighted more heavily in the assessment of materialism than the happiness domain (which has only five items).

### Selecting Items for the Short Scale

Although shorter than the original MVS, the 15-item version is not short enough to confer the benefits of a short scale described earlier in this article. In the following analysis, the psychometric properties of potential shorter scales are investigated. To generate a meaningful reduction in scale length, a maximum scale length of nine items (three items per subscale) was set. Possible six- and three-item scales were also investigated.

Stanton et al. (2002) recommend, when making the selection of items to be included in a shortened scale, that items be sorted in order of performance on external, internal, and judgmental criteria. When the performance of an item across these criteria conflicts, researcher judgment is used to resolve the conflict, with heavier emphasis placed on external criteria. At my request, Stanton et al.'s (2002) recommendations were reviewed by an expert panel of consumer behavior scholars who have published extensively in the area of measurement. These scholars were generally supportive of the approach suggested by Stanton et al. However, they further noted that performance on the three sets of criteria tends to operate in an interdependent fashion to determine the quality of a scale. If a researcher cannot identify items that perform well on all three criteria, the scale is probably not a good candidate for shortening.

A modified version of the Stanton et al. (2002) approach was used to create the nine-, six-, and three-item versions of the MVS. The best performing items on external criteria were first identified for each materialism domain. These items were then examined to see if they had deficiencies on either the internal or the judgmental criteria. The selection process is described in more detail in appendix C.

### Psychometric Characteristics of the Short Scales

Cronbach's alpha was calculated for the nine-, six-, and three-item versions of the MVS. The alpha for the nine-item version is slightly less than that for the longer versions but is still quite good, particularly considering the reduction in scale length. The mean alpha for this version was .82, compared with .86 for both the 18- and 15-item versions. As is expected given their shorter length, the alphas for the six- and three-item versions are lower, at .75 and .63, respectively.

To examine dimensional characteristics of the short versions of the MVS, confirmatory factor analysis was carried out for the 12 data sets using the same model as in study 1. In tests of the nine-item version, each first-order factor was represented by three scale items. In tests of the six-item version, each first-order factor was represented by two scale items. (CFA was not conducted for the three-item version.) Models were estimated with EQS using covariance matrices as the input, maximum likelihood estimation, and uncorrelated measurement errors.

In all data sets, model fit indices were satisfactory and superior to those obtained in tests of the 18- and 15-item scale versions. For the nine-item version, the Tucker-Lewis Index was .965, the comparative fit index was .976, and RMSEA was .043. For the six-item version, those three indices were .978, .989, and .035.

Correlations with SDR were calculated for the different versions of the MVS. The mean correlations were -.17, -.14, and -.14 for the nine-, six-, and three-item versions, respectively.

### Validity Assessment of the Short Scales

Two validity assessments were carried out. First, a validity index was calculated for each short version based on the 12 data sets used for item selection. This index was the average correlation of the summed scales with 51 criterion variables in the data sets. When measures of SDR were available and correlated significantly with the MVS, partial correlations controlling for SDR were used instead of simple correlations. The validity index for the nine- and six-item versions

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was .36; for the three-item version it was .34. In comparison, the validity index for the 18- and 15-item versions calculated on the same 12 data sets were .35 and .36, respectively.

A second validity assessment used data from the three holdout samples. This assessment examined three sets of variables that prior research has shown to be related to materialism, as described below.

**Possession Value.** Analyzing consumers’ narratives about the reasons they value specific possessions, Richins (1994a) found that high (versus low) materialism consumers were more likely to value possessions for reasons related to the possession’s financial worth, the status it affords, appearance-related reasons, or utilitarian reasons. Data set 9 is unpublished data that contain the same possession rating scales described in Richins (1994b). These scales list sources of possession value; for each source, respondents indicate on a six-point scale how true it is that a particular possession has value for that specific reason. A subset of 159 respondents in data set 9 completed the possession rating items, the MVS, and an SDR measure (α = .76).

Partial correlations (controlling for SDR) are reported in table 4. The magnitudes of correlation between materialism and the various sources of possession value were generally consistent across the long and short forms of the MVS. These results confirm earlier qualitative findings (Richins 1994a) about the sources of possession value for low and high materialism consumers, with one exception: there was no significant correlation between materialism and the extent to which a possession was valued for utilitarian purposes. There is no obvious explanation for why the two studies obtained different results concerning this variable, but it may be that in the narrative format used by Richins (1994a), the first reasons for valuing a possession that occurred to high materialism respondents may have been perceived as socially unappealing or difficult to justify. Hence, respondents may have seized on practical reasons as a more justifiable basis for value. This artifact may be less likely to occur in a rating scale situation, where top-of-mind responses are less critical, and respondents consider many potential reasons for valuing a possession.

**Belk Materialism Scale.** The Belk (1985) materialism scale measures personality traits associated with materialism. Correlations between the three Belk subscales and the long and short forms of the MVS are reported in table 4. Data were from data set 6. The long and short forms correlate at similar levels of magnitude with the three Belk subscales.

**Personal Values.** Personal values were measured in data collection 15, a mail survey of a randomly selected national sample with 373 respondents conducted by James Burroughs and Arie Rindfleisch (see Burroughs and Rindfleisch [2002] for more details). The data set included the MVS, the Schwartz Value Survey (Schwartz 1992), and a

---

**TABLE 4**

**CROSS-VALIDATION RESULTS, STUDY 2**

<table>
<thead>
<tr>
<th></th>
<th>18-item scale</th>
<th>15-item scale</th>
<th>9-item scale</th>
<th>6-item scale</th>
<th>3-item scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of possession value (data set 9):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is valuable in terms of money</td>
<td>.37</td>
<td>.35</td>
<td>.34</td>
<td>.30</td>
<td>.32</td>
</tr>
<tr>
<td>Has social prestige or provides social status</td>
<td>.36</td>
<td>.38</td>
<td>.41</td>
<td>.39</td>
<td>.37</td>
</tr>
<tr>
<td>Makes others think well of you</td>
<td>.26</td>
<td>.27</td>
<td>.31</td>
<td>.30</td>
<td>.29</td>
</tr>
<tr>
<td>Improves your appearance</td>
<td>.30</td>
<td>.30</td>
<td>.32</td>
<td>.32</td>
<td>.29</td>
</tr>
<tr>
<td>Is beautiful or attractive in appearance</td>
<td>.16*</td>
<td>.15*</td>
<td>.17*</td>
<td>.17*</td>
<td>.15*</td>
</tr>
<tr>
<td>Has a lot of practical usefulness</td>
<td>.08</td>
<td>.07</td>
<td>.07</td>
<td>.07</td>
<td>.08*</td>
</tr>
<tr>
<td>Belk materialism scale (data set 6):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Possessiveness</td>
<td>.36</td>
<td>.36</td>
<td>.35</td>
<td>.34</td>
<td>.36</td>
</tr>
<tr>
<td>Nongenerosity</td>
<td>.18*</td>
<td>.20*</td>
<td>.18*</td>
<td>.13*</td>
<td>.16*</td>
</tr>
<tr>
<td>Envy</td>
<td>.53</td>
<td>.52</td>
<td>.52</td>
<td>.46</td>
<td>.44</td>
</tr>
<tr>
<td>Personal values (data set 15):</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>.49</td>
<td>.50</td>
<td>.46</td>
<td>.45</td>
<td>.43</td>
</tr>
<tr>
<td>Achievement</td>
<td>.18</td>
<td>.18</td>
<td>.20</td>
<td>.18</td>
<td>.18</td>
</tr>
<tr>
<td>Hedonism</td>
<td>.28</td>
<td>.27</td>
<td>.25</td>
<td>.28</td>
<td>.26</td>
</tr>
<tr>
<td>Stimulation</td>
<td>.27</td>
<td>.24</td>
<td>.23</td>
<td>.22</td>
<td>.23</td>
</tr>
<tr>
<td>Self-direction</td>
<td>-.13*</td>
<td>-.17</td>
<td>-.14*</td>
<td>-.13*</td>
<td>-.16</td>
</tr>
<tr>
<td>Universalism</td>
<td>-.24</td>
<td>-.25</td>
<td>-.26</td>
<td>-.24</td>
<td>-27</td>
</tr>
<tr>
<td>Benevolence</td>
<td>-.34</td>
<td>-.36</td>
<td>-.30</td>
<td>-.31</td>
<td>-.26</td>
</tr>
<tr>
<td>Tradition</td>
<td>-.17</td>
<td>-.13*</td>
<td>-.13*</td>
<td>-.15</td>
<td>-.11*</td>
</tr>
<tr>
<td>Conformity</td>
<td>-.19</td>
<td>-.16</td>
<td>-.18</td>
<td>-.17</td>
<td>-.14</td>
</tr>
<tr>
<td>Security</td>
<td>.01*</td>
<td>.04*</td>
<td>.02*</td>
<td>.03*</td>
<td>.02*</td>
</tr>
</tbody>
</table>

Note.—All correlations significant at p<.01 unless otherwise indicated.

*p<.05.

**NS.**
social desirability measure (α = .67), among other variables. Correlations were calculated between materialism and the average importance of items in each of the 10 value categories identified by Schwartz. As recommended by Schwartz (1992), values scores were corrected for differences in scale use. Because some measures possessed small but significant correlations with SDR, partial correlations controlling for SDR were calculated. Results for the 10 values types are shown in table 4.

Summary

The results concerning the short versions of the MVS are promising. In terms of internal criteria, the scales possess acceptable levels of reliability, and their dimensional characteristics are superior to those of the 18-item scale. The results concerning external criteria are also positive. The nine-item scale correlates as strongly with criterion variables, on average, as the 18- and 15-item versions. Although the six- and three-item versions show a small decline in validity coefficients, if these versions hold up under further scrutiny, the increased efficiency from using a small number of items in some circumstances may be worth this trade-off.

Although it is tempting to conclude from these analyses that the nine-, six-, and three-item scales are nearly as useful as the longer version of the MVS, further investigation is required before this conclusion can be drawn with confidence. In the data sets described above, respondents had completed all 18 items of the MVS, so the nine, six, and three items that constitute the shorter forms were embedded in the larger set of 18 materialism items. It is possible that the presence of these other materialism items had some influence on how study participants responded to specific items. A stronger test of the usefulness of the short scales requires that they be administered in a survey as the only measures of materialism and without the surrounding context of the other items that constitute the full version of the MVS (see Stanton et al. 2002). Study 3 was conducted for this purpose.

STUDY 3: CROSS-VALIDATION OF THE MVS SHORT SCALES

Sample

Participants in the study were 402 undergraduate students with majors in a variety of disciplines. College seniors were most heavily represented in the sample (72.1%); 47.3% of the sample were males.

Measures

Four versions of the questionnaire were prepared and randomly assigned to respondents, who completed the questionnaires in class. All versions contained measures of the criterion variables (described below), but each form of the questionnaire contained a different version of the MVS (the 15-, nine-, six-, or three-item scale described in study 2). The criterion variables included in each survey are as follows.

Windfall Expenditures. Materialistic individuals are believed to be more self-centered than those low in materialism (e.g., Belk 1985). Richins and Dawson (1992) asked consumers how they would spend a monetary windfall of $20,000 and determined that high materialism consumers would spend more on themselves and less on charity than those low in materialism. The same windfall expenditure measure was included in this data collection except that respondents were given a hypothetical windfall of $10,000 instead of $20,000.

Possession Value. The possession values rating scales described in study 2 were included in the data collection. The questionnaire also included a shortened version of the Crowne-Marlowe (1960) scale to assess potential social desirability effects (α = .74).

Psychometric Assessment

Psychometric assessments of the four short versions of the MVS are reported in table 5. All four versions perform well in terms of internal structure and dimensional characteristics, but the scales showed mixed results in other areas. The three-item scale performed noticeably worse than the longer scales in the validity assessments and is significantly contaminated by SDR effects. The six-item scale was not influenced by SDR and obtained significant relationships consistent with the findings of earlier research (cf. table 5; Richins and Dawson 1992); however, its explanatory power was inferior to that of the nine- and 15-item scales, although the difference in correlations between the 15- and six-item versions was not statistically significant, perhaps because of small sample size. Both the nine- and 15-item scales performed well on all criteria; in all assessments the nine-item version did as well as the 15-item version.

DISCUSSION

This article reports a reassessment of the MVS. Based on literature review and the analysis of 15 raw data sets, deficiencies in the 18-item MVS were discovered, and it is recommended that this scale be replaced with a 15-item version that has a more stable dimensional structure.

This article also reports the development of a short form of the MVS. Possible nine-, six-, and three-item versions of the MVS were investigated. Analysis indicated that the nine-item version possesses better psychometric properties than the other two short versions. This nine-item scale encompasses the same three domains as the long form and possesses acceptable levels of reliability and validity for measuring overall materialism.

The short form of the MVS has several advantages. It takes up little space on a survey instrument, allowing researchers to include additional measures of other constructs

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TABLE 5
SUMMARY PSYCHOMETRIC DATA FOR SHORT VERSIONS OF THE MVS, CROSS-VALIDATION SAMPLE (STUDY 3)

<table>
<thead>
<tr>
<th></th>
<th>15-item scale (n = 99)</th>
<th>Nine-item scale (n = 101)</th>
<th>Six-item scale (n = 100)</th>
<th>Three-item scale (n = 102)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s alpha</td>
<td>.87</td>
<td>.84</td>
<td>.81</td>
<td>.64</td>
</tr>
<tr>
<td>CFA fit indices:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLI</td>
<td>.942</td>
<td>.966</td>
<td>.970</td>
<td>NA</td>
</tr>
<tr>
<td>CFI</td>
<td>.952</td>
<td>.977</td>
<td>.982</td>
<td>NA</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.056</td>
<td>.053</td>
<td>.055</td>
<td>NA</td>
</tr>
<tr>
<td>SDR correlations</td>
<td>−.08</td>
<td>.03</td>
<td>−.14</td>
<td>−.23*</td>
</tr>
<tr>
<td>Validity correlations—possession value:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is valuable in terms of money</td>
<td>.29**</td>
<td>.24**</td>
<td>.19*</td>
<td>.10*</td>
</tr>
<tr>
<td>Has social prestige or provides social status</td>
<td>.31**</td>
<td>.32**</td>
<td>.22*</td>
<td>.21**</td>
</tr>
<tr>
<td>Makes others think well of you</td>
<td>.25**</td>
<td>.24**</td>
<td>.25*</td>
<td>.09*</td>
</tr>
<tr>
<td>Improves your appearance</td>
<td>.35**</td>
<td>.30**</td>
<td>.21*</td>
<td>.13*</td>
</tr>
<tr>
<td>Is beautiful or attractive in appearance</td>
<td>.25**</td>
<td>.21*</td>
<td>.27**</td>
<td>−.14*</td>
</tr>
<tr>
<td>Has a lot of practical usefulness</td>
<td>.09</td>
<td>.15</td>
<td>.07</td>
<td>.13*</td>
</tr>
<tr>
<td>Validity correlations—expenditure choices:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buy things I need or want</td>
<td>.34**</td>
<td>.31**</td>
<td>.21*</td>
<td>.14*</td>
</tr>
<tr>
<td>Give to church organizations or charity</td>
<td>−.33**</td>
<td>−.33**</td>
<td>−.23*</td>
<td>−.19**</td>
</tr>
</tbody>
</table>

Note. — MVS = material values scale; CFA = confirmatory factor analysis; TLI = Tucker-Lewis index; CFI = comparative fit index; RMSEA = root mean square error of approximation; and SDR = socially desirable responding.

*Partial correlation controlling for SDR.

*p < .05.

**p < .01.

in the same questionnaire. The short form also is easier to
disguise in surveys or experiments by embedding it among
other measures, thus reducing demand effects and hypoth-
esis guessing. Another advantage of the new versions of
the MVS described here is that the three domains of materialism
are equally weighted in the summed scales, unlike the orig-
inal MVS in which the number of items arbitrarily varies
across domains. However, it should be noted that the short
form measures are designed to assess materialism at a gen-
eral level. When a researcher is interested in conducting
analysis at the domain level, use of the 15-item version is
advised.

In addition to the nine-item version of the MVS, this
research investigated six- and three-item versions. The three-
item version performed poorly on several aspects and cannot
be recommended for assessing materialism at this time. The
six-item version may, with further testing, prove to be a
viable measure of materialism, and further investigation is
warranted. For instance, increasing the number of points on
the response scale from five to seven might increase the
sensitivity of this scale and enhance its ability to detect
relationships between materialism and other variables.

APPENDIX A

ITEMS IN THE MVS ARRANGED BY
SUBSCALE

SUCCESS

1. I admire people who own expensive homes, cars, and
clothes. (15, 9, 6, 3)†
2. Some of the most important achievements in life in-
clude acquiring material possessions. (15)
3. I don’t place much emphasis on the amount of material
objects people own as a sign of success. (15) (R)
4. The things I own say a lot about how well I’m doing
in life. (15, 9, 6)
5. I like to own things that impress people. (15, 9)
6. I don’t pay much attention to the material objects other
people own. (R)

CENTRALITY

7. I usually buy only the things I need. (R)
8. I try to keep my life simple, as far as possessions are
concerned. (15, 9) (R)
9. The things I own aren’t all that important to me. (15)
(R)
10. I enjoy spending money on things that aren’t practical.
11. Buying things gives me a lot of pleasure. (15, 9, 6)
12. I like a lot of luxury in my life. (15, 9, 6, 3)
13. I put less emphasis on material things than most peo-
ple I know. (15) (R)

HAPPINESS

14. I have all the things I really need to enjoy life. (15)
(R)

†Numbers in parentheses after each item indicate the alternative scale
versions to which the item belongs; (R) denotes a reverse scaled item.
15. My life would be better if I owned certain things I don’t have. (15, 9, 6)
16. I wouldn’t be any happier if I owned nicer things. (15) (R)
17. I’d be happier if I could afford to buy more things. (15, 9, 6, 3)
18. It sometimes bothers me quite a bit that I can’t afford to buy all the things I’d like. (15, 9)

APPENDIX B

INDICES USED IN ITEM ANALYSIS—STUDY 2

EXTERNAL CRITERIA

Validity Index. Average item-criterion correlation with 51 criterion variables that are conceptually related to materialism and that correlate with the 18-item MVS at a magnitude of .22 or higher (i.e., materialism accounted for at least 5% of the variance in the criterion) averaged across 12 data sets.

Top Predictor. Counts of the number of times a particular scale item had one of the nine highest correlations with a criterion (of the 18 items in the MVS).

INTERNAL CRITERIA

Average Item-Total Correlation. Corrected item-total correlations averaged across 12 data sets.

Average Item-Subscale Correlation. Corrected item-subscale correlations averaged across 12 data sets.

Residuals Index. Residuals greater than .15 in each CFA were examined, and the variable pairs involved in those residuals were identified. The average number of times that each variable was implicated in a variable pair with a residual greater than .15 was calculated.

JUDGMENTAL CRITERIA

Content Validity: Total Scale and Subscale. Extent to which each MVS item is representative of the materialism construct and of the materialism domain to which it is assigned, as judged by a panel of eight consumer behavior scholars who have studied materialism, using a seven-point scale anchored by the terms “not representative” and “strongly representative” of the construct (or domain).

Readability. The ease with which each MVS item could be understood by “a person who has slightly less education than you do” as rated by a convenience sample of 30 undergraduate students and university clerical employees using a seven-point scale anchored by the terms “not very easy to understand” and “very easy to understand.”

APPENDIX C

SELECTION OF ITEMS FOR THE NINE-, SIX-, AND THREE-ITEM VERSIONS OF THE MVS

Item selection for the short versions of the MVS followed the procedure described in the methods section of study 2 and was based on findings reported in table 3. For the centrality and happiness domains, three items were clearly superior to the rest in terms of external criteria, and those three items all performed satisfactorily on the internal and judgmental criteria. For the success domain, however, the choice was not as clear. Scale items 1 and 5 performed best in terms of validity, and right behind them items 2 and 4 roughly tied for third place. Inspection of the internal criteria indicated that item 4 performed better than item 2, particularly in the residuals analysis. Item 4 also was superior on both judgmental criteria. For these reasons, item 4 was chosen as the third item to represent the success domain.

For the six-item scale, the same procedure was used. In each domain, the two items with the highest validity indices were retained. Again, for the centrality and happiness domains, the choices were clear. For the success domain, however, the item with the highest validity score (item 5) also had the highest average correlation with SDR measures. As a scale is shortened, the SDR influence of any single item becomes more pronounced in terms of its effects on the entire scale. To reduce this potential problem, items 1 and 4 were chosen to represent the success domain in the six-item scale.

For the three-item scale, the procedure was altered. Because each domain would be represented by only one item, items constituting this scale should unambiguously represent their respective domains. For this reason, the choice of which of the two remaining items to retain was based on one internal criterion (corrected item-subscale correlations) and one judgmental criterion (expert panel judgment of the extent to which each item represents its subscale domain). Items 1, 12, and 17 were chosen for the three-item scale.

[David Glen Mick served as editor and Kent B. Monroe served as associate editor for this article.]

REFERENCES


