

The German version of the Material Values Scale

Deutsche Version der Material Values Scale

Abstract

Aim: The Material Values Scale is an instrument to assess beliefs about the importance to own material things. This instrument originally consists of the three subscales: 'centrality', 'success', and 'happiness'. The present study investigated the psychometric properties of the German version of the MVS (G-MVS).

Method: A population-based sample of 2,295 adult Germans completed the questionnaire in order to investigate the factorial structure. To test construct validity, additional samples were gathered among patients with compulsive buying ($N=52$) and medical students ($N=347$) who also answered the Compulsive Buying Scale (CBS) and the Patient Health Questionnaire depression scale (PHQ-8).

Results: In the German population-based sample we could not confirm the 3-factor model but rather suggest a 2-factor solution with a first collapsed factor 'centrality/success', and the second factor 'happiness'. Patients with compulsive buying showed the highest scores on the G-MVS. While G-MVS scores among compulsive buyers and medical students were significantly related to compulsive buying scores, the correlation between the G-MVS and the depression measure appeared substantially lower. We did not find any gender differences regarding materialism, neither in the population-based sample nor in the students' or compulsive buyers' samples. However, age was negatively related to G-MVS scores.

Conclusion: Confirmatory factor analyses suggest a 2-factor model of the G-MVS. Overall, the results indicate the use of the G-MVS as a brief, psychometrically sound, and potentially valid measure for the assessment of material values.

Keywords: Material Values Scale, materialism, compulsive buying

Zusammenfassung

Zielsetzung: Die Material Values Scale ist ein Selbsterhebungsinstrument zur Erfassung von materieller Werteorientierung. Der Fragebogen enthält in der Originalversion die folgenden drei Subskalen: 'Centrality', 'Success' und 'Happiness'. Das Ziel der Studie bestand in der Untersuchung der psychometrischen Eigenschaften der deutschen Version der MVS (G-MVS).

Methodik: Der Fragebogen wurde von einer repräsentativen Bevölkerungsstichprobe ($N=2295$) beantwortet, um die faktorelle Struktur zu überprüfen. Zur Untersuchung der Konstruktvalidität wurden sowohl die MVS als auch die Compulsive Buying Scale (CBS) und die Depressionsskala des Patient Health Questionnaire (PHQ-8) von kaufsüchtigen Patienten ($N=52$) und von Studenten ($N=347$) beantwortet.

Ergebnisse: In der deutschen Bevölkerungsstichprobe konnte die 3-Faktorenstruktur nicht bestätigt werden. Stattdessen verfügte ein 2-Faktorenmodell mit den Subskalen 'Centrality/Success' und 'Happiness' über die beste Anpassungsgüte. Kaufsüchtige Patienten zeigten erwartungsgemäß die höchsten Werte auf der G-MVS. Zusammenhangsanalysen ergaben eine signifikante Korrelation zwischen der G-MVS und dem Fragebogen zum pathologischen Kaufen, nicht jedoch mit der Depressionsskala bei Kaufsüchtigen und Studenten. In keiner der drei

Astrid Müller¹

Dirk J. M. Smits²

Laurence Claes²

Olaf Gefeller³

Andreas Hinz⁴

Martina de Zwaan¹

1 Department of Psychosomatic Medicine and Psychotherapy, Hannover Medical School, Hannover, Germany

2 Department of Psychology, University of Leuven, Leuven, Belgium

3 Department of Medical Informatics, Biometry, and Epidemiology, University of Erlangen-Nuremberg, Erlangen, Germany

4 Department of Medical Psychology and Medical Sociology, University of Leipzig, Leipzig, Germany

Stichproben ergaben sich Geschlechtsunterschiede, allerdings scheinen G-MVS-Scores negativ mit dem Alter zu korrelieren.

Fazit: Die deutsche Version des Fragebogens eignet sich zur Erfassung von materieller Werteorientierung, wobei konfirmatorische Faktorenanalysen ein 2-Faktorenmodell nahelegen.

Background

Richins and Dawson ([26], p. 308) see materialism as a “set of centrally held beliefs about the importance of possessions in one’s life”. According to them, the following core dimensions of materialism reflect the values consumers place on material goods and the roles these goods play in their lives: ‘centrality’, ‘success’, and ‘happiness’ [9]. ‘Centrality’ is the extent to which one places possession acquisition at the centre of one’s life. ‘Success’ is conceptualized as the extent to which one uses possessions as prime indicators of success and achievement in life, both in judging oneself and others. ‘Happiness’ is the belief that possessions and their acquisition lead to life satisfaction and well-being. Belk [1] viewed materialism as a set of personality traits and defined it as “the importance a consumer attaches to worldly possessions” ([2], p. 291). According to Belk [1], materialism includes the following personality traits: envy, non-generosity, and possessiveness.

Increased materialism may correspond with negative consequences for consumer well-being and may diminish life satisfaction [5], [14], [29], [30]. The growing role of material life is accompanied by increasing research interest regarding a consumer-based happiness-seeking and a high importance of material issues in one’s life [1]. In terms of gender or age differences, some researchers found that materialism is more pronounced among women and younger individuals [6], [33].

Materialistic values endorsement may predict overspending and favourable attitudes toward borrowing money [31]. More recently, materialism has become of great interest not only to consumer research but also to psychology and psychiatry due to its association with compulsive buying. Compulsive buying (CB) is characterized by the preoccupation with buying and shopping, the frequent loss of control over buying, and by excessive purchasing of items that are not needed and not used. Excessive urges to buy and maladaptive buying patterns lead to marked distress, financial problems, and interfere with social and/or occupational functioning [18]. Previous research highlighted the prominent role of material endorsement in the development of CB [4], [6], [19], [21], [24], [28]. A valid measure for material values endorsement could help to identify those who are at risk for CB which is of relevance for psychology, psychosomatic medicine, and psychiatry.

To date, no validated German measure is available and this is why the present study aimed to translate and validate the Material Values Scale (MVS) of Richins [26]. In accordance with their conceptualization of materialism, Richins and Dawson [26] developed the 18-items MVS. Later on, Richins [25] proposed an updated and psycho-

metrically superior 15-item version which contains three subscales, each consisting of five items which represent the three above mentioned domains of materialism: ‘centrality’, ‘success’, and ‘happiness’. Recently, even a scale for children’s materialism was developed that relies on the MVS [23].

In accordance with Dittmar, we preferred the measure developed by Richins over the materialism scale of Belk [1], given that Belk’s concept of the three materialistic personality traits possessiveness, non-generosity, and envy “does not assess the desire to acquire, repeatedly, new, more, and better, goods” ([6], p. 472) which is typical for CB. Furthermore, the MVS dimensions are more descriptive and not based on the understanding of materialism as a trait.

Previous studies referred to problems regarding the cross-cultural equivalence of the MVS. For example, the Danish, French, and Russian translated MVS did not display an equivalent underlying factor-structure [11]. A study among adults from the United States and Asia showed that the cross-cultural applicability of the MVS is confounded by its mixed-worded format [32]. The MVS contains 9 positive- and 6 reverse-worded items. It appears that the reverse-worded items of the MVS elicit different response styles in different cultures [32].

Based on the assumption that the psychometric evaluation of a German version is mandatory prior to its use, the objective of this study was not only to translate but also to evaluate the psychometric properties of the German version of the MVS (G-MVS) in a large representative sample (Study 1). As previous research indicated a strong link between materialism and CB, the G-MVS was additionally administered to patients with CB and, for comparison purposes, to university students (Study 2). We hypothesized that patients with CB would present the highest scores on the G-MVS. Furthermore, previous research also showed that materialistic values endorsement is strongly linked to CB and less to depressive symptoms [4], [19], [21]. Therefore, in order to examine construct validity, patients with CB and students answered additional questionnaires concerning CB and depression. Here, we expected a substantially higher correlation of the G-MVS with the CB measure compared to the depression measure in both samples.

Study 1

German version of the MVS

First, the authorized German translation and back-translation of the original American MVS [25] was performed by a licensed translator (Translaw, Oxford, GB). In a

second step, the backward translation was verified for discrepancies against the original form by Marsha Richins. She found minor discrepancies in the backward translation of items 1, 9, and 15. Taking her considerations into account, the German versions of these items were modified accordingly and then approved by her. The G-MVS was administered to a population-based German sample.

Data sampling

A random sample of the German general population older than 14 years of age was selected with the assistance of a demographic consulting company (USUMA, Berlin, Germany). This survey met the ethical guidelines of the international Code of Marketing and Social Research Practice by the International Chamber of Commerce and the European Society for Opinion and Marketing Research. The sampling procedure followed the established guidelines on how to construct a random population sample in Germany when no access to a population roster is possible. This sampling design involves three consecutive steps: in the first step, a grid of 258 regional sampling areas was randomly selected from a roster of such non-overlapping grids that have been centrally assembled to enhance representativeness in stratified regional sampling in Germany. In the second step, a random procedure to select households of the respective area was implemented within all sampling areas. In the final step, one member of the selected household fulfilling the inclusion criteria (age 14 or older, able to read and understand the German language) was sampled randomly in a pre-specified manner. The sampling procedure is designed to yield random samples representative in terms of age, gender, and education of the German population. A first attempt was made for 4,091 addresses, of which 4,069 were valid. If not at home, a maximum of three attempts was made to contact the selected person. All subjects were visited by a study assistant who informed them about the investigation, obtained written informed consent, and presented them with the questionnaire. A total sample of 2,520 individuals in the age range from 14 to 95 agreed to participate (participation rate: 61.9% of valid addresses). For the present study, respondents younger than 18 ($N=100$) and older than 80 ($N=95$) were excluded. Additionally, cases were dropped when MVS data were missing ($N=30$). This provided a final sample of 2,295 individuals for analysis. The mean age of the final sample was 50.59 years ($SD=16.63$, Range 18–80), 1,225 participants were women (53%). With regard to years of school education, 1077 (46.9%) had ≤ 9 years, 895 (39%) had 10 to 11 years, and 323 (14.1%) had ≥ 12 years.

Data analyses

Due to the clear hypothesis about the factorial structure of the G-MVS (i.e. a second order factor model with three factors at the first level corresponding to the three materialism domains and one second-order general ma-

terialism factor) confirmatory factor analyses (CFAs) were performed with LISREL 8.71 [13] on the population-based sample. For the three+one-factor model each item loaded on its corresponding first-level factor and all three first-level factors were assumed to load positively on the second-order materialism factor. We fitted an additional one-factor model [3] assuming a general materialism factor without differentiation between the three materialistic value domains. Further, we tested a two+one factor model in which the 'centrality' and 'success' factors were merged into one factor separately from the 'happiness' factor, given the high correlation between the 'centrality' and 'success' factors.

The distributions of responses to some items were slightly skewed. Mean skewness for all items equaled -0.80 ($SD=0.25$). However, the joint distribution of the items at the subscales and the total scale was less skewed (respectively, -0.40 for 'success', 0.09 for 'centrality', -0.54 for 'happiness', and -0.17 for the total score). Given the ordinal nature of the data and the skewness of some response distributions, a robust weighted least square estimation method on the polychoric correlations weighted by the asymptotic variances was preferred for estimating the CFA model parameters. This approach was motivated by the promising simulation results of Flora and Curran [8] and Lei [17] for this type of data.

To gauge model fit, multiple criteria were used: the Satorra-Bentler scaled Chi-square values for absolute fit, the comparative fit index (CFI) for fit relative to a null model, and the standardized root mean squared residual (SRMR) as the overall difference between the observed and the predicted correlations. Stringent cut-off values were used as the SRMR can be influenced by sample size and the number of model parameters. Cut-off values for the CFI and the SRMR were defined according to Hu and Bentler [12] as $CFI > 0.97$ and $SRMR < 0.06$. Fit of nested models was compared with the Chi-square difference test, fit of non-nested models with Akaike's information criterion (AIC).

To investigate the internal consistency of the scales, Cronbach's alphas were calculated for the subscales and for the total scale. To explore the relationship between age and G-MVS scores, Pearson correlations were calculated. G-MVS scores were compared between male and female participants by using a one-way analysis of variance (ANOVA). In addition, MVS scores were compared across school education groups using a one-way analysis of covariance (ANCOVA) adjusted for age.

Results

Table 1 summarizes the results of the CFAs. The three+one-factor model fitted our data better than the more restricted one-factor model (Chi-Square difference = 1042.32; $df=3$; $p < 0.001$), but the value of both the SRMR and the CFI denoted only a moderate fit. Close inspection of the CFA solution revealed two plausible reasons for the lower fit. First, two of the three materialistic value domains are hardly differentiated: the 'success'

Table 1: Indices describing the goodness of fit for the confirmatory factor analyses on the items of the Material Values Scale based on the German population-based sample (N=2,295)

	df	Satorra Bentler Chi ²	AIC	SRMR	CFI
One-factor model	90	3340.22	3400.22	0.09	0.92
Three+one-factor model	87	2297.90	2363.90	0.08	0.95
<i>Models with error covariances between reverse-worded items</i>					
One-factor model	75	1851.00	1941.11	0.06	0.96
Two+one-factor model	73	573.59	667.59	0.04	0.99
Three+one-factor model	72	648.80	744.80	0.04	0.99

Note. AIC = Akaike's Information Criterion; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Squared Residual

and 'centrality' domain both loaded 0.98 at the second-order factor resulting in 96% of explained variance in the factor scores of 'success' and 'centrality' by the second-order factor. The 'happiness' domain obtained a somewhat lower loading (0.80) and can, as such, be differentiated from the two other domains. Therefore, a more parsimonious two+one-factor model in which the domains 'success' and 'centrality' are collapsed was expected to fit at least equally well as the above fitted three+one CFA. Second, several items are reversed coded (items 8 through 13). Differences between the fitted correlation matrix and the original polychoric correlations were, in general, largest for correlations between the reversed-worded items [32]. This observation can be explained as a method effect: items sharing a similar method (reversed-worded) relate more to each other than predicted by our CFA models. One way to deal with this phenomenon is by allowing for error covariances between those items. Therefore, we constructed three alternative models. We refitted the one-factor baseline model and the three+one-factor model, but allowed for error covariances between the reversed coded items. In addition, we fitted a two+one second-order factor model with error covariances in which the 'success' and 'centrality' first-order factors were collapsed. The latter obtained the best fit in absolute terms (CFI and SRMR) and relative to all other fitted models (AIC and Chi²). Loadings of the first-order factor at the second-order materialism factor equaled 0.86 and 0.92 respectively for the 'centrality/success' domain and the 'happiness' domain (Table 1).

Factor loadings of the final two+one-factor model are presented in Table 2. Error covariances between the items 8 through 13 vary between 0.07 and 0.35 ($M=0.21$, $SD=0.08$). The discriminatory power of each item as measured by the corrected item-total correlation is good and ranges from 0.37 to 0.74.

Normative data and Cronbach's alphas of the G-MVS (sub)scales in the population-based sample can be found in Table 3.

Concerning age, the results showed a significantly negative correlation with the G-MVS total scores in the population ($r=-0.30$, $p<0.01$).

No gender effect was found with regard to the G-MVS total and the subscale 'happiness' scores. By trend, men scored higher on the subscale 'centrality/success' than women ($M_{men}=24.82$, $SD=7.30$ and $M_{women}=24.20$, $SD=6.83$, $F(1,2293)=4.41$, $p=0.036$). The result remained the same when adjusting for age ($p=0.038$).

G-MVS total scores were compared across the following groups with respect to education: a) ≤ 9 school years, b) 10 to 11 school years, and 3) ≥ 12 school years. Participants with ≤ 9 years presented with the highest and participants with ≥ 12 years with the lowest adjusted for age means ($M_a=41.47$, $SE=0.34$ and $M_b=40.60$, $SE=0.37$ and $M_c=36.76$, $SE=0.61$, $F(2,2291)=22.73$, $p<0.001$). Significant single group differences were found between those with >12 school years compared to the other two groups.

Discussion

Our factor-analytic findings of the G-MVS suggest the more parsimonious two-factor solution with a first collapsed factor 'centrality/success' and a second factor 'happiness'. With regard to content, items of the original subscales 'centrality' and 'success' indeed seem to overlap. Furthermore, these findings are in line with previous studies referring to problems regarding the cross-cultural equivalence of the MVS [11].

The results further suggest a negative association between age and materialism in the adult population. Also, the findings indicate an association between a higher number of school years and lower scores in materialism. Although men in the representative sample scored somewhat higher on the subscale 'centrality/success' compared to women, the present analyses did not yield significant gender differences in G-MVS total scores.

Table 2: Factor loadings of the two+one-factor model of the Material Values Scale (G-MVS) in the German population-based sample (N=2,295), and corrected item-total correlation

Item	English version / German translation in the G-MVS	Centrality/ Success	Happiness	Corrected Item-total correlation
1	My life would be better if I owned certain things I don't have. / Mein Leben wäre besser, wenn ich bestimmte Dinge besitzen würde, die ich noch nicht habe.		0.81	.65
2	The things I own say a lot about how well I'm going in life. / Die Dinge in meinem Besitz sagen eine Menge darüber aus, wie erfolgreich ich bin.	0.59		.51
3	I like to own things that impress people. / Ich besitze gern Dinge, mit denen ich andere beeindrucken kann.	0.81		.67
4	I admire people who own expensive homes, cars, and clothes. / Ich bewundere Menschen, die teure Häuser, Autos und Kleidung haben.	0.83		.65
5	I like a lot of luxury in my life. / Ich mag viel Luxus in meinem Leben.	0.78		.65
6	I'd be happier if I could afford to buy more things. / Ich wäre glücklicher, wenn ich mir mehr kaufen könnte.		0.90	.74
7	Some of the most important achievements in life include acquiring material possessions. / Der Erwerb materieller Güter ist eines der wichtigsten Ziele im Leben.	0.83		.64
8	I have all the things I really need to enjoy life. / Ich habe eigentlich alles, was ich brauche, um das Leben zu genießen.		0.47	.50
9	I wouldn't be any happier if I owned nicer things. / Wenn ich bessere Dinge hätte, wäre ich auch nicht glücklicher.		0.49	.48
10	The things I own aren't all that important to me. / Die Dinge, die ich besitze, sind für mich nicht so wichtig.	0.41		.43
11	I put less emphasis on material things than most people I know. / Auf materielle Dinge lege ich weniger Wert, als die meisten Menschen, die ich kenne.	0.46		.52
12	I don't place much emphasis on the amount of material objects people own as a sign of success. / Ich lege wenig Wert darauf, wie viele Gegenstände manche Menschen als Zeichen des Erfolgs besitzen.	0.44		.46
13	I try to keep my life simple, as far as possessions are concerned. / Ich versuche, mir das Leben einfach zu machen, was Besitz angeht.	0.32		.37
14	Buying things gives me a lot of pleasure. / Es verschafft mir große Befriedigung, etwas zu kaufen.		0.71	.48
15	It sometimes bothers me quite a bit that I can't afford to buy all the things I'd like. / Manchmal macht es mich sehr unzufrieden, dass ich mir nicht alles kaufen kann, was mir gefällt.		0.80	.67

Table 3: Means, standard deviations, and Cronbach's α for the subscales of the Material Values Scale (G-MVS) in the German population-based sample (N=2,295)

G-MVS Scale	Mean	SD	Cronbach's α
Total	40.47	11.43	0.89
Success	13.15	4.55	0.79
Centrality	14.32	3.85	0.70
Centrality/Success	27.47	7.77	0.89
Happiness	12.99	4.75	0.81

Study 2

Data sampling

The G-MVS was additionally administered to people seeking treatment for CB and to medical students. All individuals participated on a voluntary basis and gave their written informed consent before entering the study that was approved by the Institutional Ethics Committee. Fifty-two patients seeking disorder-specific group psychotherapy for CB were screened by the first author who is experienced in the assessment and treatment of individuals with CB. All patients met the diagnostic criteria for CB proposed by McElroy et al. [18]. Their mean age was 38.78 years ($SD=12.42$, Range 22–67), 39 patients were women (75%). The students' group consisted of 347 medical students (69% women) with a mean age of 22.95 years ($SD=3.08$, Range 20–42).

Compulsive buyers and a subgroup of students ($N=217$) additionally answered the German version [20] of the Compulsive Buying Scale (CBS) [7] as well as the German eight-item Patient Health Questionnaire depression scale (PHQ-8) [16] with the objective of performing tests on validity.

Data analyses

First, Cronbach's alphas were calculated for the subscales and for the total G-MVS scale in both samples. Second, Pearson correlation coefficients between the G-MVS total scores and age as well as between the G-MVS total and subscales and the CBS, and the PHQ-8 were calculated. Third, G-MVS scores were compared between men and women (ANOVA) and across samples by using one-way analysis of covariance (ANCOVA, adjusted for age).

Results

Cronbach's alphas in the CB-group were 0.88 for the total score, 0.81 for 'centrality/success', and 0.82 for 'happiness', and among students 0.86, 0.81, and 0.74, accordingly.

In terms of age we found a negative correlation with the G-MVS total score among compulsive buyers ($r=-0.48$, $p<0.01$) but not in students.

Table 4 displays the correlations between the G-MVS total scores, measures of CB, and depression among compulsive buyers and students.

Table 4: Pearson correlation coefficients between the Material Values Scale (G-MVS) and other scales among individuals with compulsive buying (N=49) and medical students (N=217)

	G-MVS	
	Individuals with compulsive buying	students
CBS	0.396*	0.373*
PHQ-8	0.147	0.055

Note. CBS = Compulsive Buying Scale (reversed: higher scores indicate more compulsive buying); PHQ-8 = eight-item Patient Health Questionnaire depression scale. * $p<0.01$

The G-MVS total and subscales scores did not differ significantly between men and women in both groups. To ascertain discriminant validity, mean scores on the G-MVS were compared across the three samples. As can be seen in Table 5, the total scores of the G-MVS were able to discriminate between groups. Patients with CB reported the highest and students the lowest scores on the G-MVS. The samples differed with regard to age. Therefore, these analyses were adjusted for age. The comparisons between students and the population-based sample were additionally controlled for education. The difference between the two samples, however, remained significant with students presenting lower scores on all MVS-scales (results not presented here but available upon request).

Discussion

The total G-MVS scale as well as the subscales showed good internal consistency in the CB and the students' group. In terms of validity, results turned out as expected. The G-MVS was significantly correlated with the CB measure but not with the depression scale.

In accordance to our findings from the population-based sample, in compulsive buyers the level of material values endorsement was negatively related to age. Of interest, age was not significantly linked to G-MVS scores in students which could be explained by the relatively small

Table 5: Comparison of Material Values Scale scores across samples

	Population-based sample		Individuals with compulsive buying		Students		Overall group comparison	Single group comparison
	(POP) N=2295	(SD)	(CB) N=52	(SD)	(STUD) N=347	(SD)		
	M	(SD)	M	(SD)	M	(SD)	F	Tukey B test
Age [years]	50.59	(16.63)	38.78	(12.42)	22.95	(3.08)	478.47**	STUD < CB < POP
G-MVS total	40.46	(11.43)	52.13	(11.90)	35.15	(9.03)	146.85*** ^a	STUD < POP < CB
G-MVS Centrality/Success	24.49	(7.06)	29.98	(7.52)	21.05	(5.74)	113.74*** ^a	STUD < POP < CB
G-MVS Happiness	15.97	(5.39)	22.15	(5.30)	14.10	(4.37)	133.80*** ^a	STUD < POP < CB

Note. ^aANCOVA, controlling for age. Means presented in the table are unadjusted means. ** $p < 0.001$

age range of this sample. In terms of gender the results did not yield any significant gender differences in material values.

General discussion

First of all, in the setting of a German population-based sample, we could not confirm the 3-factor structure proposed by Richins and Dawson [26] and Richins [25]. Our factor-analytic findings rather suggest a 2-factor solution with the first collapsed factor 'centrality/success' and the second factor 'happiness'. With regard to content, items of the original subscales 'centrality' and 'success' indeed seem to overlap. This finding is in line with the results of Griffin et al. [11] in a French and Russian sample. In accordance with the study of Wong et al. [32], we also found that the reverse-worded items influenced the fit of the 3-factor solution.

The total scale and the two subscales showed good internal consistency in the different samples. These findings indicate the use of the total score as well as the use of two instead of three subscales. In terms of validity assessed in patients with CB and students, results turned out as expected. While G-MVS scores were significantly related to CBS scores confirming the proposed strong link between materialism and CB, the correlation between the G-MVS and the depression measure appeared substantially lower.

Results also indicate good discriminant validity. The G-MVS total and subscales scores clearly discriminated patients with CB from students and from the representative sample. The reason for the students having the lowest materialism scores remains unclear. This can not be explained by age differences, as we controlled for this variable. Another assumption concerns the postulated link between higher education and lower scores in materialism that might have accounted for the lowest materialism scores among students. The result also may relate to the exceptionally low percentage of individuals with CB in the students' group. Based on the German CBS cut-off for CB [20], we found a prevalence rate of CB in the present

students' sample of only 3%. With respect to previous research on the prevalence of CB in the German population that reported prevalence estimates of about 7% [20], [22], we may assume that the propensity to CB in our representative sample was higher than in our students' sample. This in turn could be related to a higher level of materialism in the representative sample.

Of note, contrary to previous research that found women being more materialistic than men [6], [33], our analyses did not yield any gender differences in G-MVS scores neither in the population-based sample nor among students or compulsive buyers. Although women in the representative sample tended to score somewhat higher on the subscale 'centrality/success' compared to men, this difference should be considered as not meaningful given the large sample size. Though, we could reveal a negative association between age and materialism in the representative and the CB samples. The lack of a significant correlation between age and materialism among students could be explained by the relatively tight age range of this sample. Therefore, we may assume that younger people are more prone towards materialism.

There are limitations that should be noted in interpreting the results of this study. Our findings are limited by the small number of participants in the CB-group. Another limitation includes the absence of test-retest reliability evidence.

In conclusion, the present study extended previous findings with the original MVS in a different cultural context and supported its use in German speaking countries. Because the study of materialism is about human relationships with objects, mental health professionals could profit from a broader knowledge and a better understanding regarding materialism. Highly materialistic individuals are not only more willing to carry debts, they also may believe that life transformation will appear as a result of acquisition and therefore may tend to credit overuse and CB [27]. In addition, our results in terms of the negative correlations between age and materialism scores correspond with earlier findings regarding the negative association between age and CB in the general population [15], [20], [22]. Given the increasing advertising pressure, the

easing of credit use, the growing product availability via the internet, etc., consumers should be well-informed in order to prevent CB that is typically associated with credit overuse and heavy debt loads. Particularly with regard to young people and their increased propensity to CB, there is a need for more prevention to protect them from CB.

As materialism can be seen as culturally agreed-upon understanding of a mode of consumption, one may expect differences across cultures [10], [11], [33]. Validated translations of the MVS may enable researchers to explore the proposed diversity of materialistic values across cultures [11], [33]. The findings demonstrate that the German version of the MVS is, like the original version, a brief, psychometrically sound, and valid measure for the assessment of materialistic values endorsement, appropriate for the use in clinical and research settings.

Notes

Competing interests

The authors declare that they have no competing interests.

References

1. Belk RW. Materialism: trait aspects of living in the material world. *J Consum Res*. 1985;12:265-79. DOI: 10.1086/208515
2. Belk RW. Three scales to measure constructs related to materialism: reliability, validity, and relationships to measures of happiness. In: Kinner T, editors. *Advances in Consumer Research*. Provo, UT: Association for Consumer Research; 1984. p. 753-60.
3. Bentler PM. On tests and indices for evaluating structural models. *Pers Indiv Diff*. 2007; 42: 825-9. DOI: 10.1016/j.paid.2006.09.024
4. Claes L, Bijttebier P, Van Den Eynde F, Mitchell JE, Faber R, de Zwaan M, Mueller A. Emotional reactivity and self-regulation in relation to compulsive buying. *Pers Indiv Diff*. 2010;49:526-30. DOI: 10.1016/j.paid.2010.05.020
5. D'Astous A. An inquiry into the compulsive side of "normal" consumers. *J Consum Policy*. 1990;13:15-31. DOI: 10.1007/BF00411867
6. Dittmar H. Compulsive buying – a growing concern? An examination of gender, age, and endorsement of materialistic values as predictors. *Br J Psychol*. 2005;96:467-91. DOI: 10.1348/000712605X53533
7. Faber RJ, O'Guinn TC. A clinical screener for compulsive buying. *J Consum Res*. 1992;19:459-69. DOI: 10.1086/209315
8. Flora DB, Curran PJ. An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. *Psychol Meth*. 2004;9:466-91. DOI: 10.1037/1082-989X.9.4.466
9. Fournier S, Richins M. Some theoretical and popular notions concerning materialism. *J Soc Behav Pers*. 1991;6:403-14.
10. Ger G, Belk RW. Cross-cultural differences in materialism. *J Econ Psychol*. 1996;17:55-77. DOI: 10.1016/0167-4870(95)00035-6
11. Griffin M, Babin BJ, Christensen F. A cross-cultural investigation of the materialism construct assessing Richins and Dawson's materialism scale in Denmark, France and Russia. *J Bus Res*. 2004;57:893-900. DOI: 10.1016/S0148-2963(02)00290-4
12. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*. 1999;6:1-55. DOI: 10.1080/10705519909540118
13. Jöreskog K, Sörbom D. LISREL 8.71 [Computer Program]. Lincolnwood, IL: Scientific Software International; 2004.
14. Kasser T, Ahuvia A. Materialistic values and well-being in business students. *Eur J Soc Psychol*. 2002;32:137-46. DOI: 10.1002/ejsp.85
15. Koran LM, Faber RJ, Aboujaoude E, Large MD, Serpe RT. Estimated prevalence of compulsive buying behavior in the United States. *Am J Psychiatry*. 2006;163:1806-12. DOI: 10.1176/appi.ajp.163.10.1806
16. Kroenke K, Strine TW, Spitzer RL, Williams JBW, Berry JT, Mokdad AH. The PHQ-8 as a measure of current depression in the general population. *J Affect Disord*. 2009;114:63-173. DOI: 10.1016/j.jad.2008.06.026
17. Lei PW. Evaluating estimation methods for ordinal data in structural equation modeling. *Qual Quant*. 2009;43:495-507. DOI: 10.1007/s11135-007-9133-z
18. McElroy SL, Keck PE, Pope HG, Smith JMR, Strakowski SM. Compulsive buying: A report of 20 cases. *J Clin Psychiatry*. 1994;55:242-8. DOI:
19. Mueller A, Claes L, Mitchel, JE, Faber RJ, Fischer J, de Zwaan M. Does compulsive buying differ between male and female students? *Pers Indiv Diff*. 2011;50:1309-12. DOI: 10.1016/j.paid.2011.02.026
20. Mueller A, Mitchell JE, Crosby RD, Gefeller O, Faber RJ, Martin A, Bleich S, Glaesmer H, Exner C, de Zwaan M. Estimated prevalence of compulsive buying in Germany and its association with sociodemographic characteristics and depressive symptoms. *Psychiatry Res*. 2010;180:137-42. DOI: 10.1016/j.psychres.2009.12.001
21. Mueller A, Mitchell JE, Peterson LA, Faber RJ, Steffen KJ, Crosby RD, Claes L. Depression, materialism, and excessive internet use in relation to compulsive buying. *Compr Psychiatry*. 2011;52:420-4. DOI: 10.1016/j.comppsy.2010.09.001
22. Neuner M, Raab G, Reisch L. Compulsive buying in maturing consumer societies: An empirical re-inquiry. *J Econ Psychol*. 2005;26:509-22. DOI: 10.1016/j.joep.2004.08.002
23. Oprea SJ, Buijzen M, van Reijmersdal EA, Valkenburg PM. Development and validation of the Material Values Scale for children (MVS-c). *Pers Indiv Diff*. 2011;51:963-8. DOI: 10.1016/j.paid.2011.07.029
24. Otero-López JM, Villardefrancos E, Bolano CC, Marino MJS. Materialism, life-satisfaction and addictive buying: examining the causal relationship. *Pers Indiv Diff*. 2011;50:772-6. DOI: 10.1016/j.paid.2010.12.027
25. Richins M. The Material Values Scale: a re-inquiry into its measurement properties and the development of a short form. *J Consum Res*. 2004;31:209-19. DOI: 10.1086/383436
26. Richins M, Dawson S. Materialism as a consumer value: measure development and validation. *J Consum Res*. 1992;19:303-16. DOI: 10.1086/209304
27. Richins ML. Materialism, transformation expectations, and spending: implications for credit use. *J Public Policy Mark*. 2011; 30: 141-56. DOI: 10.1509/jppm.30.2.141

28. Rose P. Mediators of the association between narcissism and compulsive buying: the role of materialism and impulse control. *Psychol Addict Behav.* 2007;21:576-81. DOI: 10.1037/0893-164X.21.4.576
29. Scherhorn G. Self-fulfillment, consumer policy and consumer research. In: Maynes ES, eds. *The frontier of research in the consumer interest.* Columbia, MO: American Council on Consumer Interests; 1988. p. 589-94.
30. Valence G, D'Astous A, Fortier L. Compulsive buying: concept and measurement. *J Consum Policy.* 1989;11:419-33. DOI: 10.1007/BF00411854
31. Watson JJ. The relationship of materialism to spending tendencies, saving, and debt. *J Econ Psychol.* 2003;24:723-39. DOI: 10.1016/j.joep.2003.06.001
32. Wong N, Rindfleisch A, Burroughs JE. Do reverse-worded items confound measures in cross-cultural consumer research? The case of the material values scale. *J Consum Res.* 2003;30:72-91. DOI: 10.1086/374697
33. Workman JE, Lee SH. Materialism, fashion consumers and gender: a cross-cultural study. *Int J Consum Stud.* 2011;35:50-7. DOI: 10.1111/j.1470-6431.2010.00935.x

Corresponding author:

Astrid Müller
Klinik für Psychosomatik und Psychotherapie,
Medizinische Hochschule Hannover, Carl-Neuberg-Str. 1,
30625 Hannover
mueller.astrid@mh-hannover.de

Please cite as

Müller A, Smits DJ, Claes L, Gefeller O, Hinz A, de Zwaan M. *The German version of the Material Values Scale.* *GMS Psychosoc Med.* 2013;10:Doc05.
DOI: 10.3205/psm000095, URN: urn:nbn:de:0183-psm0000955

This article is freely available from

<http://www.egms.de/en/journals/psm/2013-10/psm000095.shtml>

Published: 2013-06-24

Copyright

©2013 Müller et al. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by-nc-nd/3.0/deed.en>). You are free: to Share — to copy, distribute and transmit the work, provided the original author and source are credited.