RESEARCH REPORT

Materialism and life satisfaction relations between and within people over time: Results of a three-wave longitudinal study

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Abstract

The negative association between materialism and life satisfaction is well-documented, but it is unclear what the directionality of the association is. To address this issue, we (a) conducted a three-wave longitudinal study ($N = 6551$) over 3 years and examined the bidirectional relations between life satisfaction and materialism as a composite measure and with each of its three facets (happiness, success, and centrality), and (b) estimated Random Intercept Cross-Lagged Panel Models (RI-CLPMs) that separate inter- and intra-individual effects and compared them with traditional CLPMs that do not. The traditional CLPM showed bidirectional negative associations between composite materialism and life satisfaction and strong negative bidirectional association for the happiness facet, but positive effects of the centrality facet on life satisfaction. However, and importantly, the RI-CLPM revealed that these relations exist predominantly between people. Within people, materialism does not impact life satisfaction, but life satisfaction does impact the happiness facet negatively. These findings challenge common ideas that the direction of the effect is from materialism to life satisfaction and that it is unilaterally negative.

KEYWORDS
Cross-Lagged Panel Models, life satisfaction, longitudinal analysis, material values, materialism, subjective well-being

INTRODUCTION

Materialism is a central construct in consumer behavior theory, with Richins and Dawson's (1992) Material Values Scale (MVS) as the leading measure. Comprehensive reviews (Kasser, 2016; Richins, 2017; Shrum et al., 2022) and a large meta-analysis covering various measures of materialism and well-being (Dittmar et al., 2014) have established a systematic negative relationship between materialism and subjective well-being. Thus, the conclusion that materialism is harmful to subjective well-being seems justified.

However, the directional relations between materialism and subjective well-being remain undetermined because prior research has predominantly relied on cross-sectional surveys. Most of this research assumes that higher levels of materialism lead to lower well-being in part because the prioritization of materialism conflicts with the pursuit of intrinsic goals such as self-acceptance and affiliation, thereby reducing subjective well-being (Burroughs & Rindfleisch, 2002; Kasser, 2016). However, a reverse directionality could be present as well, such that lower levels of well-being trigger materialism because it can help cope with feelings of low self-esteem (Chaplin & John, 2010), uncertainty (Chang & Arkin, 2002), and loneliness (Pieters, 2013). Building on these findings, Richins (2017) proposed that materialists may be more vulnerable to daily threats, resulting in psychological discomfort, and efforts to reduce this discomfort reinforce these materialistic tendencies,

implying a bidirectional association between materialism and well-being that unfolds over time. Finally, the relation may be spurious, resulting from one or more common factors correlated with both materialism and subjective well-being.

Our research aims to examine the nature of the directional relations between materialism and subjective well-being. We conducted a three-wave longitudinal study ($N = 6551$) across 3 years to identify the potential influence of materialism on subjective well-being and vice versa. Unlike cross-sectional data, longitudinal data provide information about the sequential ordering of effects. Thus, although longitudinal studies fall short of the gold standard of randomized controlled trials for causal inference, they provide stronger inference about reciprocal effects or causality than cross-sectional studies do.

Longitudinal designs are commonly used in behavioral and psychological research to examine reciprocal effects between variables (Usami et al., 2019). Yet, longitudinal research on materialism and well-being is rare, and only one study explored potential reciprocal effects. Jiang et al. (2016) estimated a Cross-Lagged Panel Model (CLPM) on three waves of data and found that materialism affected subsequent subjective well-being, but not the reverse.

The CLPM is a workhorse in longitudinal research (Berry & Willoughy, 2017) and straightforward to implement: It regresses well-being in a later wave of the study on well-being and materialism in an earlier wave, and similarly, materialism in a later wave on materialism and well-being in an earlier wave. Evidence of a directional effect is indicated if earlier materialism is associated with later well-being while accounting for the earlier effect of well-being on itself (stability or stationarity effect), and similarly for the other side of the bidirectional relation. However, the traditional CLPM has been criticized for confounding effects between people (inter-individual) and effects within people over time (intra-individual) (Hamaker et al., 2015; Usami, 2021). The recently proposed random-intercept CLPM (RI-CLPM; Hamaker et al., 2015) improves on the traditional CLPM by separating inter- and intra-individual relations, and these latter are key to infer directional relations between constructs. Furthermore, by controlling for stable individual differences the RI-CLPM is better suited to eliminate alternative explanations than CLPM because the former is mathematically equivalent to controlling for unobserved time-*invariant* confounders (Usami, 2021). The RI-CLPM can identify causal effects under the assumption that there are no unobserved time-varying confounders.

The present study uses RI-CLPMs to assess directional effects between materialism (measured with the MVS) and subjective well-being and compares these results with traditional CLPM results to demonstrate the importance of separating inter- and intra-individual relations between materialism and well-being. The MVS comprises three facets: *happiness* (the belief that acquiring more possessions will increase one's happiness); *success* (the belief that one's possessions are indicators of success in life); and *centrality* (the belief that possessions are central to one's life). The three facets are conceptualized as components of the more general materialism construct that "normally act in concert with respect to external variables" (Richins & Dawson, 1992, p. 310). There is, however, mounting evidence that the relations between materialism and well-being can differ markedly across the three facets (Roberts et al., 2005; Pieters, 2013; Table S1, MDA) and that the negative relation between composite materialism and subjective well-being is primarily driven by a negative relation between the happiness facet and subjective well-being. Thus, we assess the potentially bidirectional relations between materialism and life satisfaction both at the composite and facet level of materialism.

METHOD

Participants and procedure

Data were collected from the LISS internet panel representative of the Dutch population and administered by Centerdata, a data collection institute associated with Tilburg University in the Netherlands. Three separate questionnaires were administered between 2013 and 2015. The first questionnaire provided demographic information about the panel members. The second questionnaire included the 18-item MVS, and the third included the 5-item Satisfaction with Life Scale (SWLS; Diener et al., 1985), which served as our operationalization of subjective well-being. The latter two questionnaires were administered once a year, with materialism measured in December, and life satisfaction in May. Sample sizes for materialism were 3214 in wave 1 (2013), 3246 in wave 2 (2014), and 2912 in wave 3 (2015), and for life satisfaction were 5163 in wave 1, 6549 in wave 2, and 6002 in wave 3. We selected for analysis those panel members who participated in at least two of these six questionnaires ($N = 6551$). To maximize statistical power and minimize validity threats, all models were estimated in Mplus using Full Information Maximum Likelihood (Muthén & Muthén, 1998), which uses all available information.

Analysis strategy

We estimated a multiple indicator extension of the RI-CLPM to account for measurement error (Mulder & Hamaker, 2021). The analyses proceeded in three steps: (1) confirmatory factor analyses (CFA) to assess reliability, discriminant validity, and method factor effects; (2) assessment of longitudinal measurement

invariance; and (3) estimation of the traditional CLPMs and the RI-CLPMs. The data and code are available at https://osf.io/wv73r/.

Confirmatory factor analyses

We assessed composite reliability of the measures while accounting for non-independence of measurements due to repeated sampling of the same individuals (Lai, 2021). Composite reliabilities for composite materialism (CR = 0.82; 18 items), the three facets, success (CR = 0.61; six items), centrality (CR = 0.76; seven items), and happiness (CR = 0.79; five items), and life satisfaction (CR = 0.89; five items), were satisfactory to good.

We established discriminant validity of the three MVS facets vis-à-vis each other in two ways. First, we tested a one-factor CFA (1-CFA) in which all items loaded on a single materialism factor, against a three-factor CFA (3-CFA) in which each item only loaded on its respective materialism facet, but which allowed the facets to intercorrelate. The three-factor model fit better than the single-factor model ($\Delta\chi^2 = 265$, df = 6, $p < 0.001$) indicating that the facets measure different aspects of materialism (Table 1). Standardized factor loadings and Average Variance Extracted (AVE) are provided in the MDA. Second, because the MVS includes negatively formulated items, which may attenuate reliability and the substantive associations with other constructs, we estimated a model that includes a method factor on which all negatively formulated items have a loading of 1, and only the variance of the method factor is estimated (Baumgartner et al., 2018; Weijters et al., 2013). The method factor purges substantive associations between constructs from any shared variance among negatively formulated items due to misresponding to such items (Wong et al., 2003). Because adding the method factor improves the fit of the measurement models (1-CFA, $\Delta\chi^2 = 2954$, df = 6, $p < 0.001$; 3-CFA, $\Delta\chi^2 = 2805$, df = 6, $p < 0.001$), we include it in our subsequent analyses.

Longitudinal invariance testing

Before testing the structural model, we assessed longitudinal measurement invariance. Establishing measurement invariance ensures that the comparisons of constructs over time are meaningful. Materialism was specified as a second-order factor with its three facets as first-order factors, each with the respective scale items as observed indicators. Latent variables were scaled by fixing factor variances to one. Correlations across time-points and among all possible pairs of items were estimated freely. Measurement invariance testing involved comparison of four models that impose successive restrictions on model parameters (Widaman et al., 2010). Model 1 tested the same pattern of fixed

and freed loadings across time with freed loading estimates potentially differing in each wave (configural invariance). Model 2 restricted the factor loadings to be equal in each wave (weak factorial invariance). Model 3 further constrained the latent variable intercepts to be identical in each wave (strong factorial invariance). Model 4 additionally constrained the item residuals to be equal in each wave (strict factorial invariance).

We used the Bayesian Information Criterion (BIC) for model comparison (Little et al., 2007), with lower BIC values expressing relatively better fit, accounting for model complexity. The strict factorial invariance model fit the data best for both constructs (Table 1), indicating that the measurement models are invariant over time, and that differences in means and associations between materialism (facets) and SWL over time can be interpreted as true (latent) changes over time. The strict factorial invariance model served as the baseline model in all further analyses.

Random intercept Cross-Lagged Panel Model

To examine the longitudinal relations between materialism (facets) and life satisfaction, we estimated multiple indicator RI-CLPMs, which extends the CLPM (Bollen & Curran, 2006). It disentangles stable inter-individual associations from intra-individual effects over time by accounting for "trait-like" stability in the constructs of interest through the inclusion of random intercepts (Hamaker et al., 2015). In contrast, in traditional CLPMs, the cross-lagged parameters represent some unknown combination of stable inter-individual relations and intra-individual relations. The multiple indicator RI-CLPM is a simple extension of the RI-CLPM. It provides less biased estimates of the relations between constructs by adding the measurement model for each construct and by modeling the random intercepts at the latent level rather than the observed level (Mulder & Hamaker, 2021).

For each individual, the RI-CLPM distinguishes between a stable score on a latent construct (i.e., materialism, SWL) that remains constant over time, and a time-specific deviation from that score at each measurement wave. The stable scores on materialism and SWL are assumed to correlate. Although this correlation may still represent a spurious relation, the CLPM does not account for it and thereby distorts the cross-lagged effects between the constructs. Accordingly, the RI-CLPM estimates the intra-individual effect of materialism as the relation between the time-specific deviation on materialism in a given measurement wave and the time-specific deviation in SWL on the next wave (and similarly for the reverse relation).

The RI-CLPM also controls for autoregressive effects in which the time-specific deviation on a construct influences the time-specific deviation on the same construct in

TABLE 1 Measurement analyses and longitudinal invariance testing.

Measurement analysis: MVS (N=5182)	Composite materialism 1-factor		Materialism facets 3-factor	
	Model 1: Baseline	Model 2: Method factor	Model 3: Baseline	Model 4: Method factor
χ^2 (df)	18,581 (1428)	15,627 (1422)	18,316 (1422)	15,511 (1416)
BIC	418,826	415,923	418,612	415,859
CFI	0.73	0.77	0.73	0.78
RMSEA	0.048	0.044	0.048	0.044
SRMR	0.083	0.080	0.187	0.183
Composite reliability				
Materialism	0.82	0.81	–	–
Success	–	–	0.61	0.62
Centrality	–	–	0.76	0.75
Happiness	–	–	0.79	0.80

Measurement analysis: SWLS (N=6546)				1-factor (SWLS)
χ^2 (df)				1331 (102)
BIC				217,863
CFI				0.98
RMSEA				0.043
SRMR				0.041
Composite reliability				0.89

Longitudinal Invariance Testing: MVS	χ^2 (df)	−2LL	BIC	CFI	RMSEA
Configural invariance	6810 (1296)	−203,053	408,184	0.912	0.029
Weak factorial invariance	6878 (1338)	−203,087	407,893	0.912	0.028
Strong factorial invariance	7024 (1374)	−203,160	407,731	0.910	0.028
Strict factorial invariance	7102 (1410)	−203,199	407,501	0.910	0.028

Longitudinal Invariance Testing: SWLS	χ^2 (df)	−2LL	BIC	CFI	RMSEA
Configural invariance	1236 (72)	−108,739	218,032	0.983	0.050
Weak factorial invariance	1262 (82)	−108,752	217,970	0.982	0.047
Strong factorial invariance	1311 (92)	−108,776	217,931	0.982	0.045
Strict factorial invariance	1331 (102)	−108,786	217,863	0.982	0.043

the next wave. Finally, we constrained the autoregressive and cross-lagged effects to be time-invariant but relaxed this in subsequent robustness checks. Figure 1 presents the model for composite materialism and life satisfaction (for simplicity, without the method factor or covariates).

RESULTS

We used RI-CLPMs to test potential bidirectional effects between materialism and SWL. We also compare the results to the traditional CLPM to benchmark against previous studies that did not separate out intra-individual effects. Further, we estimated the models for composite materialism and for each of the three materialism facets separately. For all analyses, we present the results here without socioeconomic covariates, but we also estimated models including relevant covariates, which were included as time-invariant predictors of the latent

constructs in the first wave for the CLPMs and of the random intercepts for the RI-CLPMs. Including these covariates did not materially change the results (MDA, Tables S2 and S3).

Composite materialism

The results from the traditional CLPM suggest a reciprocal negative relation between composite materialism and life satisfaction, similar to what has been reported before. Thus, it appears that materialism reduces later life satisfaction ($b=-0.10$, $p<0.001$; Table 2), and life satisfaction reduces later materialism ($b=-0.05$, $p<0.001$). Importantly, however, the results of the RI-CLPM cast doubt on a causal interpretation of these correlations. The RI-CLPM, which fits the data much better than the CLPM does ($\Delta\chi^2=403$, df=3, $p<0.001$) shows a significant negative correlation between the random intercept parameters ($r=-0.20$),
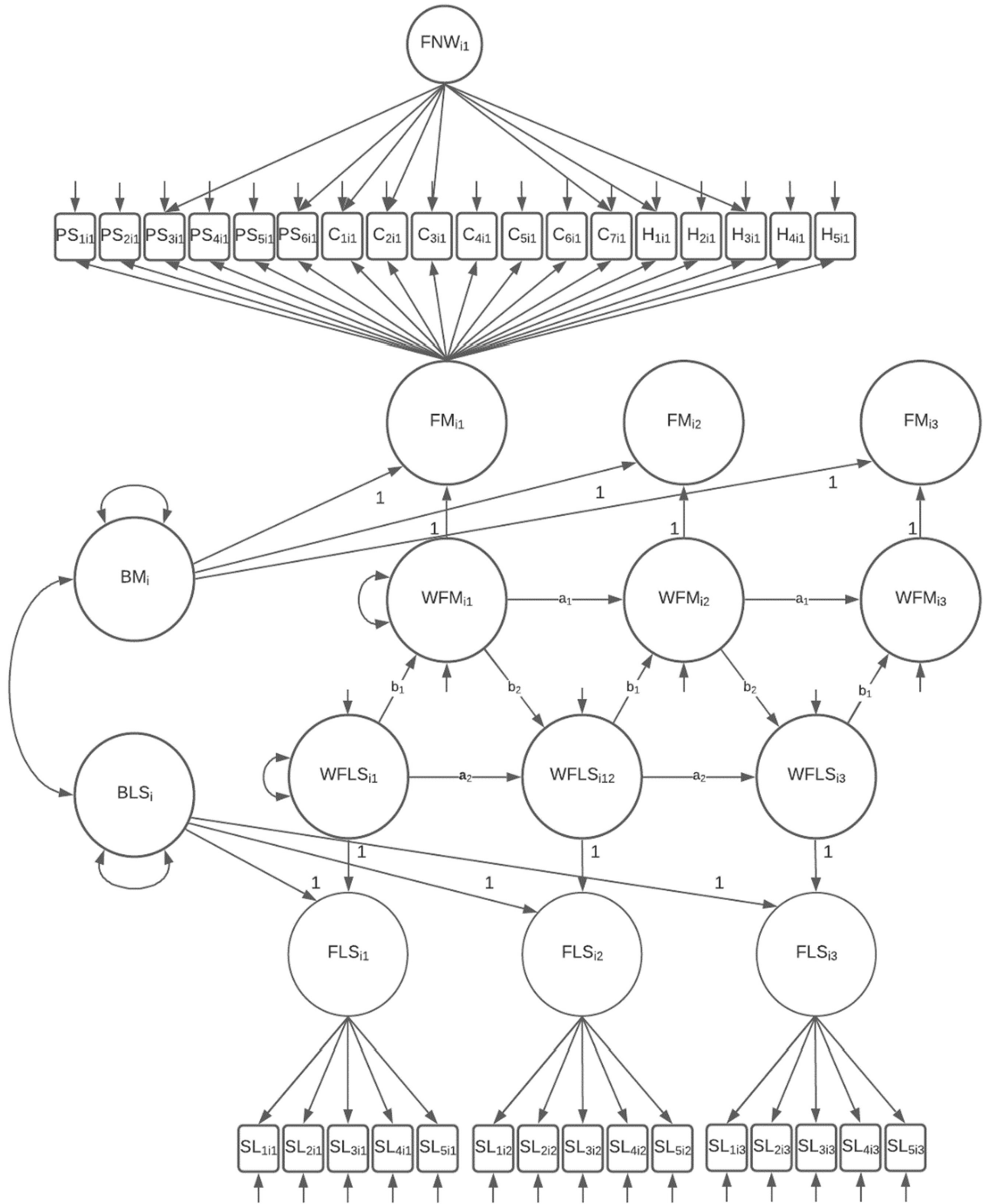
FIGURE 1 Random intercept Cross-Lagged Panel Model (RI-CLPM) for materialism and life satisfaction.
Note. Circles denote latent variables. M is for composite materialism, LS is for satisfaction with life. BM_i and BLS_i denote the random intercepts for materialism and life satisfaction respectively. WFM_{il} and $WFLS_{il}$ denote the individual-level temporal variations in materialism and life satisfaction respectively. Single-headed arrows indicate regressions, double-headed arrows indicate correlations. The measurement model for materialism is only shown for $t = 1$ due to space constraints.

TABLE 2 Results for composite materialism and life satisfaction ($N=6551$)

	CLPM					
	Composite materialism			Life satisfaction		
	b	SE	*p*	*b*	SE	*p*
Autoregressive and cross-lag parameters						
Materialism$_{t-1}$	0.908	0.008	<0.001	−0.100	0.014	<0.001
Life satisfaction$_{t-1}$	−0.053	0.004	<0.001	0.802	0.007	<0.001
χ^2 (df)	37,904 (2397)					
BIC	651,440					
CFI	0.731					
RMSEA	0.048					
SRMR	0.091					
	RI-CLPM					
Autoregressive and cross-lag parameters						
Materialism$_{t-1}$	0.192	0.123	0.118	0.073	0.131	0.577
Life satisfaction$_{t-1}$	−0.017	0.015	0.257	0.222	0.046	<0.001
Random intercept parameters						
Variance	0.366	0.014	<0.001	0.948	0.027	<0.001
Correlation with random intercept life satisfaction	−0.201	0.012	<0.001			
χ^2 (df)	37,501 (2394)					
BIC	651,064					
CFI	0.734					
RMSEA	0.047					
SRMR	0.089					

indicating that more materialistic people are generally lower in life satisfaction. However, after accounting for this inter-individual effect, neither the effect of materialism on SWL ($b=0.07$, $p=0.58$) nor the effect of SWL on materialism ($b=−0.02$, $p=0.26$) is significant, suggesting that intra-individual changes in materialism are not associated with subsequent changes in SWL, nor vice versa.

Materialism facets

The traditional CLPM finds statistically significant relations between all three materialism facets and life satisfaction (Table 3). Both success ($b=0.05$, $p=0.023$) and centrality ($b=0.06$, $p=0.004$) are positively associated with SWL in a subsequent wave. In contrast, and in line with some prior research (Table S1), the happiness facet is negatively associated with subsequent SWL ($b=−0.36$, $p<0.001$). The CPLM also indicates reciprocal relations: SWL is associated with lower success materialism ($b=−0.03$, $p<0.001$) and happiness materialism ($b=−0.07$, $p<0.001$) in a subsequent wave. No association with centrality was found ($p=0.99$).

We again find that the RI-CLPM fits the data significantly better ($\Delta\chi^2=756$, df=10, $p<0.001$), and the results from the RI-CLPM differ markedly from those of the CLPM (Table 3). At the inter-individual level, stable individual differences in the success facet ($b=−0.10$, $p<0.001$) and the happiness facet (b$=−0.18$, $p<0.001$) correlate with stable individual differences in SWL across a 3-year period. The relation between SWL and the centrality facet was not significant ($b=−0.01$, $p=0.23$). Thus, people who score higher on the success and the happiness facet of the MVS tend to score lower on SWL, but this does not represent a causal relation. At the intra-individual level, none of the cross-lagged parameters from the materialism facets to SWL is significant. However, the cross-lagged parameter from SWL to the happiness materialism facet is significant ($b=−0.02$, $p=0.023$). Thus, whereas happiness materialism is not associated with later SWL, low SWL is associated with higher levels of later happiness materialism.

Robustness analyses

We conducted four sets of robustness analyses to assess the stability of the findings across varying measurement,

TABLE 3 Results for materialism facets and life satisfaction ($N=6551$)

CLPM

	Success			Centrality			Happiness			Life satisfaction		
	b	SE	p	b	SE	p	b	SE	p	b	SE	p
Autoregressive and cross-lag parameters												
Success_{t-1}	0.838	0.011	<0.001							0.046	0.020	0.023
Centrality_{t-1}				0.882	0.009	<0.001				0.064	0.022	0.004
Happiness_{t-1}							0.777	0.010	<0.001	−0.361	0.037	<0.001
$\text{Life satisfaction}_{t-1}$	−0.031	0.005	<0.001	0.000	0.003	0.990	−0.066	0.003	<0.001	0.747	0.008	<0.001
χ^2 (df)	10,741 (2305)											
BIC	625,086											
CFI	0.936											
RMSEA	0.024											
SRMR	0.055											

RI-CLPM

	Success			Centrality			Happiness			Life satisfaction		
	b	SE	p	b	SE	p	b	SE	p	b	SE	p
Autoregressive and cross-lag parameters												
Success_{t-1}	0.212	0.069	0.002							0.115	0.073	0.115
Centrality_{t-1}				0.057	0.086	0.510				0.012	0.137	0.929
Happiness_{t-1}							0.210	0.070	0.003	−0.137	0.134	0.306
$\text{Life satisfaction}_{t-1}$	0.001	0.019	0.937	0.009	0.011	0.417	−0.021	0.009	0.023	0.153	0.043	<0.001
Random intercept parameters												
Variance	0.427	0.018	<0.001	0.259	0.012	<0.001	0.123	0.007	<0.001	0.937	0.026	<0.001
Correlation with random intercept life satisfaction	−0.103	0.013	<0.001	−0.011	0.010	0.232	−0.180	0.008	<0.001			
χ^2 (df)	9985 (2295)											
BIC	624,418											
CFI	0.942											
RMSEA	0.023											
SRMR	0.049											

sample, and model specifications. The results are summarized here and detailed in the MDA. First, we re-estimated all models after excluding the worst-performing item of the success subscale. This improved composite reliability of the scale from 0.61 to 0.69 but did not substantively affect the results (Table S4). In the CLPM, the happiness facet was negatively associated ($p<0.001$) and the success ($p=0.023$) and centrality facets ($p=0.004$) were positively associated with SWL, and SWL was negatively associated with the success and happiness facets (both $p<0.001$). However, in the RI-CLPM, only the negative association between SWL and the happiness facet ($p=0.023$) remained. The inter-individual associations between both composite materialism and the happiness facet and SWL also remained.

Second, we re-estimated the measurement model after excluding all items with factor loadings <0.50. This improved the composite reliabilities: composite materialism (0.83), success (0.77), centrality (0.75), and happiness (0.81) but the substantive results remained the same (Table S5). Third, we estimated our models on a subsample of the data including only participants who completed all measurement waves ($n=1102$) to rule out that the results are due to patterns of partial missingness. All substantive remained essentially unchanged (Table S6): Materialism and SWL were bidirectionally and negatively related in the CLPM but not in the RI-CLPM. Fourth, we relaxed the model constraint that the autoregressive and cross-lagged parameters are time-invariant and allowed them to vary across waves, to allow for more flexible temporal dynamics. All substantive findings again remained qualitatively the same (Table S7).

GENERAL DISCUSSION

The question of whether materialism is detrimental to subjective well-being is long-standing. Indeed, research has consistently documented a negative association between materialism and subjective well-being. This association has predominantly been interpreted as causal, with higher levels of materialism resulting in lower subjective well-being. However, most prior studies rely on cross-sectional data, which makes such causal inferences circumspect at best. Moreover, reverse causal relations are plausible but rarely examined, and the possibility that the negative relation between materialism and subjective well-being may be spurious is often overlooked.

The current research leverages longitudinal data across a 3-year period to better estimate possible causal effects of materialism on subjective well-being, and vice versa. In addition, moving beyond the few prior longitudinal studies in this domain, we compare the results from traditional CLPMs with those of newly developed RI-CLPMs. Whereas traditional CLPMs confound inter-individual associations with intra-individual

associations, RI-CLPMs separate these associations. This is important because only intra-individual associations can represent causal effects over time. Finally, and to provide more insights into the dynamics of the relations, we estimated all models for composite materialism and for each of the three facets of materialism, happiness, centrality, and success.

The key takeaway from the present research is that the analysis strategy impacts the findings and that traditional longitudinal analyses may suggest causal relations that are spurious. Our findings using traditional CLPMs are consistent with results from prior studies that have found negative relations between current materialism and subsequent life satisfaction (Jiang et al., 2016; Kasser et al., 2014; Wang et al., 2017). We also observed that current life satisfaction was negatively associated with subsequent materialism. In addition, these negative associations at the composite level were primarily driven by the happiness facet, which was negatively associated with subsequent life satisfaction, which in turn was negatively associated with subsequent scores on the happiness facet. Further, the success and centrality facets had positive associations with subsequent life satisfaction, and life satisfaction in turn was negatively related to subsequent scores on the success facet. These results are also largely in line with prior cross-sectional studies (Table S1 in the MDA).

However, the RI-CPLM analyses lead to very different conclusions (Table 4), finding no significant effects of composite materialism on life satisfaction, or vice versa. How can we reconcile these findings with those of the CPLM analyses? The RI-CPLM identifies a systematic negative association between materialism and SWL at the *inter*-individual level. Thus, people who tend to be more materialistic also tend to have lower life satisfaction. Because the traditional CPLM confounds intra-individual differences (changes within an individual) with inter-individual differences (differences between individuals), the significant reciprocal associations between materialism and life satisfaction in the CLPM reflect an association at the inter-individual level whereas the absence of effects at the intra-individual level in RI-CLPM indicates that this association at the inter-individual level cannot be treated as evidence for a causal effect.

These findings raise questions about the potential sources of the inter-individual association between materialism and life satisfaction. In other words, why would people who tend to be more materialistic also tend to have lower life satisfaction? Our analyses show that this inter-individual association is unlikely due to socio-economic characteristics of the participants; models in which these variables were included as covariates gave essentially the same results. One possibility is that stable person characteristics might jointly influence both materialism and life satisfaction, leading to potentially

TABLE 4 Summary and comparison of results

	CLPM	RI-CLPM	
	Inter- and intra-individual effect	Intra-individual	Inter-individual[a]
Composite materialism			
Materialism → Life satisfaction	Negative	Not significant	Negative
Life satisfaction → Materialism	Negative	Not significant	
Materialism facets			
Success → Life satisfaction	Positive	Not significant	Negative
Life satisfaction → Success	Negative	Not significant	
Centrality → Life satisfaction	Positive	Not significant	Not significant
Life satisfaction → Centrality	Not significant	Not significant	
Happiness → Life satisfaction	Negative	Not significant	Negative
Life satisfaction → Happiness	Negative	Negative	

[a]For the inter-individual effect, the parameters refer to a bidirectional association, which is why there is only one per pair of variables.

spurious relations between materialism and life satisfaction. To illustrate using results from a recent cross-sectional study (Górnik-Durose, 2020), our re-analysis of the results shows that the negative correlation between measures of subjective well-being and materialism ($r = -0.17$, $n = 286$, $p = 0.004$) becomes nonsignificant when controlling for neuroticism (partial $r = -0.03$, $p = 0.67$). Future studies may explore other potential sources of the inter-individual association (for a review, see Shrum et al., 2022).

Facets of materialism

A similar divergence of results that were observed for composite materialism was also observed for the materialism facets. With three facets and two directions of causal influence, there are six causal effects to be estimated. The traditional CPLM indicates five statistically significant directional relations, but the RI-CPLM identifies only one: Decreases in life satisfaction are associated with higher subsequent scores on the happiness facet of materialism. Thus, when people become less satisfied with their life, they become more inclined to believe that having more possessions would make them happier. We also find significant associations at the inter-individual level: People who tend to be less satisfied with their lives tend to score higher on both the success facet and the happiness facet of materialism. Again, this inter-individual association does not represent a causal effect, but it does raise the question about the drivers of that association, which future research may address.

Contributions and limitations

How do our findings add to prior theory and research? First, to be clear, we do not dispute the associations that have been documented in the past. Like Dittmar et al. (2014), we find that composite materialism is negatively associated with life satisfaction at the inter-individual level. However, our RI-CPLM results indicate that the association reflects mostly undirected differences between people rather than directed differences within people over time, which casts doubt on any causal interpretation of the negative associations between materialism and life satisfaction documented in past research.

Second, we acknowledge that interpretational challenges loom large, not only for cross-sectional studies but also for longitudinal studies analyzed with traditional CPLMs. These models do not disentangle inter-individual from intra-individual relations. Thus, the estimated effects are an unknown combination of both. Any causal conclusion based on CPLM estimates assumes that inter-individual associations are negligible, but as our RI-CPLM results show, they were substantial here, and much larger in size than the intra-individual associations were. Our findings emphasize the importance of using RI-CLPMs and related models (Usami, 2021) for longitudinal data to move one step closer to the causal inferences of interest.

Third, we do find that lower levels of life satisfaction are associated with higher subsequent levels of happiness materialism. This finding is consistent with studies showing that experimentally increasing well-being-related variables (e.g., self-esteem) decreases materialism (Chang & Arkin, 2002; Chaplin & John, 2007). Combined, these findings suggest a compensatory function of material values when other values or interests of consumers are challenged, which invites more theorizing and research.

We note several limitations of our study that provide potential avenues for future research. First, we only used a single measure of subjective well-being (life satisfaction); perhaps materialism has stronger causal effects on other measures of subjective well-being. Second, we did not include measures of personality traits, enduring states, and fundamental values, and thus we cannot

account for the inter-individual correlation between materialism and subjective well-being. Third, our findings crucially depend on the timing between measurement waves (Dormann & Griffin, 2015). Although measurement intervals of 6–12 months are consistent with prior longitudinal research (Jiang et al., 2016; Kasser et al., 2014; Pieters, 2013; Wang et al., 2017), it could be that effects between materialism and well-being either occur more quickly and then dissipate or occur over longer time periods. Experimental research indeed suggests that exposure to consumer cues, such as pictures of luxury goods, can activate short-term competitiveness and increased negative affect (Bauer et al., 2012). If these effects generalize to materialistic values, future longitudinal studies might find either weaker or stronger effects depending on the time lags between measurement waves.

In sum, a RI-CLPM estimated on longitudinal data across 3 years identifies new findings on the longstanding question about the materialism–well-being relation. It identifies a systematic association between composite materialism and subjective well-being between people, but only a systematic relation from current subjective well-being to later happiness materialism within people over time.

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CONFLICT OF INTEREST STATEMENT
None.

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