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Breaking the Loop: A Meta-Analysis on the Bidirectional Effects of Materialism on Social Well-Being Outlining Future Research Directions

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ABSTRACT

This meta-analysis examines correlational and experimental research linking materialism—broadly understood as an excessive focus on acquiring wealth and possessions that convey status—and social well-being—characterised by healthy interpersonal relationships and a sense of social support and integration. We identified 55 reports containing 72 independent studies and 123 effect sizes ($N = 44,376$). Meta-analytic calculations yielded a pooled effect of $r = -0.18$, suggesting that the effects of materialism on social well-being (e.g., loneliness or relationship satisfaction) may be greater than the effects of materialism on individual well-being (e.g., self-esteem or life satisfaction). Moderation analyses revealed that the effects are bi-directional, consistent across genders and cultures and significantly stronger in children and adolescents. These findings emphasise the universal and reciprocal link between materialism and social well-being and highlight the particular vulnerability of younger populations. Based on the results, we propose suggestions for further research to address the existing gaps and strengthen the current evidence, and recommend a sample size of 240 participants for correlational studies and 50 participants per group for experimental research. This work calls for targeted interventions and policies to tackle the adverse social effects of materialism, particularly among young populations.

1 | Introduction

Having healthy interpersonal relationships is considered a key factor in people's health (Cohen 2004; Holt-Lunstad, Smith, and Layton 2010) and well-being (OECD 2020; Ryff and Singer 2008), perhaps because seeking social acceptance, love and belonging is a basic psychological human need (e.g., Deci and Ryan 2000; Dweck 2017; Maslow 1943; Stevens and Fiske 1995). Popular culture and advertisement often present financial success and luxury consumption as a way of attaining social recognition and as a means to develop or strengthen interpersonal relationships. For example, movies such as *Clueless* (Heckerling 1995) or *Pretty Woman* (Marshall 1990) hint to the viewers that they can gain love and social status among their peers through high-end

consumption and gift-giving. Another example is the campaign 'The Cool Dad' by Volkswagen (2017), which shows how using their car can boost the social image of a family during the morning school drop-offs and contribute towards a better parent-child relationship. Interestingly, the evidence gathered in consumer research seems to offer little backing for this viewpoint.

Studies have shown that the endorsement of materialism, typically understood as a disproportional focus on acquiring wealth and possessions that convey status, is often fuelled by loneliness and a need to belong (e.g., Jiang et al. 2015; Pieters 2013; Ward et al. 2020). However, at the same time, endorsing materialistic and consumer culture ideals leads to lower social well-being (e.g., Norris et al. 2012) as materialistic individuals seem to struggle to

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connect with others (Hui and Tsang 2017) and are less willing to invest time in socialising (Bauer et al. 2012). Thus, individuals attempting to improve or develop their social connections by adopting consumerist behaviours find themselves caught in a detrimental cycle, where they increasingly rely on consumer culture to fulfil their social needs, but their materialistic ideals lead them towards attitudes and behaviours that further disconnect them from their social environment (Pieters 2013). Nevertheless, no prior work has systematically reviewed and analysed the current evidence looking at the negative link between materialism and social well-being. Hence, this report will examine the relationship between materialism and social well-being by meta-analytically reviewing the correlational and experimental data. The aim is to determine the magnitude of the effect, identify potential moderating variables, and highlight existing gaps in research that may inform future research directions in this field. This examination is particularly relevant as the data indicates a steady global increase in marketing expenditures (Statista 2023), a robust expansion in the international market for luxury and high-end products (Bain and Company 2023), and a marked surge in the availability of ‘buy now, pay later’ purchasing options (GlobalData 2023). This suggests that materialistic ideals are being increasingly promoted globally and that consumers are progressively endorsing them as they spend more on gaining social status and are even willing to get into personal debt to obtain desired goods and services. Therefore, this work will help us better understand how values around wealth and consumption that are globally promoted at a societal level might influence peoples’ interpersonal relationships and vice versa. As a result, the present research will contribute to the literature on materialism and well-being by quantifying the strength of the effect, testing its bi-directionality and potential moderators, identifying research gaps and outlining future research directions. Moreover, this examination could also have practical implications for counselling, mental health charities and policymakers as it could inform about which specific populations might be more vulnerable to experiencing the adverse effects of endorsing materialism and, thus, plan strategies to counteract these effects.

Over the past decade, four meta-analyses have explored the connections between materialism and individual well-being (see Bradshaw et al. 2023; Dittmar et al. 2014; Moldes and Ku 2020; Zhou et al. 2022). However, while these reports mainly focused on personal well-being, they were limited in examining the reciprocal links between materialism and social well-being. For instance, the meta-analysis by Dittmar et al. (2014), which focused on correlational studies, excluded measures of interpersonal relationships, limiting its scope to indicators of subjective well-being (e.g., life satisfaction or positive affect), self-appraisals (e.g., self-esteem or self-doubt), mental health (e.g., depression or anxiety) or health risks (e.g., alcohol or drug use). Along the same lines, Zhou et al. (2022) did not investigate any measures related to social well-being, and their analysis was limited to China. Moreover, Bradshaw et al.’s (2023) work combined all well-being indicators, such as relatedness and positive affect, into one single score. In addition, their systematic examination only looked at intrinsic and extrinsic goal orientations, thus excluding studies using materialistic values (Richins and Dawson 1992) or a materialistic personality trait measure (Belk 1985). Therefore, none of the three meta-analyses focused on correlational research has investigated the relationship between materialism and social well-being. It

should be noted that Moldes and Ku’s (2020) meta-analysis on experimental research did include interpersonal relationships as a separate component of well-being, finding that materialism causes bigger effects on interpersonal well-being than on other well-being indicators such as self-esteem. Nevertheless, this work examined only experimental studies looking at the direction of causality from materialism to well-being and did not test for moderation effects. As a result, our present report will extend prior research by meta-analytically examining both the correlational and experimental evidence linking materialism and social well-being in both directions of causality and test for moderation factors that might influence these effects.

2 | What Is Materialism?

The construct of materialism began to take shape in consumer psychology during the mid-1980s (Belk 1985) and early 1990s (Richins and Dawson 1992). The main aim of research on this phenomenon has been to understand the causes and consequences of people’s endorsement of consumer culture values. An early theoretical view on materialism proposed to approach it as a set of personality traits involving possessiveness, envy and lack of generosity (Belk 1985). However, the most commonly adopted conceptualisation of materialism understands it as a set of beliefs and values that involve seeking happiness, identity and success through the acquisition of wealth and material possessions (Richins and Dawson 1992). Other approaches from social psychology have defined materialism as a disproportionate emphasis on pursuing the extrinsic goals of financial success and social status at the detriment of seeking intrinsic life goals such as social affiliation or a community feeling (Kasser and Ryan 1993). Significantly, the personality-trait, value-based and goal-focused approaches are not mutually exclusive. Beliefs and values related to wealth and possessions might drive individuals to pursue goals related to both financial and social status, which may, in turn, foster behavioural tendencies such as envy and a lack of generosity in social interactions. Our current work employs a comprehensive approach to materialism, integrating various conceptualisations and operationalisations to enhance our understanding of its relationship with social well-being. We adopt a broad definition from past meta-analytical work, describing materialism as “values, goals, and associated beliefs that centre on the importance of acquiring money and possessions that convey status” (Dittmar et al. 2014, 880). Additionally, we explore differences among the distinct measures of materialism to assess how they may influence its effect on social well-being.

3 | What Is Social Well-Being?

In the literature on interpersonal relationships, several approaches have been used to characterise social well-being at an individual level. Some authors conceptualised social well-being as a combination of *social adjustment*, which includes satisfaction with one’s relationships and performance in their social roles, and *social support*, defined by the number of contacts within a social network and the quality of their relationships (Larson 1993; McDowell 2006). Other authors have focused on the number of interpersonal interactions, the frequency of positive contacts with friends and family, social participation and active involvement

with social groups or activity clubs (Bowling 1997). Yet another approach defined social well-being as an individual's subjective perception of integration and sense of belonging (Keyes 1998).

This report integrates prior conceptualisations from the literature and defines social well-being as *a state of relational fulfilment characterised by positive and supportive interpersonal connections, and a sense of belonging and integration with one's social environment*. In this context, social well-being refers to the quality and depth of an individual's interpersonal bonds, the availability of support networks, and the sense of community and acceptance experienced within their social environment. As a result, social well-being can be assessed as a combination of objective measures (e.g., the number of members within one's social network and group membership or the frequency of contact with each group or individual members) and subjective indicators, which include one's subjective assessment of the quality of their interpersonal relationships (e.g., relational satisfaction, perceived support, conflict and closeness) and the perceptions of one's integration and acceptance within their social environment (e.g., loneliness or social acceptance). Such a holistic conceptualisation is consistent with the social cohesion approach that has identified one's sense of belonging and the quality of their social relationships as core elements of this construct (Schiefer and van der Noll 2017). Moreover, our conceptualisation of social well-being is also aligned with the measure of social connection used for assessing people's positive social relationships by the International Organization for Economic Cooperation and Development (Fleischer, Smith, and Viac 2016).

4 | What Is the Link Between Materialism and Social Well-Being?

Materialism is a socially learned value largely acquired through one's environment (Giddens, Schermer, and Vernon 2009; Shrum, Chaplin, and Lowrey 2022). Socialisation processes in

childhood, such as parental styles (Richins and Chaplin 2015) and parents' own materialistic values (Zawadzka et al. 2021), along with disappointing or frustrating parent-to-child (Chaplin and John 2010) and peer-to-peer interactions (Banerjee and Dittmar 2008) play a key role in the endorsement of materialism at an early age. In adulthood, loneliness (Loh, Gaur, and Sharma 2021; Pieters 2013), perceived social exclusion (Liang et al. 2018) or the quality of one's interpersonal relationships (Christopher et al. 2004) have been found to be related to materialistic values. Nevertheless, materialism has not only been conceptualised in the literature as a *consequence* of maladaptive, disappointing or frustrating socialisation experiences (e.g., Chaplin and John 2010; Loh, Gaur, and Sharma 2021). It has also been thought to *cause* poor interpersonal well-being (e.g., LeBaron, Kelley, and Carroll 2018; Moldes and Ku 2020). Hence, the relationship between materialism and well-being is inherently bidirectional (see Figure 1).

On the one hand, research looking at materialism as a *consequence* of poor interpersonal relationships proposes that materialism is endorsed as a coping or compensatory mechanism to deal with dysfunctional attachment, social insecurities and negative emotions that emerge in frustrating or disappointing social interactions (Donnelly et al. 2016; Gasiorowska, Folwarczny, and Otterbring 2022; Keefer et al. 2012). Therefore, materialism is conceptualised as a defence strategy that provides individuals with a sense of security and comfort that they have been unable to find in their social environment.

On the other hand, research looking at materialism as a cause of poor interpersonal relationships has generally used the value-based theoretical framework of self-determination theory (SDT: Deci and Ryan 2000). SDT proposes that individuals who primarily focus on pursuing extrinsic goals, such as financial success, often become distracted from seeking intrinsic goals, such as social affiliation, which can better satisfy the basic psychological needs of autonomy, competence and belongingness (Deci

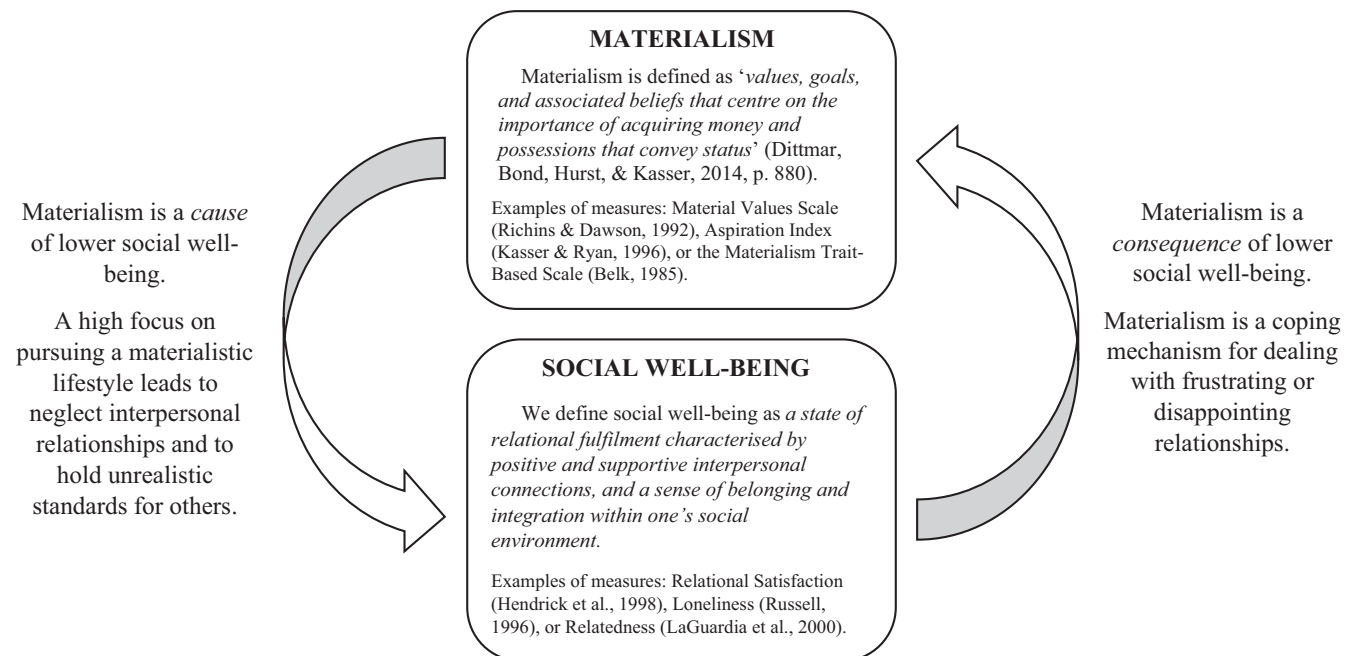


FIGURE 1 | Summary of the conceptualizations of materialism and social well-being constructs and their bi-directional theoretical links.

and Ryan 2000). Therefore, SDT suggests that individuals with a higher endorsement of materialism will also be more likely to spend their resources (i.e., time and money) seeking wealth and social status than pursuing social affiliation. Consequently, this will reduce interpersonal well-being as nurturing their social relationships will be neglected. Supporting these claims, experimental research has shown that when the pursuit of wealth and material things and social status is made salient, individuals are less willing to spend time with others (Bauer et al. 2012) or be willing to help other people (Lamy et al. 2016). Moreover, recent research proposes a cognitive-based approach indicating that materialism leads to higher standards for others, which in turn results in poorer interpersonal dynamics (Moldes, 2024). This work found that materialism raises the ideals we hold for our loved ones, particularly in terms of personality traits like ambition and physical characteristics like attractiveness, leading to increased interpersonal conflict and reduced relationship satisfaction.

5 | Research Aims

The present research will meta-analytically review the current correlational, longitudinal and experimental research linking materialism and social well-being to assess the strength and directionality of the effects and identify possible factors that could moderate the relationship. Moreover, this report also aims to identify research gaps, differences and parallelism with other well-being factors and to develop an informed research programme looking at the materialism—social well-being circle that will help us better understand the social causes and consequences of endorsing beliefs and attitudes that heighten the importance of possessions and wealth.

6 | Systematic Literature Search

To answer these research questions, a systematic literature search was initially conducted in February 2020 and further updated in February 2023 in Scopus, Web of Science and PsycINFO by the first author of this report (see [Supporting Information](#): Table A for a detailed account of the search terms used). The database search was followed by an ascendancy and descendancy search of key papers in the literature. Moreover, key authors within this literature were contacted by email for unpublished studies. This process initially identified a total of 1969 documents for screening (see Figure 2).

6.1 | Inclusion and Exclusion Criteria

6.1.1 | Materialism

Reports were included if they contained a measure of materialism that met the criteria used in past meta-analytical work in this area (i.e., Dittmar et al. 2014; Moldes and Ku 2020). For example, studies were included if they contained measures such as the Material Values Scale (MVS: Richins and Dawson 1992), the Aspiration Index (AI: Kasser and Ryan 1993), a materialism trait-based scale (Belk 1985) or any other self-developed measure containing one or multiple dimensions of the construct of materialism described by prior literature (e.g., excessive attachment

to possessions, a search for happiness through the purchase of material items, or a disproportionate emphasis on pursuing financial success and/or social status). However, following the procedures of past meta-analytical work on materialism (i.e., Dittmar et al. 2014; Moldes and Ku 2020), studies that primed the concept of ‘money’ or those in which participants received a sum of money as a part of the manipulation were not included as prior authors have argued that materialism goes beyond a desire for money (Burroughs and Rindfleisch 2002; Dittmar et al. 2014).

6.1.2 | Social Well-Being

Studies were included if they contained a measure directly looking at social well-being through (1) objective measures on the quantity of social contacts (e.g., frequency or number of contacts); (2) subjective indicators on the quality of one’s interpersonal relationships (e.g., satisfaction or relational quality); (3) measures looking at social integration or social acceptance (e.g., loneliness or social exclusion). Reports reviewing a desire for affiliation (e.g., Jaspers and Pieters 2016), positive attitudes towards marriage and having children (e.g., Li et al. 2015), conflict of values (e.g., Burroughs and Rindfleisch 2002; Edey and Knight 2018) or work–family conflict (e.g., Gong et al. 2020; Promislo et al. 2011) were excluded as these measures do not directly look at the quality or quantity of one’s interpersonal relationships nor their social integration. Furthermore, reports containing measures that look at general interpersonal behavioural patterns such as cooperation propensity (e.g., Wu et al. 2022), attachment styles (e.g., Gasiorowska, Folwarczny, and Otterbring 2022; Watson and Howell 2023), help-seeking attitudes (e.g., Bible et al. 2021) or social support coping strategies (e.g., Dunkeld et al. 2020) were also excluded. Even if these individual tendencies might influence one’s interpersonal relationships, they do not directly assess social well-being. Moreover, in the analysis of experimental research, studies were excluded if there was no control group for comparing social well-being manipulation (e.g., Jaehoon Lee, Shrum, and Yi 2017).

7 | Results

7.1 | Descriptive Statistics

A meta-analysis was conducted on studies that reported a correlation coefficient between materialism and social well-being or a mean difference between groups in which materialism or social well-being was manipulated. After excluding studies where data was unavailable nor facilitated upon request, the final sample contained 55 reports that included 72 independent studies containing 44,376 participants (for a detailed review of all of the studies included and effect sizes, see [Supporting Information](#): Tables B–D). Of the total sample, 55% were women; 56% of the data was collected in the United States ($n=24,732$), 13% in China ($n=5623$), 11% in South Korea ($n=4974$), 5% in the United Kingdom ($n=2165$), 4% in the Netherlands ($n=1721$), 3% in Singapore ($n=1134$), 2% in South Africa ($n=826$), 2% in Malaysia ($n=822$), 2% in France ($n=771$), 1% in Canada ($n=660$), 1% in Japan ($n=381$), 0.64% in Greece ($n=285$), 0.37% in Australia ($n=162$) and 0.27%

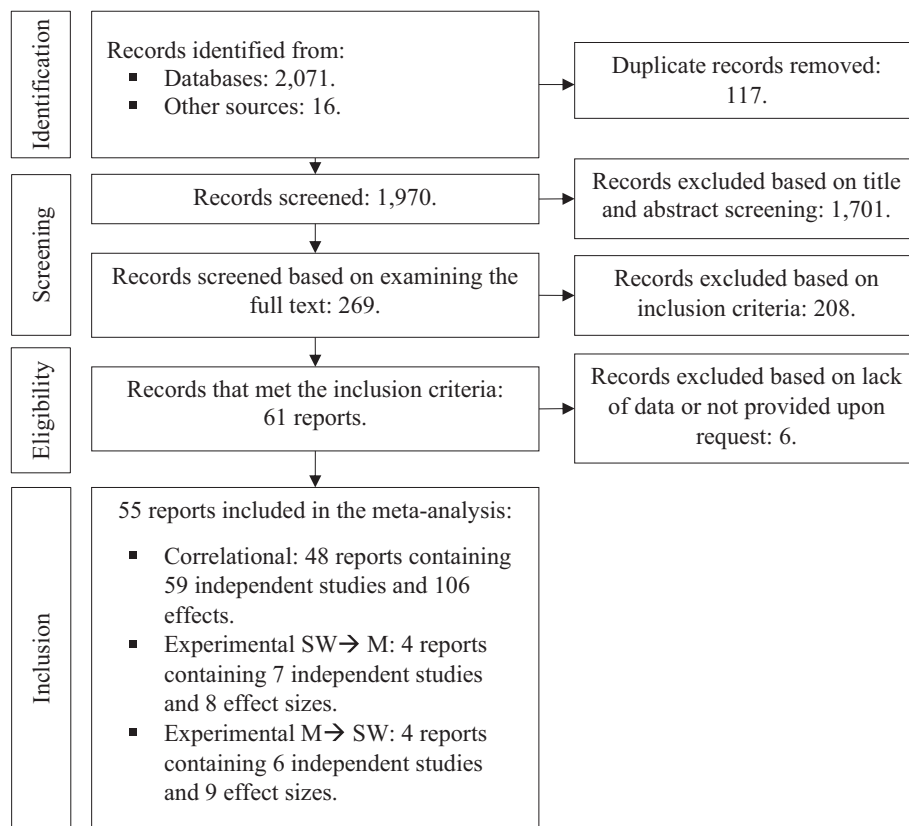


FIGURE 2 | Flow diagram of the systematic literature search. This diagram was created following the American Psychological Association Meta-Analysis Reporting Standards (MARS).

in Thailand ($n = 120$). Therefore, 78% of the data came from Western countries. Moreover, 34% of the sample belonged to the general population, 32% were university students, 17% were teenagers and 8% were children. The sample sizes of the included studies ranged from 50 to 10,669 participants, with a mean of 616 and a median of 278.

7.2 | Data Coding

For each study, the first author of this report coded (a) the country of origin and region (East/West); (b) the % of females in the sample; (c) the mean age or age range; (d) the population type (i.e., children, adolescents, University students or general population); (e) the number of participants in the sample; (f) the materialistic measure or manipulation used; (g) the social-well-being measure or manipulation used; (h) the hypothesised or tested direction of causality and (i) effect size provided in the report or calculated based on the data reported or provided by the authors through email correspondence. The second author of this report also coded 20% of the sample and confirmed the data extracted by the first author with an inter-correlation rate agreement of 100% (inter-rater reliability of Cohen's kappa = 1).

7.3 | Data Analysis

Random effect models were carried out using a restricted maximum likelihood estimator following the recommendations concerning meta-analytical work conducted in the

social sciences with continuous variables (Veroniki et al. 2016; Viechtbauer 2005) and used by past meta-analyses in this area (i.e., Dittmar et al. 2014; Moldes and Ku 2020). The effect size (Cohen's d) was transformed into Pearson's r for experimental studies.¹ Also, following statistical recommendations and prior work in this area, correlations coded as Pearson's r were transformed into Fisher's z , and the standard errors for z were calculated. The estimates from the meta-analytical calculations were later converted into the r metric to aid interpretation and comparisons. We used the open-source statistical software R with the package *metafor* (Viechtbauer 2010) for the reported analyses. Furthermore, to correct the direction of the effect and follow past procedures, the valence of the well-being measures was adjusted by multiplying the coded effect by 1 for positive interpersonal well-being measures (e.g., relationship satisfaction) or -1 for negative ones (e.g., loneliness).

A three-level model was performed (effect sizes at level 2, clustered within studies at level 3) to avoid having a single study contributing several times to the overall effect size calculation and, therefore, conforming with the independence assumption (Cheung 2014). A baseline meta-analysis showed a pooled effect of $r = -0.17$ (Fisher's z transformed $r = -0.18$, $SE = 0.01$, 95% CI $[-0.20$ to $-0.15]$, $p < 0.001$ (see Table 1). The three-level model clustered within studies provided a significantly better fit than the two-level model without clustering, $\chi^2(1) = 30.71$, $p < 0.001$. Further examinations of the data revealed three outliers (see Supporting Information: Figures A and B). When the outliers were removed from the meta-analytical calculations, the overall pool effect experienced a minor increase, $r = -0.18$

(Fisher's z transformed $r = -0.18$), $SE = 0.01$, 95% CI $[-0.20$ to $-0.15]$, $p < 0.001$ (see [Supporting Information](#): Figure C), suggesting that these three effect sizes had an impact on the pooled effect. Moreover, the heterogeneity in the sample also significantly decreased from $Q(122) = 1029.62$, $p < 0.001$ in the model, including the outliers, to $Q(119) = 828.01$, $p < 0.001$ in the model that excluded these three studies. An analysis of the variance at different levels using the package *dmetar* (Harrer et al. 2021) revealed that the total variance not attributable to sampling error was $I^2 = 89.83\%$ and that it was distributed across Level 2 (within study) $I^2 = 25.37\%$, and Level 3 (between studies) $I^2 = 64.46\%$ suggesting that the variability was predominantly across studies included in the analyses, but also that the effects sizes within each study presented some variation worth exploring. When this examination was done without the identified outliers, the variance at the different levels was $I^2 = 84.93\%$, and it was distributed across Level 2 (within study) $I^2 = 31.11\%$, and Level 3 (between studies) $I^2 = 53.81\%$ suggesting that the three outliers identified accounted for 10.65% of the variance found between studies and 4.9% of the total variance. Further moderation analyses using between-studies variables (e.g., population type or region) and between-effect sizes factors (e.g., well-being measures) were then performed to identify other possible sources of heterogeneity (Table 1).

7.4 | Moderation Analyses

Moderation analyses were performed to investigate possible sources of heterogeneity further (see Table 1).

7.4.1 | Methodology

A variable indicating the research design (1 = Correlational $k = 113$ and 0 = Experimental $k = 10$) was coded and introduced as a predictor in the model. The results suggested that the methodology was a significant moderator, $F(1, 118) = 8.59$, $p = 0.004$. It is also worth highlighting that the I^2 for both cases was lower than the baseline model (see Table 1). Independent meta-analyses for each subset suggested that experimental studies presented higher effects than correlational studies (correlational $r = -0.17$; experimental: $r = -0.28$).

7.4.2 | Direction of Causality

The direction of the effect was tested as a potential moderator. For experimental studies, the variable manipulated was used to indicate the direction of the effect, while for correlational studies, we used the authors' hypothesised direction of the effect. Therefore, a variable was coded for the moderation analyses (i.e., materialism as a cause = 1 or as a consequence = 0 of lower interpersonal well-being). A first model testing, the direction of causality was tested with both correlational and experimental studies. The results showed that there were no significant effects, $F(1, 105) = 0.46$, $p = 0.500$. Moreover, when the moderation test was conducted only on the experimental subset, the results also suggested that there were no differences in the effects reported between studies looking

at materialism as an antecedent ($k = 8$) or as an after-effect ($k = 9$), $F(1, 15) = 2.57$, $p = 0.130$.

7.4.3 | Region: Western Versus Eastern Populations

Given that cross-cultural research suggested differences in the effects of materialism on interpersonal well-being between Western (coded as 1) and Eastern (coded as 0) countries (i.e., Yoo et al. 2020). The region in which the sample was taken was tested as a moderator. The results suggested that the area in which the sample was collected was not significant as a moderator: $F(1, 118) = 1.22$, $p = 0.272$. Independent meta-analyses for each subset suggested that Eastern populations presented slightly higher effects (West: $r = -0.17$; East $r = -0.18$). However, it is worth noting that the confidence intervals for the effects largely overlap.

7.4.4 | Population Type and Age

Materialism has been found to be stronger in younger populations and to fluctuate across one's lifespan (Jaspers and Pieters 2016; Jiang, Liu, and Jiang 2021), the type of population was tested as a moderator. Adults included general population samples and university students' samples (coded as 1), and children and adolescents included samples with populations younger than 18 years old (coded as 0). The results suggested a significant moderation effect, $F(1, 118) = 7.28$, $p = 0.008$. Separate meta-analyses conducted in each subset revealed that the effects found in the general adult and university student populations were slightly lower ($r = -0.16$ for both subsets) than the effects seen in children and adolescents ($r = -0.20$ and $r = -0.21$, respectively). Moreover, the mean age of the participants was also a significant moderator in the model, $F(1, 76) = 4.27$, $p = 0.042$.

7.4.5 | Gender

Past research has provided mixed results on the moderation of gender in the link between materialism and social well-being, as some studies suggested stronger effects for women versus men groups (i.e., Dean, Carroll, and Yang 2007), but others did not find a significant moderation of gender (i.e., Manchiraju, Sadachar, and Manchanda 2021). Therefore, we tested gender as a potential moderator in the relationship between materialism and interpersonal well-being by using the percentage of females reported for each sample as a moderator. The results suggested that gender was not a significant moderator, $F(1, 102) = 0.31$, $p = 0.577$.

7.4.6 | Social Well-Being Measure

7.4.6.1 | General Versus Specific Social Roles. The type of social well-being measures included in the studies could be divided by whether they collected a general measure (e.g., loneliness) or a measure of a specific interpersonal relationship (e.g., relational satisfaction with a spouse). Therefore, we tested this difference (general coded as 1 and specific dyads coded as

TABLE 1 | Summary of the results.

Moderator	k	n	r	95% CI	SE	p	Q (df)	I²	Test for moderation
Baseline	123	44,376	-0.17	-0.20 to -0.15	0.01	<0.001	1029.62 (122)	64.46%	
Without outliers	120	43,771	-0.18	-0.20 to -0.16	0.01	<0.001	828.01 (119)	53.81%	
Methodology									<i>p</i> = 0.004
Correlational	103	42,520	-0.17	-0.19 to -0.14	0.01	<0.001	765.18 (102)	51.06%	
Experimental	17	1251	-0.28	-0.33 to -0.22	0.03	<0.001	17.22 (16)	15.62%	
Directionality									<i>p</i> = 0.500
Intercept			-0.17	-0.20 to -0.14	0.01	<0.001	724.49 (105)		
Direction of causality			-0.02	-0.07 to 0.03	0.02	0.500			
Only experimental studies									<i>p</i> = 0.130
Cause	9	596	-0.31	-0.37 to -0.25	0.03	<0.001	4.34 (8)	0%	
Consequence	8	655	-0.25	-0.34 to -0.14	0.04	<0.001	10.31 (7)	0%	
Region									<i>p</i> = 0.272
West	82	34,593	-0.17	-0.19 to -0.14	0.02	<0.001	475.81 (81)	59.03%	
East	38	9178	-0.20	-0.24 to -0.15	0.02	<0.001	244.97 (37)	47.66%	
Population									<i>p</i> = 0.008
General population	47	14,841	-0.16	-0.18 to -0.11	0.01	<0.001	133.62 (46)	69.16%	
University students	30	14,149	-0.16	-0.21 to -0.12	0.02	<0.001	107.14 (29)	79.28%	
Adolescents	28	7537	-0.21	-0.27 to -0.14	0.03	<0.001	191.64 (27)	59.40%	
Children	14	3567	-0.20	-0.29 to -0.11	0.04	<0.001	91.34 (13)	64.69%	
Age	78								<i>p</i> = 0.042
Intercept			-0.24	-0.30 to -0.18	0.03	<0.001	392.22 (76)		
Mean age			0.00	0.00 to 0.01	0	0.042			
Gender	104								<i>p</i> = 0.577
Intercept			-0.18	-0.20 to -0.15	0.01	<0.001	478.90 (102)		
Women proportion			-0.00	-0.19 to 0.05	0	0.577			
Social well-being measure									<i>p</i> = 0.845
General	57	17,128	-0.18	-0.20 to -0.15	0.01	<0.001	138.15 (56)	59.43%	
Specific social role	63	26,643	-0.17	-0.21 to -0.14	0.02	<0.001	659.57 (62)	60.97%	
Social role									
Parent-child (adults)	8	2117	-0.07	-0.11 to -0.03	0.02	<0.001	7.82 (7)	0%	
Parent-child (child)	26	9866	-0.23	-0.30 to -0.18	0.03	<0.001	149.16 (25)	65.27%	
Romantic relationships	13	3667	-0.11	-0.14 to -0.08	0.01	<0.001	13.56 (12)	15.39%	
Friends (adults)	4	11,074	-0.17	-0.45 to -0.10	0.09	0.142	27.41 (3)	88.80%	

(Continues)

TABLE 1 | (Continued)

Moderator	<i>k</i>	<i>n</i>	<i>r</i>	95% CI	SE	<i>p</i>	<i>Q</i> (df)	<i>I</i> ²	Test for moderation
Friends (children)	8	5004	-0.22	-0.32 to -0.12	0.04	0.001	68.52 (7)	85.12%	
Siblings	2	406	0.05	-0.50 to 0.60	0.05	0.500	0 (1)	0%	
Valence									<i>p</i> = 0.827
Positive	82	33,377	-0.17	-0.20 to -0.14	0.02	<0.001	678.70 (81)	64.03%	
Negative	38	11,054	-0.18	-0.21 to -0.15	0.02	<0.001	110.25 (37)	29.80%	
Materialism measure									<i>p</i> = 0.142
Materialistic Value Scale	64	23,676	-0.16	-0.18 to -0.13	0.01	<0.001	219.85 (63)	33%	
Youth Materialism Scale	16	4515	-0.23	-0.291 to -0.16	0.03	<0.001	84.21 (15)	56.36%	
Aspiration Index	5	11,216	-0.19	-0.36 to -0.01	0.06	0.043	30.77 (4)	92.84%	
Own measure	17	7863	-0.15	-0.20 to -0.10	0.02	<0.001	149.37 (20)	31.29%	
Trait measure	2	200	-0.16	-0.71 to 0.52	0.06	0.223	1.32 (1)	0%	

0) as a potential moderator. The results revealed no significant moderation of the two types of measure used, $F(1, 118)=0.04$, $p=0.845$. Separate meta-analytical analyses conducted in each subset revealed similar effects (general: $r=-0.18$ and dyads $r=-0.17$) and largely overlapping confidence intervals.

7.4.7 | Differences Among Social Roles

Separate analyses were also performed for the different social roles to understand whether distinct social agents could present differential effects. The results suggested stronger effects were found in parental bonds ($r=-0.23$) and among friends ($r=-0.22$) for younger populations. Moreover, there was also a significant effect when looking at romantic relationships ($r=-0.17$). However, there were no significant effects for siblings or peer-to-peer connections in adults. This suggests that there is some variability in the effects across social agents. Nevertheless, it is worth noting that the number of effects included in some of the categories is too small to rule out effects or conduct further moderation analyses.

7.4.8 | Well-Being Measure: Valence

Given that past meta-analytical research found differences in the effect sizes between positive and negative well-being measures (Dittmar et al. 2014), the valence of the measures collected was tested as a possible moderator. Positive measures, such as belongingness or satisfaction with relationships, were coded as 1, and negative measures, such as loneliness or conflict, were coded as 0. The results revealed that the valence of the measure was not a significant moderator, $F(1, 118)=0.05$, $p=0.827$. Independent analyses for the studies using positive measures revealed similar effects for positive ($r=-0.17$) and negative ($r=-0.18$) valence measures.

7.4.9 | Materialism Measure

The most frequent measure used in the literature was the Materialistic Value Scale (MVS: Richins 2004; Richins and Dawson 1992), followed by studies that developed their own measures, the Youth Materialism Scale (YMS: Goldberg et al. 2003), the Aspiration Index (Kasser and Ryan 1996) and finally, the personality-based approach (Belk 1985). A pooled effect was calculated for each subset to examine whether the effect sizes differ among studies using different approaches to measure materialism. The results suggested that larger effects were found in studies collecting the YMS ($r=-0.23$) in comparison with reports using the AI measure ($r=-0.19$), the MVS ($r=-0.16$) or studies using their own measure ($r=-0.15$). The only study that collected the trait measure revealed non-significant effects. It is worth noting that the studies using the YMS measure recruited children and adolescents. Hence, this effect might be conflated with the effect found for younger populations. Moreover, some of the subgroups included a small number of effect sizes, so their pool effects might be biased.

7.5 | Publication Bias

Selective reporting can impact the findings of a meta-analysis (Rodgers and Pustejovsky 2021). To address this issue, authors in the area of materialism were contacted for unpublished datasets and studies. Furthermore, an examination of the studies included in the sample was carried out. First, an initial visual inspection of the funnel plot suggested a symmetrical distribution of the effects (see Supporting Information: Figure D). Then, Egger's regression test (Egger et al. 1997) was conducted on the correlational and experimental subsets separately to reduce heterogeneity in the sample, confirming that publication bias in the sample was not a cause of concern ($p=0.662$ and $p=0.227$, respectively).

8 | Discussion

This research is the first meta-analytic assessment of the correlational and experimental research linking materialism and social well-being. It contributes to the literature examining the dark side of consumption by demonstrating that the adverse effects of endorsing materialistic ideals on interpersonal health are bi-directional, consistent across genders and cultures and stronger in younger populations but might differ across social agents. It also contributes to the literature on materialism by evaluating the strength of the current empirical evidence and by identifying several research gaps, which are discussed below.

The meta-analytical examinations revealed a pooled correlational effect of $r = -0.18$, supporting the negative link between materialism and social well-being. This finding contrasts with the media and advertising claims that portray the acquisition and utilisation of consumer goods as a means to forge or enhance social bonds. Moreover, the findings indicate that materialism may have a more pronounced negative impact on social well-being compared to other dimensions of well-being (e.g., self-esteem), evidenced by the reported coefficient ($r = -0.15$) in Dittmar et al. (2014), which supports the findings of Moldes and Ku (2020) with a correlational and larger sample.

Overall, the moderation analyses revealed no differences in the reported effects between Eastern and Western populations or gender groups, suggesting that the negative effect between materialism and social well-being may be relatively independent of cultures and gender roles. In other words, the effects of materialism on social well-being were consistent and robust across cultures and genders. These findings contrast with published studies showing that culture (Yoo et al. 2020) and gender (Dean, Carroll, and Yang 2007) moderate the effects of materialism on social well-being. Therefore, the results of the present meta-analyses indicate that the previously found moderation effects may have been the result of specific sample characteristics and contextual effects, suggesting that while some data sets may show a moderation effect, these results are not generalisable. Therefore, further research should investigate which specific contexts and subpopulations might enhance or suppress the effect of materialism on social well-being, as these factors could be crucial for developing future interventions.

In addition, the moderation analyses showed that the effects were significantly more pronounced in younger populations than in adult samples. These results suggest that younger people are more susceptible to adopting consumer culture ideals to overcome lower social well-being because they generally have less life experience and, therefore, have developed fewer coping strategies and a critical understanding of their environment. As a result, they are more susceptible to the influence of consumer culture messages disseminated in the media and advertising. In support of this explanation, research on children has shown that the link between peer rejection and materialism is mediated by the belief that acquiring 'cool things' will help them gain social acceptance (Banerjee and Dittmar 2008). Another interpretation is that younger people are more strongly motivated by pursuing social status and peer group positioning than adults (Chan

and Prendergast 2007). As the pursuit of social status is often associated with intense competition, this can potentially have a detrimental effect on their social well-being. Overall, these moderation effects contrast with the findings of Dittmar et al. (2014), who found the opposite effect, as they observed a stronger relationship between materialism and individual well-being in older populations. This suggests that younger populations may be more resistant to the effects of materialism on their individual well-being, as measured by indicators like self-esteem and life satisfaction. Such resistance could be attributed to their generally lower sense of a defined identity. At the same time, younger populations may also have lower emotional regulation; therefore, higher materialistic attitudes (e.g., the desire to play with the latest brand-name toy) could lead to more interpersonal conflict (e.g., emotional tantrums with their caregivers or peers). What is more, adults have greater access to money and possessions and a greater sense of identity. This could make them more likely to turn to materialism to compensate for their perceived deficits in self than younger people.

Finally, the present report also found similar effects in both directions of causality. This contrasts with prior findings from a longitudinal study that revealed larger effects of loneliness on materialism (Pieters 2013) than the opposite effect. Again, these contrasting results could be due to the specific cultural context, measures and sample characteristics of the data collected in the specific study. Therefore, the results call for further work looking into possible moderation effects within the materialistic and social well-being loop. Overall, this finding highlights the need for future research to conceptualise materialism as both a *cause* and a *consequence* and to further investigate the cyclical interaction between materialism and social well-being.

8.1 | Future Research Directions

The present work identified several underdeveloped areas that could strengthen and expand the literature. First, the current report shows that the empirical evidence linking materialism and social well-being is mostly correlational and based on data that has been predominantly collected in Western countries and adult populations. Therefore, further work should use a wider range of research methodologies, including experimental and longitudinal studies and mixed methods approaches that incorporate qualitative research aspects such as observational studies (e.g., Hui and Tsang 2017) or interviews, which are often used to assess social ties in the literature on interpersonal relationships (Manning and Kunkel 2014). These approaches would contribute to a better understanding of the causality and underlying mechanisms that play a role in this cycle. To achieve further generalisability, future research should also collect more diverse samples from non-Western societies, including Africa and South America, which are currently lacking, as this would shed some light on the specific cultural values, economic conditions or social structures that might enable or suppress these effects.

Second, it is possible that the relationship between materialism and social well-being is not linear. Therefore, further work using different methodologies and analyses could help to understand better the mutual associations between materialism and social well-being in both causal directions. Traditionally, research

assumes a unidirectional relationship between materialism and various aspects of social well-being. However, based on the findings of the current meta-analysis, we propose exploring dynamic, circular models where the psychological mechanisms of interest mutually reinforce each other. Moreover, it has been shown that as a socially learned value, materialism could be enhanced or diminished through interventions (Zawadzka et al. 2019) or disruptive contexts (Moldes, Dineva, and Ku 2022). Therefore, further interventional studies are needed to test how improving people's social well-being could diminish materialism and vice versa.

Third, there is a need to further understand the impact of materialism on social roles, as the results from this report suggested that some differences may exist across distinct social agents. Each social relationship across one's social network will likely vary in closeness, power dynamics, type of support or other factors that could influence the link between the endorsement of materialism and the quality of their interpersonal bond. Therefore, it is possible that the health of different types of relationships might impact one's adherence to materialistic ideals and vice versa. As a result, research using network analyses or collecting data from multiple social agents is needed.

Fourth, as suggested by Moldes and Ku (2020), information on the socio-economic status of the samples used to examine the causes or effects of materialism is often missing. Yet, socio-economic status has been found to play an important role in interpersonal relationships (Bianchi and Vohs 2016) and the endorsement of materialism (Li et al. 2018). Therefore, future research should collect and publish information on the socio-economic status of their samples in a way suitable for cross-country and historical and temporal comparisons because this factor might play an important role in this negative reinforcing circle.

Fifth, several factors correlated with materialism could also indirectly affect one's social well-being. Examples are dark personality traits like narcissism and meanness (e.g., Otero-López and Villardefrancos 2013; Pilch and Górnik-Durose 2016), mental health indicators related to socialisation processes, such as social anxiety or public self-consciousness (Elphinstone and Whitehead 2019; Kashdan and Breen 2007), and behavioural tendencies such as social comparison (Alba et al. 2014), social dominance (Kim et al. 2017) or competitiveness (Thyroff and Kilbourne 2018). These characteristics could be potential antecedents or mediators in the bidirectional relationship between materialism and poor social well-being. Consequently, future research should examine whether these factors might facilitate or hinder the bidirectional link examined in this report.

Finally, it seems necessary to investigate how the relationship between materialism and personal and social well-being fluctuates across different age groups. The findings of this meta-analysis indicate that the association between materialistic orientation and social well-being is stronger in younger populations than adults. However, previous research has shown the opposite pattern for personal well-being. To understand this inconsistency, further research should examine specific psychological mechanisms mediating the relationships between

materialism, personal well-being and social well-being. This could be valuable in formulating targeted interventions to diminish materialistic behaviours in children, adolescents and adults, as it is likely that interventions proven effective in one age group may not yield the same results in another group.

8.2 | Practical Implications

The findings of this report could be used to justify the need for interventions aimed at diminishing people's endorsement of materialistic values at both the individual and societal levels by social enterprises such as mental health charities or other health institutions that aim to address the United Nations' Sustainable Development Goal of promoting well-being. Additionally, the findings of this report could also be used by parents, educators or social workers for identifying children who might be struggling with social connectivity as they will be more likely to show signs of embracing materialistic and consumer culture ideals as a coping mechanism for their frustrated social life. Finally, the findings of this report could be used to support regulations that aim to limit children and adolescents' exposure to commercial messages, as the present work shows that these populations might be more vulnerable to experiencing the adverse effects of materialism on their interpersonal relationships as implementing restrictions on advertising could help safeguard their social development.

8.3 | Sample Size Recommendations for Future Research

Based on the results from the meta-analytical calculations, the minimum sample recommended for correlational studies will be 240 participants and 50 participants per group for experimental. The sample size calculations are for a suggested power of $(1-\beta)=0.80$ and $\alpha=0.05$ based on two-tailed bivariate correlations and *t*-tests. These results indicate that 20% of the correlational studies included in this meta-analysis were underpowered as they had less than 200 participants, while 58% might have over-recruited as they collected responses from more than 300 participants. For the experimental samples, 22% of studies were underpowered and 67% might have over-recruited when looking at the effects of materialism on well-being. Also, 88% were underpowered, and 13% might have over-recruited when looking at the effects of social well-being on materialism. This data suggests that to improve the effectiveness and efficiency of their work, future researchers should use the recommended sample sizes indicated in this report to avoid over-recruiting and Type II errors.

8.4 | Conclusion

This work shows that higher materialism is linked to lower social well-being and that this relationship is bidirectional and universal across cultures and genders. However, younger populations are more susceptible to these effects. Further research should expand and strengthen the current evidence by using a wider variety of methodologies and understudied samples and investigate the unanswered questions outlined in this report.

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Disclosure

We adhered to the MARS guidelines for meta-analytic reporting (Appelbaum et al. 2018). All meta-analytic data and the code used for the analyses are available at <https://osf.io/uqks8/>. The data were analysed using R and the package *metafor* (Viechtbauer 2010). This project was not preregistered.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are openly available in Open Science Framework at https://osf.io/uqks8/?view_only=ac5511d9078f4bc38615dfb2857bca66/.

Endnotes

¹ The effect size was calculated using an online effect size converter (<https://www.escale.com/>).

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.