

Materialist values, financial and pro-environmental behaviors, and well-being

Sabrina Helm, Joyce Serido, Sun Young Ahn, Victoria Ligon and Soyeon Shim

Abstract

Purpose – *The purpose of this study is to examine young consumers' financial behavior (e.g. saving) and pro-environmental behavior (i.e. reduced consumption and green buying) as effective proactive strategies undertaken in the present to satisfy materialistic values and maximize well-being.*

Design/methodology/approach – *The study is based on an online survey among a panel of young American adults (N = 968).*

Findings – *The study finds a positive effect of materialism on personal well-being and negative effects on financial satisfaction, proactive financial coping and reduced consumption, but no effect on green buying, a separate and distinct pro-environmental strategy. Both proactive financial coping and reduced consumption are positively associated with subjective well-being.*

Research limitations/implications – *Future research should re-examine conceptualizations of materialism in the context of climate change and the meaning of possessions in the global digital economy; studies could also focus on the specific well-being effects of reduced consumption and alternative pathways to align materialistic and environmental values.*

Practical implications – *Consumer education should look to models of financial education to demonstrate how limited natural resources can be managed at the micro level to enhance consumers' subjective well-being, as well as reduce resource strain at the macro level.*

Originality/value – *Key contributions are the examination of materialism and consumption in the dual contexts of financial and environmental resource constraints and the effects of these key macro-social phenomena on consumers' perceived well-being. Another study highlight is the differentiation of two strategies for proactive environmental coping, of which only one, reduced consumption, increased personal well-being and decreased psychological distress.*

Keywords *Subjective well-being, Climate change, Materialism, Sustainable consumption, Environmental coping, Proactive financial coping*

Paper type *Research paper*

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The millennial generation had a front-row seat watching their parents, along with the global community, struggle during the economic recession of 2008 where millions lost their jobs. In the USA, countless thousands had to relinquish the symbols of an overextended consumer lifestyle such as large houses, recreational boats and vehicles, horses, even their family pets (Assadourian, 2010). Fears remain high that coming of age in the recession may have set millennials back financially for decades (Thompson, 2013). In addition to uncertain financial prospects, millennials have to live with worries about rapid environmental degradation as they likely will be the first generation to bear the full brunt of anthropogenic climate change. Similar to the financial downfall, a root cause of environmental decline is the ineffectual regulation of the materialistic lifestyle of citizens in Western industrial societies (Kilbourne and Pickett, 2008; Schaefer and Crane, 2005) – the “consumption role models of the world” (Ahuvia and Friedman, 1998, 161). Creating a

Received 26 October 2018
Revised 7 March 2019
9 May 2019
Accepted 10 May 2019

sustainable future for young consumers, therefore, seems inextricably linked to creating more sustainable consumption patterns.

As pointed out by [Lee et al. \(2016\)](#), literature associates the term “sustainable” with two distinct meanings, long-term economic viability and, now arguably more common, the management of limited natural resources. Despite this terminological overlap, sustainable financial and environmental behaviors are usually treated as separate fields of scientific inquiry. The association between materialist values and individual financial behaviors is an established and distinct field of research ([Watson, 2003](#)). Notably, higher materialist values are associated with more financially risky behaviors, including impulse purchases, gambling and debt ([Richins, 2011](#)) and, ultimately, lower levels of well-being ([Garðarsdóttir and Dittmar, 2012](#)). Since the 2008 financial crisis, economic instability both globally and at the individual level has risen ([Federal Reserve Board DCCA, 2016](#)). Among young adults in the USA, only 55 per cent were employed at the end of July of 2018 – unchanged from the previous year and the lowest rate since 1948 ([Bureau of Labor Statistics, 2018](#)). It is not surprising that financial instability is a leading source of stress among young adults ([American Psychological Association, 2017](#)), effectively decreasing well-being ([Probst et al., 2018](#)).

As the deleterious effects of climate change become more evident ([IPCC, 2018](#)), research on the effects of materialist values on overuse of shared ecological resources is also gaining traction ([Brown and Kasser, 2005](#); [Perera and Hewege, 2013](#)). Because younger adults will be disproportionately affected by future environmental degradation, it is not surprising that more recent birth cohorts show stronger pro-environmental attitudes than older birth cohorts ([Hume, 2010](#)). Yet, these attitudes do not reliably translate into changed consumption patterns. Many consumers may not recognize how their individual consumption contributes to the problem ([Iyer and Muncy, 2016](#); [Perera and Hewege, 2013](#)); many may view the negative outcome of overconsumption as a psychologically distant phenomenon with little perceived immediate impact ([O’Neill and Nicholson-Cole, 2009](#); [Perera and Hewege, 2013](#)).

The dual effect of materialistic values on overconsumption in financial and environmental domains can potentially compound effects on young consumers’ well-being, here understood as the subjective assessment of life quality in various life domains ([Kahneman, 1999](#)). A growing empirical literature demonstrates that proactive behaviors can increase well-being ([Zambianchi and Bitti, 2014](#)). Thus, this study adopts a proactive coping perspective in addressing the following research questions:

- RQ1.* Given limited financial and natural resources, how do materialistic values affect young adults’ proactive financial and environmental behaviors?
- RQ2.* After accounting for materialistic values, what impact do proactive financial and environmental behaviors have on young adults’ well-being?

Using data collected from a cohort of young adults during the transition from college to full-time careers ($N=968$), this study examines financial behavior (e.g. saving) and pro-environmental behavior (i.e. reduced consumption and green buying) as proactive strategies undertaken in the present to satisfy materialistic values and maximize well-being.

Guiding theoretical framework

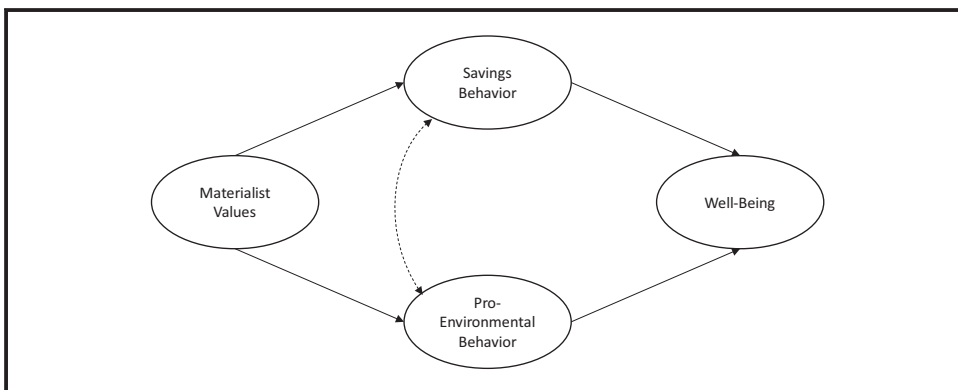
Much of the research examining coping behavior when resources are constrained is based on the transactional model of stress (TMS; [Lazarus, 1999](#); [Lazarus and Folkman, 1984](#)), conceptualized as reactive stress responses. In contrast, the proactive coping theory ([Greenglass, 2002](#)) shifts the focus of coping behavior from a reactive response to proactive strategies directed toward achieving future-oriented goals. From this perspective, proactive coping mediates the relationship between resources and outcomes and

emphasizes the value of proactive behavior in promoting well-being (Greenglass, 2002). A growing body of research provides support for this approach. For instance, an early study of proactive coping and well-being among college students found that a more proactive coping approach was associated with higher positive affect and lower depressive symptoms eight weeks later (Greenglass and Fiksenbaum, 2009). Ersen and Bilgiç (2018) found a similar association between employees' proactive coping skills and multiple work outcomes (e.g. job performance, job satisfaction). Angelo and Chambel (2014) reported that a proactive coping approach partially mediated the relationship between the demands of the job and “burnout” among firefighters. Among young adults, proactive coping (e.g. turning obstacles into positive experiences) partially mediated the association between self-efficacy, optimism and social support and both life satisfaction and depression (Stanojevic et al., 2014).

In the present study, the concept of proactive coping is applied to the financial and environmental behaviors of young adults. Specifically, the study conceptualizes *proactive financial behaviors* as strategies to conserve and manage limited financial resources for future use (e.g. saving, budgeting). Similarly, *proactive environmental behaviors* are defined as environmentally conscious actions that aim to offset the adverse environmental effects of consumption (Perera and Hewege, 2013). In this study, two distinct behaviors are proposed – “green buying” and “reduced consumption” – which are in line with prior descriptions of sustainable consumption patterns (Evans, 2011; Maiteny, 2002; Schaefer and Crane, 2005). *Green buying* refers to the purchase of products designed to limit environmental impacts during their lifecycle (Strizhakova and Coulter, 2013). Such options particularly attract consumers who aim to reduce harm of their purchases without disrupting lifestyle. *Reduced consumption* includes resource-saving behaviors and implies an overall reduction in the volume of consumption (e.g. repairing broken goods, avoiding unnecessary acquisitions; Gilg et al., 2005).

Guided by the proactive coping theory (Greenglass, 2002) and a specific research interest in the association between proactive behaviors and young adult well-being, this study conceptualized a model of the hypothesized relationships among materialistic values, proactive financial and environmental behaviors, and young adults' well-being (see Figure 1). Although defined in different ways across multiple disciplines, there is general agreement that *well-being* is a subjective assessment of life quality in various life domains (Kahneman, 1999), with greater satisfaction within each domain contributing to an overall sense of personal well-being (Easterlin, 2006). The present study examines the relation between proactive behaviors and multiple specific life domains, in addition to overall personal well-being. Life satisfaction (Diener, 1984) is a commonly used assessment of

Figure 1 Conceptual study model



global well-being (Diener *et al.*, 1985; Diener *et al.*, 2010). In addition, this investigation includes psychological distress (Barber *et al.*, 2001) as well-being can also manifest itself in mental health outcomes. Given the salience of financial well-being among young adults (Serido *et al.*, 2010; Shim *et al.*, 2012), financial satisfaction was added as a well-being outcome in the present study. Based on that model, this study posits that young adults who adopt proactive strategies to manage limited financial and environmental resources will enjoy greater well-being, despite their materialist values.

Literature review and hypotheses development

Materialism and well-being

Materialism is a personal value or a “set of centrally held beliefs about the importance of possessions in one’s life” (Richins and Dawson, 1992, p. 308; see also Kasser and Ryan, 1993) that affords the “pursuit of happiness through acquisition rather than through other means (such as personal relationships, experiences, or achievements)” (Richins and Dawson, 1992, p. 304). The research on materialism (including in children and adolescents) is extensive, dominated by its negative outcomes (Chan, 2013). Specifically, studies have shown that materialism is negatively related to personal well-being (Kasser and Ryan, 1993) and life satisfaction (Richins and Dawson, 1992; Kasser and Ryan, 1993) and positively related to psychological distress (Kasser and Ryan, 1993; Segev *et al.*, 2015). The reasons for this predominantly negative relationship may rest on materialists’ perception of their standard of living that, in turn, affects one’s satisfaction with life (Segev *et al.*, 2015). Similarly, options for additional acquisition of possessions are seemingly endless, but financial means are limited, suggesting that more materialistic individuals also experience less financial satisfaction (Roberts and Clement, 2007). On the basis of the literature reviewed, this study hypothesizes that:

H1. Materialism will be negatively associated with personal well-being (H_{1a}), life satisfaction (H_{1b}), and financial satisfaction (H_{1c}), and positively associated with psychological distress (H_{1d}).

Materialism and proactive financial behavior

Consumers with high materialist values are more likely to see themselves as spenders, rather than savers (Watson, 2003). Thus, it is not surprising that much of the empirical literature on materialism and financial behavior focuses on deleterious financial consequences (Segev *et al.*, 2015; Watson, 1998) resulting from spending tendencies such as compulsive buying (Bindah and Othman, 2012; Dittmar, 2005; Garðarsdóttir and Dittmar, 2012; Nye and Hillyard, 2013) and debt (Garðarsdóttir and Dittmar, 2012; Limbu *et al.*, 2012; Norviitis *et al.*, 2006). Although studies examining the association between materialistic values and financial management are less common, there is some evidence suggesting an inverse association between materialistic values and proactive financial behaviors. For example, materialistic values have been associated with poorer money management skills (e.g. budgeting; Garðarsdóttir and Dittmar, 2012; McNair *et al.*, 2016) and lower savings (Donnelly *et al.*, 2012). On the basis of empirical evidence of a positive association between materialism and problematic financial behaviors and existing limited evidence of an inverse association between materialism and proactive financial behaviors, this study hypothesizes that:

H2. Materialism will be negatively associated with proactive financial behavior.

Proactive financial behavior and subjective well-being

Contemporary young adults are facing more uncertain financial prospects (Lusardi *et al.*, 2016) and, thus, research on the connections between individual financial behavior and multiple aspects of well-being among young adults is of growing interest. A common finding

among college student samples is the positive association between proactive financial behaviors and financial satisfaction (Gutter and Copur, 2011; Joo *et al.*, 2003; Shim *et al.*, 2009; Xiao *et al.*, 2006; Serido *et al.*, 2010; West and Friedline, 2016). The extant literature also provides evidence of a positive connection between proactive financial behaviors and well-being beyond the financial domain. For instance, several studies using cross-sectional data from young adults, including college students, have found a positive association between proactive financial behaviors and personal well-being (Shim *et al.*, 2009; Xiao and O'Neill, 2018), psychological well-being (Britt *et al.*, 2015; Kim *et al.*, 2003) and life satisfaction (Gutter and Copur, 2011; Norvilitis and MacLean, 2010). Some researchers have found similar associations over time. For example, two independent studies, one in the USA (Serido *et al.*, 2013) and one in Finland (Ranta and Salmelo-Aro, 2018), both found that proactive financial behaviors (e.g. saving, budgeting) were associated with subsequent life satisfaction, as well as financial satisfaction, using data from college students at two time points. On the basis of the consistent positive association between proactive financial behaviors among young adults and well-being in multiple life domains, it is hypothesized that:

- H3. Proactive financial behaviors will be positively associated with personal well-being (H_{3a}), life satisfaction (H_{3b}) and financial satisfaction (H_{3c}), and negatively associated with psychological distress (H_{3d}).

Materialism and proactive environmental behavior

The common understanding of materialism implies that a materialist consumer attaches high importance to physical possessions and believes that acquisition of such possessions is a source of happiness and life satisfaction (Richins and Dawson, 1992). More so than any other personality trait, materialism is tied to consumption (Lee and Ahn, 2016), in turn fueling climate change (York *et al.*, 2003). Additionally, materialistic values decrease consumers' ability to consider macro-level concerns such as environmental issues (Lee and Ahn, 2016). In explaining why environmental beliefs are negatively associated with materialism, Kilbourne and Pickett (2008) argued that, in a conflict between both values, individuals experience cognitive dissonance and seek to preserve their self-image by altering either their material aspirations or their beliefs about the consequences of their consumption on the environment. Materialistic desires usually prevail because materialism "is institutionalized in American society and is continuously rewarded and reinforced through interactions with society" (Kilbourne and Pickett, 2008, 891), while environmental values are less culturally entrenched. According to Gatersleben *et al.* (2008), this notion also holds among young consumers. In consequence, individuals with stronger materialistic values might be less likely to exhibit environmental coping behaviors (Hurst *et al.*, 2013). Thus, this study hypothesizes that:

- H4. Materialism will be negatively associated with both green buying (H_{4a}) and reduced consumption (H_{4b}).

In comparing the two forms of proactive environmental coping included in this study, differences were expected to emerge. While opting for more sustainable alternatives such as green cleaning products or goods made from recycled materials, green consumers still continue to acquire material possessions (Evans, 2011; Gilg *et al.*, 2005). These consumers likely believe that they mitigate the effects of environmental degradation in that green buying at least partially reduces environmental harm. At closer inspection, however, green buying may be construed as more consistent with materialism than reduced consumption. Green buying does not require vast changes in consumption patterns or lifestyle shifts, and mainstream consumption continues when more sustainable product options are not available (Maiteny, 2002). Consequently, green buying offers a loophole for continued consumption (Jackson, 2009; York *et al.*, 2003). In contrast, individuals who reduce consumption disengage (partly) from a materialistic lifestyle by avoiding the purchase of

items on impulse or opting to repair old items instead of replacing them with new ones (Segev *et al.*, 2015). These consumers are less likely to identify the acquisition of possessions as a strong source of happiness and life satisfaction (Richins and Dawson, 1992). Thus, regarding the association between materialism and proactive environmental behaviors, this study additionally hypothesizes that:

H5. A stronger negative correlation will be found between materialism and reduced consumption as compared with materialism and green buying.

Proactive environmental behavior and subjective well-being

While extrinsic value orientations, such as materialism, have been found to lower well-being, intrinsic value orientations increase it (Kasser and Ryan, 1996; Lee and Ahn, 2016). Whereas extrinsic goals depend on external reward and recognition from others, intrinsic goals are inherently valuable to the individual, in that they contribute to self-actualization, growth and integration (Kasser and Ryan, 1996). Bauer *et al.* (2012) found in experimental settings that cuing consumerism triggered materialistic mind-sets, with negative personal well-being consequences. In two studies with American adolescents and adults, respectively, Brown and Kasser (2005) found that people who engaged in more environmentally responsible behaviors were happier and experienced greater well-being. Gatersleben *et al.* (2008) found that young people who reported more positive attitudes toward nature, greater environmental awareness and more environmentally responsible behaviors also experienced greater satisfaction with life. In particular, individuals who avoid consumption in an effort to simplify their life report higher well-being on average (Brown and Kasser, 2005; Seegebarth *et al.*, 2016). Given the findings summarized here and the theoretical assumption that proactive behaviors increase well-being and lower depression (Greenglass, 2002), it is hypothesized that:

H5. Green buying will be positively associated with personal well-being (H_{5a}), life satisfaction (H_{5b}), and negatively associated with psychological distress (H_{5c}).

H6. Reduced consumption will be positively associated with personal well-being (H_{6a}), life satisfaction (H_{6b}), and negatively associated with psychological distress (H_{6c}).

Method

Procedure and data collection

Data for the study come from a longitudinal research initiative to understand the factors that contribute to financial behavior and its association with later life success. Baseline data were collected from first-year college students (W1; ages 18-21) via email invitations to all first-year university students and various recruitment methods (e.g. flyers, class announcements). Subsequent waves of data were collected in the fourth year of college (W2; ages 20-23), and again two years later (W3; ages 23-26) (see www.aplushappiness.org/2017 for a description of study design). Online surveys were administered after receiving IRB approval at each wave.

Participants

The participants in this study included the young adults ($N=968$) who completed the W3 survey (minus invalid/incomplete cases). The sample included both male (36 per cent) and female (64 per cent) participants and various ethnic groups (68 per cent white; 15 per cent Hispanic/Latino; 9 per cent Asian/Asian American/Pacific Island; 3 per cent black; 2 per cent native American; and 3 per cent other/missing). Socioeconomic status (SES), measured as parents' education and income at W1, included 42 per cent lower SES students, 32 per cent middle SES students and 26 per cent higher SES students. The majority of the participants had graduated from college (88.7 per cent).

Measures

For all measurement items and constructs used in the analysis, completely standardized loadings, construct average variance extracted (AVE), construct reliability (CR) and Cronbach's α , are reported in [Appendix 1](#).

Materialism was measured using seven items, on a seven-point scale (1 = disagree completely to 7 = agree completely) ([Goldberg et al., 2003](#)). After running initial confirmatory factor analysis (CFA), three items were dropped due to poor loadings (<0.5) and validity issues. *Proactive financial behaviors* ([Serido et al., 2010](#)) were measured with three items asking the respondents to indicate how often they had engaged in each activity within the past six months (e.g. saved for emergencies), using a five-point scale (1 = never to 5 = very often). Because no established scales were available for *proactive environmental behaviors*, extant studies on related concepts were reviewed (i.e. pro-environmental behaviors and voluntary simplicity; [Osbaldiston and Sheldon, 2003](#); [Olli et al., 2001](#); [Huneke, 2005](#)). Based on this review, an 18-item measure was constructed using a seven-point scale (1 = strongly disagree to 7 = strongly agree) and exploratory factor analysis (EFA) was conducted on the 18 items. After dropping four items due to low loadings and dual loadings, the EFA resulted in two factors: *green buying* and *reduced consumption*. Given the results of a subsequent CFA of the measurement model, additional items were dropped due to poor loadings and validity issues. The final measures included four items for green buying and three items for reduced consumption. *Personal well-being* was measured by a single item asking respondents to estimate their overall sense of well-being on a five-point scale (1 = poor to 5 = excellent). *Life satisfaction* ([Diener, 1984](#)) was measured based on five items using a five-point scale (1 = strongly disagree to 5 = strongly agree). *Financial satisfaction* ([Serido et al., 2010](#)) was measured with three items using a five-point scale (1 = strongly disagree to 5 = strongly agree). Finally, four items were used to measure *psychological distress* ([Barber et al., 2001](#)) calibrated on a five-point scale (1 = never to 5 = very often).

To account for stable between-group effects of sociodemographic factors on financial behaviors ([Lusardi et al., 2010](#)) and proactive environmental behaviors ([Berger, 1997](#)), the following control variables were included in the analyses: gender (0 = female; 1 = male); parental SES (computerized status index, including the education levels of both parents and the level of household income; [Coleman, 1983](#)); ethnicity (0 = non-white; 1 = white). To control for individual characteristics that might bias the association between behaviors and well-being, this study also controlled for environmental self-identify and financial strain. Environmental self-identity, the extent to which people see themselves as a pro-environmental person, significantly influences pro-environmental behaviors ([Van der Werff et al., 2013](#)). Environmental self-identity was measured with a single item (i.e. I consider myself to be environmentally responsible; [Van der Werff et al., 2013](#)) using a five-point scale (1 = strongly disagree to 5 = strongly agree). Financial strain, defined as insufficient financial resources to cover financial obligations, may reduce well-being ([Leach et al., 1999](#)), as well as alter spending and saving behaviors ([Durante and Laran, 2016](#)). Financial strain ([Serido et al., 2014](#)) was measured as the summed responses to how often the respondent engaged in three activities (e.g. cut back on social expenses) within the past six months because they did not have enough money, using a three-point scale (0 = never to 2 = more than a few times).

Results

To test the conceptual model and investigate the hypothesized associations, Lisrel 8.0 was used in conjunction with the two-step, structural equation modeling procedure ([Anderson and Gerbing, 1988](#)). First, a measurement model was developed by conducting a CFA on the multi-item scales. Next, the structural model was run to test the hypothesized

associations among the constructs in the structural model, including all single-item measures. Overall, the associations among variables were in the expected direction (see Table I).

Measurement model

The final CFA results for the overall measurement-model fit were acceptable, χ^2 (344, $N=968$) = 962.33, $p < 0.001$; CFI = 0.97; NNFI = 0.96; RMSEA = 0.043 (90 per cent C.I. = 0.04; 0.05); SRMR = 0.045. This final model was arrived at after examining the model's modification indices, which suggested five pairs of measurement error between the measured items (one pair among the items for measuring materialism, two pairs among the items for green buying and two pairs among the items for life satisfaction). It is possible that the correlated measurement errors in these constructs may result from extraneous causes (i.e. social desirability) in addition to the specified latent variables they represent (Brown, 2015). Indeed, previous studies have shown that social desirability influences the variance of self-report measures of materialism (Mick, 1996), green-buying behavior (Auger and Devinney, 2007) and life satisfaction (Carstensen and Cone, 1983), and thus, it is plausible that social desirability could explain the correlated measurement errors. Compared to the original measurement model, the adjusted model's overall fit improved significantly as indicated by a significant reduction in χ^2 ($\Delta\chi^2 = 168.5$, $\Delta df = 5$, $p < 0.05$).

Convergent and discriminant validity of the measures were examined using the procedure suggested by Fornell and Larcker (1981). The factor loadings of all indicators for each construct (see Appendix 1) were statistically significant ($p < 0.01$ in all cases; see Anderson and Gerbing, 1988). The reliability of the survey instrument was established by calculating Cronbach's α to measure internal consistency. CR was calculated, indicating that all values of Cronbach's α and CR were above the recommended level of 0.7 (Hair et al., 2017; Nunnally and Bernstein, 1994), except for one construct (i.e. reduced consumption; Cronbach's $\alpha = 0.66$; CR = 0.68). Given that reduced consumption is a newly developed scale, the construct was retained as its reliability is above the recommended 0.6 for new scales or exploratory research (Hair et al., 2017; Nunnally and Bernstein, 1994).

Finally, AVE was calculated to assess the amount of variance captured by a construct's measure relative to random measurement error. All but two of the constructs (i.e. 0.42 for

Table I Means, SDs and construct correlations

Construct	M	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Materialism	4.59	1.36												
2. Proactive financial behavior	2.77	-0.10**	1.27											
3. Green buying	4.14	-0.09**	0.01	1.53										
4. Reduced consumption	4.96	-0.28**	0.06*	0.32**	1.17									
5. Financial satisfaction	3.16	-0.25**	0.44**	-0.05	0.00	1.05								
6. Life satisfaction	3.55	-0.10**	0.20**	0.01	-0.01	0.46**	0.90							
7. Personal well-being	3.75	-0.01	0.15**	0.04	0.11**	0.27**	0.55**	0.90						
8. Psychological distress	2.59	0.18**	-0.22**	0.01	-0.10**	-0.42**	-0.45**	-0.53**	0.79					
9. Gender (male)	35.8%	-0.02	0.00	-0.06	-0.02	0.11**	-0.02	0.00	-0.17**	0.48				
10. SES	9.70	-0.03	0.07**	0.06	-0.04	0.13**	0.12**	0.09**	-0.08*	0.05	2.74			
11. Ethnicity (white)	67.5%	0.00	0.03	0.05	-0.02	0.05	0.12**	0.05	-0.07**	-0.04	0.20**	0.47		
12. Environmental self-identity	4.48	-0.14**	0.02	0.61**	0.48**	-0.04	0.03	0.11**	-0.06	-0.01	0.03	0.01**	1.53	
13. Financial strain	2.14	0.12**	-0.26**	0.07*	0.13**	-0.53**	-0.26**	-0.14**	0.29**	-0.08**	-0.13**	-0.06	0.10**	0.61

Notes: * $p < 0.05$; ** $p < 0.01$; SDs reported along the diagonal

reduced consumption and 0.41 for psychological distress) met the criterion (>0.5 ; Fornell and Larcker, 1981). The AVE is low; however, CR is higher than 0.6 (Fornell and Larcker, 1981). Thus, all of the model's constructs were retained due to adequate reliability and convergent validity.

To examine discriminant validity, the shared variance between constructs was compared with the AVE from the individual constructs (Fornell and Larcker, 1981). All shared variances between constructs were lower than the AVE of the individual constructs, confirming discriminant validity (see Appendix 2).

Structural model and hypotheses testing

In the next step, the hypothesized associations among constructs were tested (see Figure 1 for the conceptual model). This study postulated that materialism would be negatively associated with well-being, proactive financial coping behaviors and environmental coping behaviors, and positively associated with psychological distress. In turn, the study hypothesized that financial and environmental coping behaviors would be separately and positively associated with well-being and negatively associated with psychological distress. Paths from each control variable to all focused outcome constructs were freely estimated in the model. Statistical testing of the proposed structural model yielded the following indicators of model fit: χ^2 (451, $N=968$) = 1,356.07, $p < 0.001$; CFI = 0.97; NNFI = 0.97; RMSEA = 0.046 (90 per cent C.I. = 0.04; 0.05); SRMR = 0.043 (see Table II for the detailed results including standardized coefficients with significance levels, standard errors and z-values). Modification indices were reviewed, regarding in particular the potential for

Table II Summary results for hypotheses testing

Hypothesis		Completely standardized coefficient	SE	Z-value
<i>H1</i>				
Materialism	→ Personal well-being (<i>H1a</i>)	0.10**	0.04	2.46
	→ Life satisfaction (<i>H1b</i>)	-0.05	0.04	-1.34
	→ Financial satisfaction (<i>H1c</i>)	-0.20***	0.05	-6.18
	→ Psychological distress (<i>H1d</i>)	0.08	0.04	1.93
<i>H2</i>				
Materialism	→ Proactive financial coping (<i>H2</i>)	-0.09**	0.04	-2.39
<i>H3</i>				
Proactive financial coping	→ Personal well-being (<i>H3a</i>)	0.10***	0.04	2.83
	→ Life satisfaction (<i>H3b</i>)	0.13***	0.04	3.49
	→ Financial satisfaction (<i>H3c</i>)	0.34***	0.05	9.68
Materialism	→ Psychological distress (<i>H3d</i>)	-0.15***	0.04	-3.71
<i>H4</i>				
Materialism	→ Green buying (<i>H4a</i>)	-0.02	0.04	-0.69
	→ Reduced consumption (<i>H4b</i>)	-0.30***	0.05	-7.41
<i>H5</i>				
Green buying	→ Personal well-being (<i>H5a</i>)	-0.06	0.04	-1.36
	→ Life satisfaction (<i>H5b</i>)	-0.03	0.03	-0.65
	→ Psychological distress (<i>H5c</i>)	0.08	0.04	1.65
<i>H6</i>				
Reduced consumption	→ Personal well-being (<i>H6a</i>)	0.18***	0.05	3.09
	→ Life satisfaction (<i>H6b</i>)	-0.02	0.04	-0.44
	→ Psychological distress (<i>H6c</i>)	-0.14**	0.05	-2.23

Notes: All hypotheses tests included a control for gender, SES, ethnicity, environmental self-identity and financial strain; ** $p < 0.01$; *** $p < 0.001$

relationships between the two constructs of environmental coping behaviors and financial satisfaction (because these paths were not hypothesized). However, modification indices did not suggest the possibility of links between the constructs. Therefore, the model was accepted.

H1 was based on the premise that materialism adversely impacts well-being. Contrary to expectations, materialism did not have a negative association with personal well-being, leading to rejection of *H_{1a}*. Rather, data showed a weak but significant positive association. Also, *H_{1b}* and *H_{1d}* were rejected as the data did not support a significant association between materialism and life satisfaction and only marginal significance for psychological distress ($t = 1.93$). The results supported the premise that materialism was negatively associated with financial satisfaction (*H_{1c}*).

As proposed, materialism was negatively associated with proactive financial coping (*H₂*). As expected, proactive financial coping behaviors were significantly associated with well-being. Specifically, the results revealed that proactive financial coping behaviors were positively associated with personal well-being (*H_{3a}*), life satisfaction (*H_{3b}*) and financial satisfaction (*H_{3c}*), and negatively associated with psychological distress (*H_{3d}*). Therefore, *H₂* and *H₃* were fully supported.

Regarding the relationships between materialism and environmental coping behaviors, the estimates showed significant negative associations between materialism and reduced consumption (*H_{4b}*). However, the negative association between materialism and green buying was not significant, rejecting *H_{4a}*. In addition, correlation coefficients supported stronger negative correlations between materialism and reduced consumption ($r = -0.28$, $p < 0.001$) compared with materialism and green buying ($r = -0.09$, $p < 0.01$). This effect can be evaluated with equality constraints by comparing the value of χ^2 of constrained and original models. In the restricted model, two β parameters were set to be equal. A significant rise of χ^2 in equality constraints model ($\Delta\chi^2(1) = 41.83$, $p < 0.001$) indicated that the strengths of the two paths are not equal, consistent with *H_{4c}*.

In *H₅* and *H₆*, this research postulated that environmental coping behaviors would be associated with greater well-being outcomes. The findings showed that none of the coefficients from green buying to well-being outcomes was significant, thus rejecting *H₅*. However, reduced consumption behaviors were positively associated with personal well-being (*H_{6a}*) and negatively associated with psychological distress (*H_{6c}*), which partially supported *H₆*. The results did not provide support for a positive association between life satisfaction and reduced consumption behaviors, thus rejecting *H_{6b}*.

Discussion and implications

The present study examined the associations among young consumers' materialistic desires and multiple dimensions of well-being within the constraints of available resources. Financial and environmental coping behaviors were conceptualized as the strategies consumers use to achieve materialistic desires with limited financial and environmental resources. Then, the association of these two strategies with well-being was considered in a sample of young adults. Two key points related to the study findings are discussed:

- with respect to the financial behaviors of young adults, this investigation finds that materialistic values impede proactive financial coping, highlighting that effective financial education requires consideration of (materialist) culture and personal values as determinants of financial choices; and
- with regard to environmental coping, the study identifies two distinct strategies with differing impacts on well-being, providing opportunities to encourage reduced consumption instead of green purchase options and increase overall environmental sustainability.

Briefly, it is also noted that no direct association between consumers' level of materialism and their reported life satisfaction or psychological distress was found (see for similar findings [Segev et al., 2015](#)), but some indication that material aspirations may contribute to a person's sense of overall well-being. Well-being not only comprises assessment of satisfaction across many domains, but also the timing associated with achievement in each domain ([Easterlin, 2006](#)). Although material possessions clearly matter a great deal to young American consumers ([Hume, 2010](#)), their success criteria for present material achievement and material norms are likely lower than older consumers' ([Ahuvia and Friedman, 1998](#)). More salient challenges of young adulthood may dominate their assessment of current well-being ([Goldberg et al., 2003](#)), for example, managing role transitions: engaging in committed relationships, establishing a household and career ([Seegebarth et al., 2016](#)).

Proactive financial behaviors of young adults

Materialistic values seem to impede proactive financial coping. The findings regarding young adults' financial behaviors are consistent with growing research on the financial capability of Americans, and young adults in particular. Specifically, it was determined that proactive financial behaviors benefit the consumer beyond the realm of personal finance. Amidst mixed empirical evidence on the efficacy of financial education as a method for promoting financial capability, some researchers have suggested that further investment in financial education and interventions is futile ([Mandell and Klein, 2009](#)). In light of the present study, it is suggested that the knowledge and skills gained from education and interventions may be overridden by consumers' desire for material goods. In this sense, effective financial education and intervention must incorporate an understanding of personal values and financial choices ([Vostroknutov, 2013](#)), and it must acknowledge that consumer choices are connected to the cultural frameworks of consumption, and therefore, modern ("materialist") consumption may be rational within those cultural frameworks ([Dolan, 2002](#)).

Proactive environmental behaviors of young adults

Novel contributions of the present study are the adaptation of the proactive coping theory to conceptualize consumers' environmental coping behaviors and linking these with materialism and well-being. First, the findings emphasized that, in the context of sustainable consumption, green buying and reduced consumption are two distinct environmental coping strategies. Second, while less clear-cut compared to financial coping, the associations between materialism and environmental coping behaviors supported prior research, suggesting that consumers high in materialism may be less inclined to exhibit environmental behaviors ([Kilbourne and Pickett, 2008](#)). Specifically, the findings indicated that materialistic values were negatively associated with both environmental coping strategies with a stronger, significant impact on reduced consumption. Third, the study investigated the relationship between environmental coping behaviors and well-being. The first strategy, green buying, had no effect on any of the four facets of well-being measured in the study. This is important in light of recent focus on sustainable consumption that has prompted rich exploration into the potential for producing and consuming environmentally friendly products ([Evans, 2011](#); [Gilg et al., 2005](#); [Strizhakova and Coulter, 2013](#)). Possibly, green buying conforms more with materialistic values as it offers opportunity for new product acquisition, as well as expressing one's self via possessions, both of which seem important to materialistic consumers ([Richins and Dawson, 1992](#)) and serve to explain the existence of "green materialists". The second strategy, reduced consumption, was positively related to well-being and negatively related to psychological distress. Notably, reduced consumption was not a response to financial constraints (which were controlled for in the sample) and may, thus, be interpreted as a non-materialistic act. In terms of well-

being, the study findings support a growing stream of research ([Brown and Kasser, 2005](#); [Huneke, 2005](#); [Lee and Ahn, 2016](#)), indicating that consumers may experience an immediate benefit from consuming less. However, the relation between reduced consumption and consumer well-being is not yet well-understood ([Seegebarth et al., 2016](#)), indicating a strong need for additional research.

Implications for young consumers' well-being

This study determined that a decrease in materialism correlated positively with proactive financial coping strategies and financial satisfaction. In addition, by targeting the “pernicious” value of materialism, a new way to increase pro-environmental attitudes and behaviors may be found ([Hurst et al., 2013](#)). With that, implications emerge in the domain of consumer education, environmental messaging and groundbreaking initiatives addressing reduced consumption levels.

- With regard to consumer education, a need exists for financial education that takes into consideration (young) consumers' desire for material goods which in turn determines financial choices ([Vostroknutov, 2013](#)) and is embedded in the cultural frameworks of consumption ([Dolan, 2002](#)) and environmental sustainability ([Strizhakova and Coulter, 2013](#)). Educating young consumers about the perils associated with overconsumption is particularly important ([Segev et al., 2015](#)). In addition, approaches used in financial education that demonstrate how limited resources can be managed on the micro level might be adapted to the environmental domain where past educational approaches using macro-level environmental degradation as a motivation for individual behavior change seem rather ineffective. This study suggests that, for effectively addressing overconsumption, raising consumer awareness of the impact that individual consumption has on climate change and environmental degradation is essential ([Perera and Hewege, 2013](#)), as is a differentiated interpretation of green buying versus reduced consumption in terms of their effectiveness on environmental sustainability and individual well-being.
- Given the dominance of corporate promotional campaigns that link product consumption with happiness and achievement, consumer (financial and environmental) education programs should reinforce that material possessions do not compensate for deficiencies in well-being and may, in fact, further degrade individual and planetary well-being. According to [Schaefer and Crane \(2005\)](#), such approaches might be more effective than environmental education efforts directed at consumers. Programs and messaging that encourages decreased consumption or alternative consumption (e.g. collaborative consumption instead of product ownership), emphasizing the personal rather than the societal benefits for doing so may be more effective than macro-level messaging to safeguard the well-being of the planet. Harboring societal concerns tends to make people feel worse in terms of well-being, potentially leading them to avoid messages that focus on dangers to society ([Iyer and Muncy, 2016](#)). Rather, programs and messaging could encourage pro-environmental consumption by highlighting the positive effects reducing consumption has on individual well-being, effects such as increased autonomy and intrinsic happiness ([Lee and Ahn, 2016](#)).
- Ultimately, the limits of the earth's natural carrying capacity and the need to curb overconsumption as a main driver of climate change ([York et al., 2003](#)) will require consumers to embrace new outlooks on life that are less concerned with material possessions, and more focused on generally improved life conditions. Ideally, green consumption would pave the way toward increased sustainability and well-being of (materialistic) consumers. However, this study does not support such micro-level green buying – well-being effect for this American sample. Other authors demonstrated that

green consumption does little in mitigating the macro-level environmental impacts of consumption (Jackson, 2009), qualifying it as a partial corrective at most in that it still mainly serves financial business goals and promotes the continuance of consumption-intensive lifestyles, increasing financial strain on some consumers given that green products tend to be costlier than their non-green counterparts (Evans, 2011; OTA, 2017). Accordingly, Seegebarth and colleagues concluded that “we should prioritize the buying decision (to buy/not to buy) over the question of whether social or ecological products are consumed” (Seegebarth *et al.*, 2016, p. 90).

For those interested in the welfare of young consumers and the environment, the challenge is not to direct consumers to buy differently but to *live differently* and to effect the necessary change at the societal level that is required to foster change on the individual level (Gilg *et al.*, 2005). The key is to show that reducing consumption does not mean undesirable deprivation or decrease in quality of life but rather, as supported by this study, increased well-being. To support and accelerate sustainable future developments and lifestyle changes, understanding the motivational structure of young consumers is essential. Such understanding also aids in identifying those who have the potential to play the role of societal promoters in propelling the sustainability movement (Seegebarth *et al.*, 2016).

Limitations and future research opportunities

There are some limitations with this study's measures that warrant caution before any broader generalizations are made beyond the study sample. Conceptually, well-being incorporates life satisfaction, interpreted as a cognitive-judgmental process, as well as positive and negative affect (Diener *et al.*, 1985). Thus, a single-item measure of personal well-being may not successfully capture both positive and negative affect, potentially raising a validity issue. Future research should expand the current study's model by including measures of well-being that account for positive and negative affect (Mroczek and Kolarz, 1998). In addition, it should be noted that a new scale was constructed for this research to measure environmental coping because no established scales were available. Thus, there is a need for additional cross-sectional research to refine and test measures of environmental coping behaviors and/or apply longitudinal or experimental designs. Specifically, future research projects are to be encouraged that seek to strengthen and refine the measure for reduced consumption which exhibited a low AVE. Given its central role within the context of sustainable consumption, it is essential to focus research effort on this construct.

The study results are also limited by the scope of the survey sample; the model may operate differently when applied to older, or younger, age cohorts, young adults who did not attend college or young adults in different cultural settings. The current millennial generation of young American adults, including participants in this study, have been exposed to fundamental changes in the economic landscape (Naderi and Van Steenburg, 2018), as well as a media environment now frequently reporting on environmental changes, which may increase their environmental concern and motivate them to engage in environmental coping behaviors. Coinciding with the findings that the segment of climate change deniers is shrinking in the USA (Leiserowitz *et al.*, 2017), this study disregarded denial as a possible third form of environmental coping (Hamilton and Kasser, 2009) because only 13.3 per cent of respondents articulated doubts that climate change will have consequences for Americans.

Future studies could also investigate how materialistic values may have been affected or how consumer financial and consumption decision-making has been impacted, by the economically and environmentally turbulent developments of the past decade. Recent media reports suggest that many young consumers do not care to own a house or car; rather, they prefer access-based or collaborative forms of consumption, such as renting or

sharing (Hwang and Griffiths, 2017). With digital devices enabling online social interaction as much as economic transactions, it can be debated whether growing up in the digital age (Alexander and Sysko, 2011) has led to a novel form of socialization and altered values, if young consumers reject past visions of materialistic lifestyles or may simply return to the “traditional” materialistic lifestyles of their parents at a later age (e.g. after entering the work force or forming a new family) (Chan, 2013). Research should revisit the concept of materialism using samples in different age groups, potentially adapting past conceptualizations of materialism to the altered meaning of possessions in the global digital economy and in the context of climate change.

Conflicting descriptions of today’s young adults in terms of rampant consumerism and environmental concern (Hume, 2010; Naderi and Van Steenburg, 2018) may guide future research projects on the interplay of financial and environmental coping behaviors. Debt-free consumption has been interpreted as an economic dimension of consumer sustainability (Seegebarth *et al.*, 2016); in the context of environmental sustainability, “living within one’s means” (meaning spending without using long-term credit), implies decreased consumption. Studies should also investigate young consumers’ attitudes toward more simplistic lifestyles that enable them to spend less time working and more time on activities they value more highly. For many consumers, a reduction in disposable income implies that thrift is a suitable response, in that it restrains expenditure. However, thrift and frugality are not synonymous with reduced consumption (Evans, 2011; Naderi and Van Steenburg, 2018); rather, it may mean postponed or more economical consumption. In this sense, research on this particular interplay between income, thrift and sustainable consumption may increase the transparency in the linkages between financial and environmental decision-making and promote consumer decision-making that is both financially and environmentally sustainable. New studies on reduced consumption could elucidate consumer motivations in more detail. As Iyer and Muncy (2016) noted, people may seek to reduce consumption for both macro (societal) concerns and micro (personal) concerns. Additionally, research could compare the related concepts of reduced consumption and anti-consumption, that is the voluntary and intentional avoidance of consumption that may occur either in a general or in selective fashion (Lee and Ahn, 2016). Finally, research in emerging economies may detect pathways to aligning materialistic and environmental values also in developed countries (Strizhakova and Coulter, 2013).

Concluding remarks

The main contributions of the current study are the examination of materialism and consumption in the context of financial and environmental resource constraints and the effects of these key macro-social phenomena on consumers’ perceived well-being. Against the backdrop of this simultaneous analysis, study results clearly indicate that young consumers’ material desires negatively influence their proactive financial behaviors and financial satisfaction, and that proactive financial behaviors improve all included variants of well-being. Another study highlight is the differentiation of two strategies for proactive environmental coping, of which only one, reduced consumption, is clearly and negatively affected by materialist values. This more environmentally sustainable option among the two coping strategies increased personal well-being and decreased psychological distress. Contrarily, green consumption, the more “marketable” strategy, had no effects on well-being. Future research as well as public policy will have to address how to convince consumers that a materialistic lifestyle supports neither their own well-being nor that of the planet, and that reducing consumption can, in fact, increase the quality of life.

At the threshold of establishing independent households, young adults must learn to juggle financial goals and obligations, including high student loan debt, often without the financial management skills necessary to succeed (FINRA Investor Education Foundation, 2016). Unlike previous generations, young adults are now also at the frontline of coping with the

severe effects of unalterable climate change. Balancing the demands of personal consumption, as well as assisting them in (re)learning financial behaviors, and sustainable consumption patterns to use limited financial and declining natural resources wisely becomes crucial.

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Appendix 1

Table A1 Factor loadings for indicators with latent constructs

<i>Construct/Indicator (AVE, CR, Cronbach's α)</i>	<i>Unstandardized solution (SE, t-value)</i>	<i>Completely standardized solution</i>
<i>Materialism (AVE = 0.51, CR = 0.80, α = 0.78)</i>		
I would be happier if I had the money to buy more things for myself	0.86 (0.03, 27.50)**	0.86
I would love to buy more expensive things	0.80 (0.03, 25.75)**	0.79
The kind of job I want is one that pays a high salary	0.50 (0.03, 15.60)**	0.50
I really enjoy shopping for new things	0.65 (0.04, 18.70)**	0.65
<i>Proactive financial coping (AVE = 0.67, CR = 0.86, α = 0.86)</i>		
Saved money each month for the future	0.89 (0.03, 32.58)**	0.89
Saved for emergencies	0.89 (0.03, 32.80)**	0.89
Invested for long-term financial goals	0.65 (0.03, 21.77)**	0.65
<i>Green buying (AVE = 0.64, CR = 0.84 α = 0.86)</i>		
I buy environmentally friendly products as much as possible	0.86 (0.04, 23.35)**	0.86
When available, I buy organic food instead of conventionally produced food	0.80 (0.04, 21.80)**	0.80
I use products made from recycled material whenever possible	0.81 (0.04, 22.05)**	0.81
When available, I buy locally grown produce	0.73 (0.04, 20.14)**	0.73
<i>Reduced consumption (AVE = 0.42, CR = 0.68 α = 0.66)</i>		
I avoid buying products that I do not really need	0.70 (0.04, 19.50)**	0.70
I repair things that are broken rather than buy new ones whenever possible	0.60 (0.04, 16.48)**	0.60
I avoid impulse purchases	0.63 (0.04, 17.47)**	0.63
<i>Financial satisfaction (AVE = 0.60, CR = 0.82 α = 0.82)</i>		
I am satisfied with my current financial status	0.77 (0.03, 26.46)**	0.77
I have difficulty paying for things (r)	0.81 (0.03, 28.54)**	0.81
I am constantly worried about money (r)	0.75 (0.03, 25.83)**	0.75
<i>Life satisfaction (AVE = 0.66, CR = 0.90 α = 0.90)</i>		
In most ways, my life is close to my ideal	0.83 (0.03, 30.43)**	0.83
The conditions of my life are excellent	0.82 (0.03, 29.36)**	0.82
I am satisfied with my life	0.88 (0.03, 33.51)**	0.88
So far, I have gotten the important things I want in life	0.84 (0.03, 31.06)**	0.84
If I could live my life over, I would change almost nothing	0.67 (0.03, 22.84)**	0.67
<i>Personal well-being (N/A)</i>		
How would you rate you our overall sense of well-being?	N/A	N/A
<i>Psychological distress (AVE = 0.41, CR = 0.73 α = 0.72)</i>		
Lose your appetite or eat a lot when you get upset	0.50 (0.03, 14.80)**	0.50
Feel unhappy, sad or depressed	0.71 (0.03, 22.32)**	0.71
Feel that difficulties are piling up so high that you cannot overcome them	0.73 (0.03, 23.01)**	0.73
Feel tired out all of the time	0.58 (0.03, 17.37)**	0.58
<i>Environmental self-identity (N/A)</i>		
I consider myself to be environmentally responsible	N/A	N/A
<i>Financial strain (AVE = 0.58, CR = 0.81, α = 0.80)</i>		
Changed food shopping or eating habits	0.76 (0.03, 25.21)**	0.76
Cut back on social expenses	0.84 (0.03, 28.81)**	0.84
Cut back on spending on personal care	0.68 (0.03, 22.13)**	0.68

Note: ** $p < 0.01$

Appendix 2

Table All Discriminant validity								
<i>Construct</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
1. Materialism	<i>0.51</i>							
2. Proactive financial coping	0.02	<i>0.67</i>						
3. Green buying	0.01	0.00	<i>0.64</i>					
4. Reduced consumption	0.11	0.01	0.17	<i>0.42</i>				
5. Financial satisfaction	0.12	0.26	0.00	0.00	<i>0.60</i>			
6. Life satisfaction	0.01	0.04	0.00	0.00	0.28	<i>0.66</i>		
7. Psychological distress	0.04	0.07	0.00	0.01	0.29	0.35	<i>0.41</i>	
8. Financial strain	0.04	0.09	0.01	0.04	0.41	0.09	0.13	<i>0.58</i>

Notes: Numbers in italic type on the diagonal show the AVE; numbers below the diagonal represent the shared variances

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