

Article

The Link between Abstract Thinking Style and Subjective Well-Being: Its Impact when People are in (Real or Perceived) Financial Scarcity

Amparo Caballero González¹ , Itziar Fernández Sedano² , Bronwyn Laforet¹  and Pilar Carrera Levillain¹ 

¹Universidad Autónoma de Madrid (Spain); ²Universidad Nacional de Educación a Distancia (Spain)

Abstract

Across three studies, we explored the link between an abstract mindset and subjective well-being (SWB) in participants with real and/or perceived financial scarcity. In Studies 1 and 2, samples presented real objective financial vulnerability: Adolescents from lower-middle income districts (Study 1; $N = 256$), and adults without higher education and with very low incomes (Study 2; $N = 210$). In Studies 1 and 2 participants completed a survey including measures of thinking style and SWB. In Studies 2 and 3 perception of financial difficulty and SWB were also measured. Study 3 ($N = 161$) used a sample of university students and employed an experimental design manipulating participants' thinking style (i.e., concrete versus abstract mindset conditions); additionally, all participants were induced to perceive financial scarcity. Correlations revealed a significant and positive relationship between an abstract thinking style and SWB (Studies 1 and 2). Thus, these results showed that a relatively more abstract thinking style was associated with greater life satisfaction. In Studies 2 and 3 mediation analyses indicated that adults who presented a more abstract thinking style, perceived lower financial difficulties and then reported greater SWB. Overall, given that an abstract thinking style can be induced, these results offer a new intervention approach for improving the SWB of people living in situations of financial scarcity.

Keywords: abstract mindset; financial scarcity; perceived; financial difficulties; subjective well-being; thinking style

(Received: 14 September 2023; revised: 03 January 2024; accepted: 12 January 2024)

The economic situation in Spain has worsened in recent years; according to the last report of individuals At Risk Of Poverty or social Exclusion (AROPE), 21.7% of Spaniards are at risk of poverty¹ (European Anti-Poverty Network [EAPN], 2022). Children under 18 years old, together with young people between 18 and 24 years old, represent the most economically vulnerable population groups in Spain (Espinosa Bayal & Pérez Moreno, 2021). Prior to the COVID-19 pandemic, around 27% of Spanish children lived at risk of poverty and social exclusion, compared to 21.5% of the general population (Save the Children Spain, 2020). However, the effects of the pandemic have considerably impacted the quality of life of various groups, particularly children and adolescents. It is estimated that during the pandemic, the child poverty rate in Spain

increased to 30.4%. The worsening of conditions has also been especially noticeable among populations that already had lower incomes before the pandemic (United Nations Children's Fund [UNICEF], 2020). Moreover, the pandemic has significantly affected the subjective well-being (SWB) of children and adolescents (Kowal et al., 2020; Sun et al., 2023).

The AROPE report also indicates that in 2021, 31.1% of Spanish adults with primary education or less, 25.8% of those with lower secondary education or middle school education, and 20.4% of those with upper secondary education or secondary school education were poor or at risk of poverty. Among those with higher education, education at university or similar educational level, the poverty rate was only 10.6% (EAPN, 2022). Therefore, people without higher education face greater economic difficulties. Thus, in economically vulnerable adolescents and adults, it is especially relevant to identify factors that can alleviate the negative consequences associated with this economic vulnerability, particularly the decrease in SWB.

SWB refers to the overall evaluation by an individual of their life from their own perspective (Diener, 1984). The subjective nature implies that individuals can consider different factors and weigh them differently, incorporating both cognitive and affective evaluations (Diener et al., 2018). Based on a conscious and explicit evaluation of their life, people evaluate their level of life satisfaction (Diener et al., 1985). One of the scales most widely used for the evaluation of SWB is the Satisfaction with Life Scale (SWLS, Diener et al., 1985), a measure with very good levels of reliability and validity in the evaluation of SWB (see Diener et al., 2013).

Corresponding author: Correspondence concerning this article should be addressed to Pilar Carrera Levillain. Facultad de Psicología. Departamento de Psicología Social y Metodología. Área de Psicología Social. E-mail: pilar.carrera@uam.es

¹The population at risk of poverty or social exclusion (AROPE) is defined as those who are in any of the following situations: Risk of poverty, severely materially and socially deprived, or with very low intensity of employment (EAPN, 2022, p. 10). According to the information provided by the 2021 Living Conditions Survey, the value of the poverty risk threshold for a single-person household in Spain stood at 9,535 euros per year. In households made up of two adults and two children under 14 years of age, this threshold was 20,024 euros per year (Instituto Nacional de Estadística - INE [Statistics National Institute - SNI], 2023).

Cite this article: Caballero González, A., Fernández Sedano, I., Laforet, B., & Carrera Levillain, P. (2024). The Link between Abstract Thinking Style and Subjective Well-Being: Its Impact when People are in (Real or Perceived) Financial Scarcity. *The Spanish Journal of Psychology* 27, e7, 1–9. <https://doi.org/10.1017/SJP.2024.6>

© The Author(s), 2024. Published by Cambridge University Press on behalf of Universidad Complutense de Madrid and Colegio Oficial de la Psicología de Madrid. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

Importantly for the present research Diener and collaborators (2000) found that more global (abstract, broad) measures (e.g., satisfaction with one's recreation -broad- versus satisfaction with sports and television -specific-) reflected a tendency to evaluate general aspects of life as good. They found at the individual level that "life satisfaction depends on how good the various objective life domains are perceived to be in a person's life, but it is additionally influenced by the degree to which the person judges global domains more positively than specific domains" (Diener et al., 2000, p. 171). Diener and colleagues (2000) found that global measures more strongly reflected individual differences in dispositional positivity. In the same vein, previous research has shown that an abstract (versus concrete) thinking style enhances the positivity of evaluations of positive and negative events improving assessments across the board (Williams et al., 2013), and that positive affect promotes a broader abstract thinking style (Gasper & Clore, 2002; Labroo & Patrick, 2009). Thus, the link between positive feelings and abstract thinking style seems solidly supported.

Reviewing numerous studies with large and representative samples, Lucas and Schimmack (2009) showed that the correlations between income and SWB tend to vary in the range of .15 to .25. Diener et al. (2018) concluded that "the fact that income and SWB are associated is well established and not controversial" (p. 15). Income is one of the important correlates of SWB but it is not the only determinant of a lower SWB. Past results suggest a causal relationship between increased income and well-being (Haushofer & Shapiro, 2016); however, this link is not always found across all studies (Gardner & Oswald, 2007). These contradictory data have been explained by the relevance of subjective perceptions such as perceived financial inequality (Oishi & Kesebir, 2015), perceived social mobility (Cheung & Lucas, 2016) and how losses seem to have a greater effect on well-being than gains (Boyce et al., 2013). As the definition of SWB offered by Diener et al. (1985) indicates, subjectivity in the interpretation of personal circumstances, including socioeconomic circumstances, is a key factor in how people evaluate their lives. Highlighting the relevance of subjective perception, Mullainathan and Shafir (2014) defined financial scarcity as having insufficient resources from the respondents' perspective. In sum, it is necessary to consider both perspectives, subjective and objective, to better understand the relationship between economic vulnerability and well-being.

While poverty and its negative consequences on health and well-being can be explained through exploring structural factors, such as lack of access to education and material resources (Walker & Chase, 2014); recently, complementary new arguments have been developed, linking the cognitive changes caused by experiencing financial scarcity with harmful behavioral decisions (Aguilar et al., 2020; Caballero et al., 2023; Mani et al., 2013; Mullainathan & Shafir, 2013; Shah et al., 2012).

People who perceive themselves as having a shortage of resources tend to pay more attention to their surrounding context and the consequences of behaviors in the short term, an approach that is adaptive and useful for solving immediate difficulties, but which can lead to disastrous consequences in the long term.

Previous research highlights that perceiving oneself to be in a situation of financial scarcity promotes tunnel thinking that leads people to neglect future consequences of their present actions (Shah et al., 2012). Mani and collaborators (2013) tested the immediate impact of scarcity on cognition. In laboratory and field studies they showed that when people experienced monetary concerns, their cognitive performance diminished; but importantly, when the financial concerns disappeared (e.g., when farmers successfully

harvested their crops), their cognitive capacity improved. In this new perspective "the poor are less capable not because of inherent traits, but because the very context of poverty imposes load and impedes cognitive capacity" (Mani et al., 2013, p. 980). Thus, perceiving financial scarcity causes cognitive changes in people, focusing them on immediate consequences and reducing the chances of improving their situation of vulnerability (Aguilar et al., 2020; Bolland et al., 2007; Caballero et al., 2023).

Focusing on the immediate context and short-term behavioral consequences are characteristics of a concrete thinking style as indicated by construal level theory (CLT; Trope & Liberman, 2003; 2010). This theory states that people mentally represent actions and events with different levels of abstraction along a continuum that varies from a more concrete to a more abstract pole. Thus, the same action can be interpreted according to *how* it is carried out and its short-term consequences (concrete mindset); and, alternatively, the action can be represented according to *why* it is carried out and its long-term consequences (abstract mindset). People vary their level of mental representation based on psychological distance and vice versa (Trope & Liberman 2003; 2010). Before CLT, action identification theory (AIT) had pointed out that the mental representation of a behavior depends on the perceived difficulty of the actions required to carry out the behavior (Vallacher & Wegner, 1989; 2012), that is, when there are perceived obstacles to carrying out a behavior, people will represent the behavior in a more concrete way, paying attention to the contextual details to seek a viable alternative. CLT posits that as the urgency needed to carry out a behavior increases, the more an individual will exhibit a more concrete thinking style (i.e., considering the immediate consequences and the context; Trope & Liberman, 2003; 2010). Importantly, AIT points out that representing an action at abstract level allowed individuals better cope with obstacles and difficulties to pursue the action's goal (Vallacher & Wegner, 1987); coherent with this assumption, Liberman and Trope (1998) found that participants used fewer feasibility considerations (i.e., the ease or difficulty of reaching the end state) when they made decisions under an abstract mindset. Fujita and colleagues (Fujita & Han, 2009; Fujita et al., 2006) also showed that an abstract construal level (versus concrete construal level) promoted costly but beneficial actions. When individuals must engage in desirable but difficult behaviors, the more abstract their mindset, the greater their intention to persevere despite difficulties (Carrera et al., 2020). Both theories, CLT and AIT, consider an individual's thinking style (i.e., construal level or mindset) and how they mentally represent their actions (i.e., levels of personal agency) as personal traits that vary among contexts and among people (Trope & Liberman, 2010; Vallacher & Wegner, 1989; 2012). This means that although the thinking style presents some stability, it is sensitive to contextual influence. The possibility of changing thinking style has led to very promising results in the field of interventions to promote healthy behaviors, such as increasing physical exercise (Sweeney & Freitas, 2014), reducing tobacco consumption (Chiou et al., 2013), or increasing an individual's willingness to perform desirable but demanding behaviors (Carrera et al., 2020). In the same vein, self-control problems that appear associated with a concrete thinking style (Fujita & Han, 2009; Fujita et al., 2020) seem to be alleviated by inducing a more abstract mental representation of behaviors (Caballero et al., 2023).

Importantly, the need to resolve immediate obstacles impacting people who suffer from financial scarcity, which leads to the adoption a more concrete mindset, can be reversed by inducing an abstract mindset (Caballero et al., 2023). For people who perceive

themselves as having few economic resources, adopting an abstract perspective makes it easier to make healthier and more beneficial decisions for their future. The link between abstraction and positive consequences has been demonstrated in other studies in natural contexts, showing that in a situation of objective financial scarcity, adolescents who presented a more abstract thinking style reported healthier behavioral habits than those who had a more concrete style (Aguilar et al., 2020). Concerning SWB, previous research has also shown that when people evaluate more abstract and global events (e.g., education) versus more concrete and specific events (e.g., teachers), their general SWB is higher and does not necessarily correspond to the sum of their specific evaluations (Diener et al., 2000). Thus, it suggests that a more abstract and global interpretation of events is associated with a more positive evaluation of SWB.

As previous research has demonstrated positive relationships between SWB and health (Goudie et al., 2012; Kim et al., 2015), an abstract thinking style and healthy behaviors (Aguilar et al., 2020; Caballero et al., 2023; Chiou et al., 2013; Sweeney & Freitas, 2014) and more global evaluations and better SWB (Diener et al., 2000), we expect that people experiencing and/or perceiving financial scarcity and who also present a more abstract mindset (vs. concrete mindset), will perceive greater life satisfaction. In addition, because an abstract thinking style implies less focus on immediate difficulties, we expect that abstraction favors a less negative perception of financial problems and thus, people experiencing actual or subjective financial scarcity but thinking abstractly will report greater SWB.

Present Research

In the present research, we explore the link between a more abstract thinking style and greater SWB, across three studies: In Study 1, we explore this relationship in a correlational study with a sample of adolescents living in lower-middle income districts; in the Study 2, we analyze this link using a sample of adults with reported objective financial scarcity and without higher education; and in the Study 3, in an experimental study where perceived economic scarcity and mindset were induced experimentally, we test this influence.

First, based on previous literature, which has associated a more abstract mindset with healthier behaviors and more global evaluations of events with greater SWB, we hypothesize (Hypothesis 1) that a relatively more abstract thinking style will be associated with greater life satisfaction in the financially vulnerable populations evaluated in Studies 1 and 2.

Second, while a person's thinking style is modifiable (e.g., through manipulating psychological distance) it presents with some stability across situations in each individual (Trope & Liberman, 2010; Vallacher & Wegner, 2012), and, given that a person's financial situation varies based on external circumstances, we propose to test how thinking style influences an individual's mental representation of their financial situation in a specific moment. Acknowledging a bidirectional influence between contextual situation and construal level, such as the bidirectional influence between psychological distance and construal level pointed by Trope and Liberman (2010); in the present research we focus on how thinking style changes the subjective evaluation of personal financial difficulties, and how this evaluation influences SWB. We will test this influence using a correlational design (Study 2) and an experimental design (Study 3) manipulating sequentially the thinking style and the perception of financial difficulties. Thus, because when people present a more abstract thinking style use fewer feasibility considerations (i.e., difficulties),

we hypothesize (Hypothesis 2) that a more abstract thinking style will lead to lower perceived financial difficulties and, this perception to a greater well-being (Studies 2 and 3).

In the present studies, for a *t*-test of two independent groups (one-tail), an a priori power analysis ($1 - \beta = .80$), assuming a medium effect size, indicated a minimum sample of 102 participants was needed. In the studies reported, all three samples fulfilled this requirement.

Study 1

Method

Participants

The sample comprised 256 participants, between 12 and 18 years old (148 females; $M_{\text{age}} = 14.58$; $SD = 1.62$) from public high schools located in Madrid. Data from the Spanish National Statistics Institute (INE, 2023) show that the average income per person in selected schools' districts varied between € 9,618.99 and € 10,914.64, that means that they are in the bottom 25% at the national level for average income per person. In Spain, the prevailing practice for children is to attend a school near their residence, for this reason we used the district's socioeconomic status (SES) as an approximation for the students' SES.

Measures

The survey included the following scales and questions:

Thinking Style or Mindset. Construal level was measured through the Behavioral Identification Form (BIF; Vallacher & Wegner, 1989; Fujita et al., 2006). Participants were presented with 25 actions and asked to choose between two possible definitions. One definition describes the action in concrete terms (low level) whereas the other definition describes the action in abstract terms (high level). For example, participants are asked to choose whether "Locking a door" is better defined as "Securing the house" (high-level or abstract) or "Putting the key in the lock" (low-level or concrete). The number of high-level descriptions (scored as 1) served as a measure of thinking style: Higher scores mean higher abstraction. Cronbach's alpha was acceptable ($\alpha = .78$).

Subjective Well-being (SWB). Subjective well-being was assessed with the Satisfaction With Life scale (SWLS), the 5-item scale developed by Diener et al. (1985), we used the Spanish version validated by Atienza et al. (2000; e.g., *I am satisfied with my life; The conditions of my life are excellent*). Responses were measured on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha was good ($\alpha = .86$).

Demographics: Finally, participants reported demographic data about age and gender.

Procedure

Researchers administered the survey during regular classes. Students were guaranteed anonymity and confidentiality, and participation was voluntary. The study was integrated in a larger survey that included other measures unrelated to the hypotheses raised in the present research. The procedure was approved by all schools and families, fulfilling all ethical standards required in psychological research.

To carry out the following analyses, we point out that thinking style must be considered from a comparative perspective, as is the case with other psychological constructs such as locus of control or self-monitoring; although they are evaluated numerically on a continuous scale, their meaning is best understood discretely and

dichotomously (see MacCallum et al., 2002). For this reason and because the BIF scores should not be interpreted in an absolute way but in a context of comparison (see MacGregor et al., 2017; Vallacher & Wegner, 2012), we decided to split the whole sample by the median in the thinking style scale (BIF) creating a dummy variable (*relatively abstract style* versus *relatively concrete style*). We note that Iacobucci et al. (2015) points out that splitting a variable by the median is an acceptable strategy when variables do not present a high multicollinearity (the correlation between thinking style and SWB was moderate), the scale is of more than 3 or 4 points (the BIF scale ranges from 0 to 25) and the size of the sample is large ($N = 256$).

Informed Consent. In accordance with Spanish law, participants 16 years or older signed the consent form for themselves, whereas for participants under 16, the consent form was signed by either a parent or a legal guardian.

Results

The mean score of SWB was 3.82 ($SD = 1.17$) on a 7-point scale, and the mean score of mindset was 16.73 ($SD = 4.39$) on the BIF, a scale ranging from 0 to 25. These results indicate that in our sample mean well-being was medium-low and thinking style was intermediate in the concrete-abstract continuum.

We performed a correlation analysis between thinking style and SWB. As hypothesized, this correlation was positive and significant ($r^2 = .22, p < .001$).

Considering that thinking style must be understood from a comparative perspective we carried out a *t*-test for independent samples to compare the subjective well-being in the relatively more abstract participants with the relatively more concrete participants. To do this, the sample was divided by the median BIF score ($Md = 17$) and we obtained two groups based on their prevalent mindset. Those who scored ≤ 17 points were considered relatively concrete, and those who scored > 17 points were considered relatively abstract. SWB was higher in the relatively more abstract group ($M = 3.98, SD = 1.09$) than in the relatively more concrete group ($M = 3.65, SD = 1.24, t_{(233)} = 2.14, p = .017, d = .28$). These results support our hypothesis: In a sample of adolescents from lower-middle income districts, a relatively more abstract thinking style was associated with greater life satisfaction.

Study 2

Study 2 explores, in greater depth the link found in Study 1 between thinking style and SWB, examining whether the perception of financial difficulties is a relevant mediator in the influence of thinking style on SWB, using a sample of adults who were in objective and subjective situation of financial scarcity and without higher education. In this natural and financially vulnerable sample, we expect that a more abstract thinking style will lead to fewer perceived financial difficulties and thus greater well-being.

Method

Participants

To access a natural sample of adults (from 25 to 55 years old, $M_{age} = 39.65, SD = 8.70$) in a situation of high financial vulnerability, we recruited, through an online survey platform, a panel of Spanish adults (50% women). The sample was homogenized by selecting participants who reported objective financial scarcity

and without higher education, both conditions are associated with high financial vulnerability in the AROPE report (EAPN, 2022).

The participants voluntarily completed an online questionnaire. The following inclusion criteria were used: Adults between 25 and 55 years old, no higher education (no education at the university level or equivalent) and a monthly personal income equal to or less than 1,000 euros per month (the minimum interprofessional salary in Spain at the time of sample collection was 965 euros per month). Data were collected over one week, and our final panel included 210 participants (106 males).

Informed Consent. Informed consent was obtained from all individual participants included in the study.

Materials

Filter Questions (Demographics): First, the participants reported their monthly income and their level of education, and only people with an income equal to or less than 1,000 euros per month who had not completed any form of higher education continued responding to the questionnaire. Participants also reported demographic data about age and gender.

Control Check: To control for participants' perception of being in a situation of financial scarcity (perceived financial scarcity), the participants evaluated their financial situation on a four-point Likert scale ranging from *very bad* to *very good*.

Perception of Financial Difficulties (PFD): Perception of financial difficulties was evaluated with the item "How much do you currently feel you have financial problems?" on a six-point Likert scale ranging from *not at all* to *very much*.

Thinking Style or Mindset: As in Study 1, thinking style was assessed with the Behavioral Identification Form (BIF) developed by Vallacher and Wegner (1989). Cronbach's alpha was satisfactory ($\alpha = .82$).

Subjective Well-Being (SWB): As in Study 1, SWB was assessed with the Spanish version validated by Atienza et al. (2000), of the Satisfaction with Life Scale (SWLS; Diener et al., 1985). SWB scale obtained satisfactory reliability ($\alpha = .83$) in this study.

Results

In our sample, participants presented objective financial scarcity and coherently, all of them reported that their financial situation was either very bad or bad in the control check item ($M = 1.82, SD = 0.38$); no participant considered that their financial situation was good or very good. The mean score of SWB was 3.51 ($SD = 1.25$), the mean score of PFD was 4.70 ($SD = 1.21$), and the mean score of thinking style was 15.22 ($SD = 4.82$). These results indicate that in our sample of financially vulnerable adults, mean well-being was low (based on a 7-point scale), the participants perceived great financial difficulties (based on a 6-point scale) and their thinking style was medium in the concrete-abstract continuum (BIF scale varied from 0 to 25).

To determine whether a more abstract thinking style promoted greater satisfaction with life even when participants faced an objective and subjective financial situation of scarcity, we performed a correlation analysis between the two variables. As we hypothesized, the correlation between thinking style and SWB was positive and significant ($r^2 = .14, p = .045$), indicating a positive association between thinking style and the perception of SWB.

Our second objective was to explore whether perceived financial difficulties (PFD) mediated the influence of an abstract mindset on SWB. Therefore, we performed a mediation analysis using the macro PROCESS for SPSS (Model 4; bootstrapping procedure with

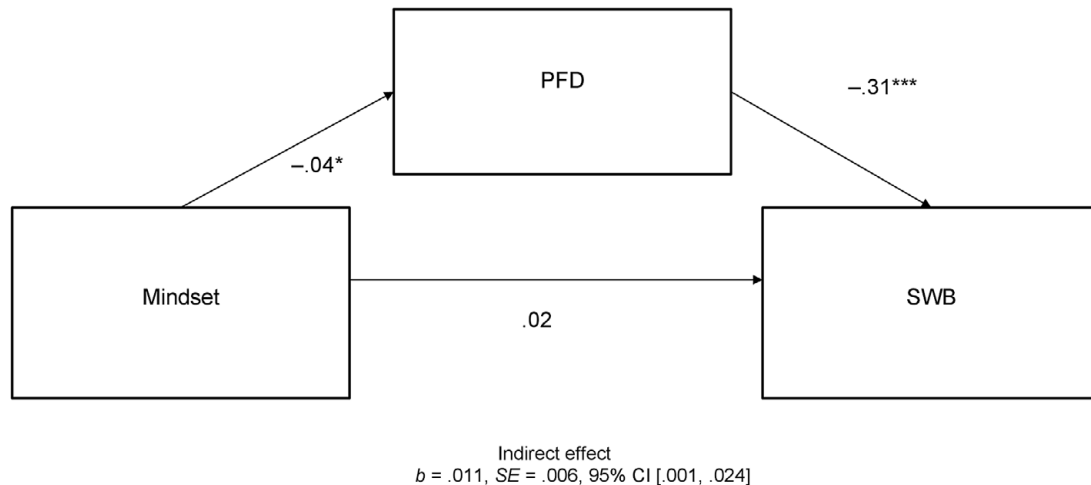


Figure 1. Mediation Model, Influence of Mindset and PFD on SWB.
 Note. * $p \leq .05$. *** $p \leq .001$.

10,000 resamples to generate confidence intervals of 95%; Hayes, 2022). In the first study we used the BIF as continuous variable in correlation analysis, and it was also dichotomized to clarify the result. In Study 2 the mediation model used to test its ro.e (Model 4, Hayes, 2022) permitted us to use the BIF as continuous variable.

As shown in Figure 1, and as we hypothesized, the results revealed that the direct effect of thinking style on SWB was not significant ($b = .025, SE = .017, p = .16$) and that the indirect effect, mediated by the perception of financial difficulties, was significant, $b = .011, SE = .006, 95\% CI [.001, .024]$.

This mediation analysis showed that the influence of abstraction only was significant when considering the mediator (i.e., perception of financial difficulties). Following Igartua and Hayes (2021), in a simple mediation model, the predictor exerts its effect on the dependent variable through two additive pathways of influence: The indirect (the one we care most about in mediation analysis) and the direct effect, which sum to produce the total effect. However, whether the total and/or the direct effect is statistically significant, or their pattern is, tells us nothing about mediation (Igartua & Hayes, 2021, p. 5). Following this explanation, it is possible to conclude that, even if the direct effect is not significant, an abstract thinking style is indirectly related with the subjective well-being through the mediator.

Thus, these results support that when in a situation of objective and subjective financial scarcity, people presenting a more abstract thinking style report a lower perception of financial difficulties, which, in turn, favors greater SWB. The model tested is based on the relationships proposed and reasoned in the second hypothesis, but because this is a correlational design, these results should be considered with caution. To better support the links expected, in the Study 3 we will manipulate sequentially thinking style and the perception of financial difficulties.

Study 3

Study 3 experimentally examines whether a more abstract thinking style can reduce the perception of financial difficulties derived from the perception of a situation of financial scarcity; we expect that this effect improves the subjective well-being reported by the participants. For this purpose, both thinking style and the perception of financial scarcity were manipulated experimentally.

Method

Participants

We recruited 164 participants (143 females; $M = 19.45; SD = 2.51$) undergraduate psychology students. Participants reported on average that they belonged to a middle social economic class ($M = 3.29; SD = .65$). Participation in the study was voluntary, and students received academic credit for their participation.

All participants responded to an online questionnaire that included all the measures of the study. After giving their consent, participants were randomly assigned into either the abstract ($N = 84$) or concrete ($N = 77$) thinking style conditions.

Informed consent. All participants gave their informed consent before participating in the study.

Measures

The survey included the following experimental manipulations and measures, and were presented in the following order:

Thinking style or Mindset manipulation: Construal level (abstract vs. concrete) was induced through a two-part prime task. In the first cognitive prime, originally developed by Freitas et al. (2004) and modified by Sweeney and Freitas (2014), in the abstract condition, participants were asked to consider “why” they would improve and maintain their health, and then answered four questions that were illustrated in diagram of ascending vertically aligned boxes connected by arrows. In the concrete condition, participants had to consider “how” they could improve and maintain their health and had to explain “how” using a diagram of four descending sequential boxes. For the second part of the priming task, five behaviors were selected from Vallacher and Wegner’s scale (BIF; 1989) and participants had to reframe these actions in terms of either why (abstract condition) or how (concrete condition) the action was performed.

Financial scarcity manipulation: Perceived financial scarcity was manipulated through the Bimboola activity (Caballero et al., 2023, adapted from Jetten et al., 2015). This activity manipulates perceived financial scarcity by having participants imagining living in Bimboola, a new virtual society, where they are assigned into a social group whose monthly income is below the poverty line. The activity induces perceived financial scarcity by having participants make life choices (e.g., find housing, method of transportation) on a given monthly budget while comparing options

available to the other economic groups. For example, when choosing how to spend their summer vacation, participants in the lowest earning group may choose between visiting a local municipal park or pool, while they can see that those in higher economic groups may choose options of a month-long stay on a private island or to go on a safari.

Control Check: After the Bimboola task, participants responded to three control items, requiring them to first remember how much money they earned monthly living in Bimboola and answer their level of agreement to two seven-point Likert scale questions (“My social group is poor in Bimboola,” “My social group suffers from financial scarcity in Bimboola”), ranging from *totally disagree* to *totally agree*.

Perception of Financial Difficulties (PFD): Perception of financial difficulties was evaluated through the item “How much do you feel that you have financial problems in Bimboola?”, using a five-point Likert scale ranging from *not at all* to *very much*.

Subjective Well-Being (SWB): SWB was assessed with the Spanish version, validated by Atienza et al. (2000), of the Satisfaction with Life Scale (SWLS; Diener et al., 1985). SWB scale obtained satisfactory reliability ($\alpha = .86$) in this study.

Demographics: Finally, participants reported demographic data about their real (non-Bimboolian) life. Age and gender were reported.

Results

First, we reviewed the control check item, which required participants to accurately remember how much they earned monthly within Bimboola, three participants, who could not remember the correct income, were left out of following analysis.

In our remaining sample, 161 participants, we then checked if Bimboola manipulation was effective: When asked about their financial situation within Bimboolian society, participants had high mean scores in their agreement that their social group in Bimboola was poor ($M = 6.41$, $SD = 1.27$), and that their Bimboola group suffered from financial scarcity ($M = 6.67$, $SD = 0.90$).

Regarding the dependent variables, as in Study 2, first, we explored whether abstract mindset promoted greater SWB and lower perception of financial difficulties when induced in

participants who perceive themselves in a situation of financial scarcity. Because thinking style has been manipulated in this study, we calculated the correlations between perception of financial difficulties and SWB in each experimental condition: ($r^2 = -.264$, $p = .015$ and $r^2 = -.208$, $p = .069$ in the concrete and abstract condition respectively, indicating a negative association between the perception of financial difficulties and the perception of SWB regardless of the style of thinking induced).

Table 1 shows the comparisons of the scores of the SWB and perception of financial problems between the two experimental conditions: Higher SWB scores and lower perceived financial problems were observed in the abstract thinking style condition.

As our second objective was to explore whether perceiving oneself as having financial problems mediated the influence of an abstract mindset on SWB, we performed mediation analyses using the macro PROCESS for SPSS (Model 4; bootstrapping procedure with 10,000 resamples to generate confidence intervals of 95%; Hayes, 2022).

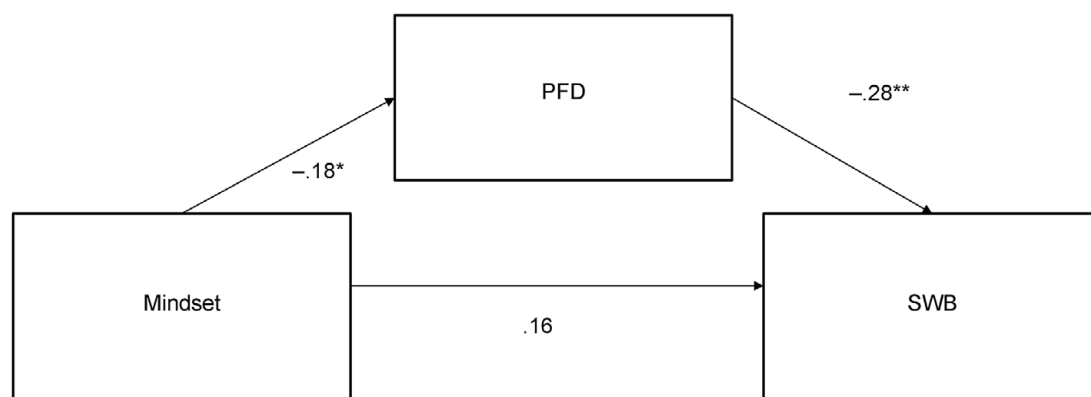
As shown in Figure 2, and as we hypothesized, the results revealed that the direct effect of thinking style on SWB was not significant ($b = .161$, $SE = .11$, $p = .15$). However, the indirect effect -mediated by the perception of having financial problems- was significant, $b = .05$, $SE = .04$, 95% CI [.008, .160].

Results show that people induced to experience a situation of financial scarcity, when they were led to think with a more abstract mindset, they perceived fewer financial problems, and this

Table 1. Means (SDs) of SWB and PFD Scores for Participants in Concrete and Abstract Mindset Conditions

	Mean (SD)	<i>t</i>	<i>d</i>
SWB		-1.9*	-.30
Concrete	1.53 (0.59)		
Abstract	1.74 (0.82)		
PFD		2.0*	.31
Concrete	4.82 (0.56)		
Abstract	4.64 (0.63)		

Note. * $p < .05$.



Indirect effect
 $b = .05$, $SE = .04$, 95% CI [.008, .160]

Figure 2. Mediation Model, Influence of Mindset and PFD on SWB.

Note. * $p \leq .05$. ** $p \leq .01$.

perception favored a greater subjective well-being. Because previous research has shown there is an acceptable correspondence between simulated experimental behavior and behavior of people in the real world (e.g., Franzen & Pointner, 2013; Sussman et al., 2015), the manipulation of perception of financial scarcity and thinking style let us to better test the links between them and subjective well-being.

Discussion

The current economic difficulties in many countries, including Spain, coupled with the subsequent increase in the number of citizens living in financial scarcity indicates an urgent need to evaluate their impact on SWB. It is especially important in the case of households with children under 18 years of age. The latest AROPE report (EAPN, 2022) indicates that the poverty rate within these households has increased in the last few years, worsening the living conditions of children and adults. The same report concludes that education directly impacts people's living conditions, as a larger percentage of financially vulnerable people did not complete higher education. For these reasons, our research (Study 1 and 2) focused on distinct samples in real situations of objective financial scarcity and also in a group where subjective financial scarcity was induced experimentally (Study 3).

The relationship between income and SWB is relevant as indicated by previous research; however, it was necessary to delve into the variables that moderate and mediate this relationship (see Diener et al., 2018). The aim of the present research was to explore the role that thinking style plays in perceived satisfaction with life and how this influence is mediated by the perception of financial difficulties in people (adolescents and adults) in objective and subjective situation of financial scarcity.

Previous studies have shown that being in a situation of financial scarcity generates a more concrete thinking style (Aguilar et al., 2020; Caballero et al., 2023) and that this way of representing behaviors was associated with self-control problems (Fujita & Han, 2009; Fujita et al., 2020) and more risk behaviors (Aguilar et al., 2020). To alleviate the negative consequences associated with a more concrete mindset and its focus on immediate problems, inducing a more abstract thinking style has been shown to shift attention away from immediate obstacles and promote demanding behaviors in the short term but with long-term benefits (Carrera et al., 2020; Caballero et al., 2023). Considering the close links among income, health and SWB, these results motivated the need to explore whether an abstract thinking style could also improve satisfaction with life in people suffering financial scarcity.

In Study 1 the objective financial situation of the participants was indirectly measured using data from Spanish Tax Agency; results showed that in the sample of adolescents who live in financially vulnerable districts, those with a relatively more abstract mindset, reported greater well-being compared to adolescents with relatively more concrete mindsets.

In Study 2, we controlled for the objective financial situation of the sample by selecting adults who had very low incomes and had not completed any higher education. Coherently with this control, in Study 2, the participants also perceived enormous financial difficulties. Results revealed that in this sample of financially vulnerable Spanish adults, there was a significant and positive relationship between thinking style and SWB; the more abstract the mindset, the greater the well-being. In addition, the results indicated that people who presented a more abstract mindset presented

a lower perception of financial difficulties and reported a higher SWB. People with a more concrete thinking style viewed their situation of economic hardship more negatively and thus reported a lower SWB.

Finally, in Study 3, we were able to explore the relationship of thinking style and SWB in a controlled experimental study, where, in our sample of university students, we manipulated the perception of financial scarcity and induced them to think abstractly or concretely. In the same vein as the previous two studies, results revealed that participants who had been induced with a more abstract thinking style reported both a lower perception of personal financial problems and significantly higher SWB. Further, we found that for participants who perceived themselves experiencing financial scarcity adopting an abstract mindset favored the perception of fewer financial problems, and therefore lead to greater SWB.

In 2008, Diener and Biswas-Diener noted that people's attention, interpretation, and memory of life events determine their SWB. Our results revealed that thinking style plays an important role in the meaning that people give to their financial situation of scarcity. Focusing less on the immediate hardships, which characterizes a more abstract thinking style, seems to make it easier for people to frame their situation of financial scarcity less negatively, thereby promoting more positive judgments of their SWB. These results are consistent with previous studies, showing that paying more attention to positive events than negative ones improves well-being (Quoidbach et al., 2015), and that happier people interpret ambiguous events of their lives (abstract events such as "I have been generally satisfied with my performance in school during the past year") more positively than less happy people (Seidlitz & Diener, 1993). Diener et al. (2000) confirmed this positivity bias by showing that the happiest people were able to reinterpret the negative events of their life more positively. Additionally, when evaluations were of global events (e.g., satisfaction with their education) versus more specific events (e.g., satisfaction with their professor, textbooks, and lectures), the reported well-being was greater; in other words, the individuals judged global-abstract categories more positively than specific-concrete categories. Consistent with these findings, our results reveal that thinking more abstractly could contribute to less negative evaluations of financial difficulties.

The present studies have limitations that future research should address such as considering more socioeconomically diverse samples, better measures of objective and subjective financial situations, home and environmental conditions, and participants' health, social relationships, or religion among others control variables (see Diener et al., 2018). Some of these variables could moderate the influence of construal on SWB making its effect more crucial in some conditions (e.g., when health worsens or when social network decreases).

We also note the importance of testing the possible bidirectional influence between thinking style and perception of financial difficulties and its combined effect on well-being in future research. This research is a first approach to the relationship between thinking style, financial scarcity, and well-being. In future studies we hope to be able to resolve these limitations to consolidate the results found and facilitate their generalization.

Despite the limitations, our results reveal the importance of considering thinking style and the objective and subjective measures of the financial situation when studying subjective well-being. As shown in previous research, scarcity of resources negatively affects people's cognitive functioning (Aguilar et al., 2020; Caballero et al., 2023; Mani et al., 2013; Shah et al., 2012); our studies suggest that intervention on cognitive processes could also help

people to better face financial scarcity and its negative consequences on well-being.

Overall, an abstract mindset can be presented as a strategy that facilitates a more positive reinterpretation (reframing) of adverse circumstances, and because it is possible to induce a more abstract style with different procedures (e.g. cognitive priming and persuasive messages), these results offer a promising approach to interventions to improve people's SWB even when they face financial difficulties (see Diener et al., 2018). In diverse contexts thinking style has been manipulated to promote positive behaviors in natural settings, for instance White and collaborators (2011) found that presenting two-sided door hangers with gain frame messages promoted more positive recycling behaviors when they were paired with an abstract perspective (i.e., highlighting the reasons -why- to recycle).

Undoubtedly, it is necessary to continue improving the financial conditions of vulnerable people and reduce social inequality, but it is also necessary to seek strategies that mitigate the consequences of adverse circumstances until they objectively improve.

We consider our results very promising and interesting, however, the samples used in the present research are relevant but small, limiting the generalizability of the findings. Given the relevance of SWB in populations in situations of economic vulnerability, future research should work to address this.

Data sharing. The data have been deposited at OSF. To see the data, visit https://osf.io/gn296/?view_only=58327cb19af649d399b33e6966389e0e

Authorship credit. Amparo Caballero: Conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, validation, visualization, writing-original draft, writing-review & editing.

Itziar Fernández: Data curation, formal analysis, investigation, methodology

Bronwyn Laforet: Conceptualization, formal analysis, investigation, methodology, writing-original draft, writing-review & editing.

Pilar Carrera: Conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, supervision, validation, visualization, writing-original draft, writing-review & editing.

Funding statement. This work was supported by the Ministerio de Ciencia, Innovación e Universidades (PGC2018–093821–B–I00; Fondo Europeo de Desarrollo Regional

[FEDER], MICINN & PID2022–137614NB–I00; MCIN, Agencia Estatal de la Investigación [AEI], 10.13039/501100011033; FEDER, UE).

Conflicts of interest. None.

References

- Aguilar, P., Caballero, A., Sevillano, V., Fernández, I., Muñoz, D., & Carrera, P. (2020). The relationships between economic scarcity, concrete mindset and risk behavior: A study of Nicaraguan adolescents. *International Journal of Environmental Research and Public Health*, *17*(11), Article 3845. <https://doi.org/10.3390/ijerph171138457>
- Atienza, F. L., Pons, D., Balaguer, I., & García-Merita, M. (2000). Propiedades psicométricas de la escala de satisfacción con la vida en adolescentes [Psychometric properties of the satisfaction with life scale in adolescents]. *Psicothema*, *12*(2), 314–319.
- Bolland, J. M., Bryant, C. M., Lian, B. E., McCallum, D. M., Vazsonyi, A. T., & Barth, J. M. (2007). Development and risk behavior among African American, Caucasian, and mixed-race adolescents living in high poverty inner-city neighborhoods. *American Journal of Community Psychology*, *40*(3–4), 230–249. <https://doi.org/10.1007/s10464-007-9132-1>

- Boyce, C. J., Wood, A. M., Banks, J., Clark, A. E., & Brown, G. D. A. (2013). Money, well-being, and loss aversion: Does an income loss have a greater effect on well-being than an equivalent income gain? *Psychological Science*, *24*(12), 2557–2562. <https://doi.org/10.1177/0956797613496436>
- Caballero, A., Fernández, I., Aguilar, P., Muñoz, D., & Carrera, P. (2023). Does poverty promote a different and harmful way of thinking? The links between economic scarcity, concrete construal level and risk behaviors. *Current Psychology*, *42*, 8402–8413. <https://doi.org/10.1007/s12144-021-02382-3>
- Carrera, P., Fernández, I., Muñoz, D., & Caballero, A. (2020). Using abstractness to confront challenges: How the abstract construal level increases people's willingness to perform desirable but demanding actions. *Journal of Experimental Psychology: Applied*, *26*(2), 339–349. <https://doi.org/10.1037/xap0000244>
- Cheung, F., & Lucas, R. E. (2016). Income inequality is associated with stronger social comparison effects: The effect of relative income on life satisfaction. *Journal of Personality and Social Psychology*, *110*(2), 332–341. <https://doi.org/10.1037/pspp0000059>
- Chiou, W.-B., Wu, W.-H., & Chang, M.-H. (2013). Think abstractly, smoke less: A brief construal-level intervention can promote self-control, leading to reduced cigarette consumption among current smokers. *Addiction*, *108*, 985–992. <https://doi.org/10.1111/add.12100>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, *95*, 542–575. <https://doi.org/10.1037/0033-2909.95.3.542>
- Diener, E., & Biswas-Diener, R. (2008). *Happiness: Unlocking the mysteries of psychological wealth*. Blackwell Publishing. <https://doi.org/10.1002/9781444305159>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71–75. https://doi.org/10.1207/s15327752jpa4901_13
- Diener, E., Inglehart, R., & Tay, L. (2013). Theory and validity of life satisfaction scales. *Social Indicators Research*, *112*(3), 497–527. <https://doi.org/10.1007/s11205-012-0076-y>
- Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. *Collabra: Psychology*, *4*(1), Article 15. <https://doi.org/10.1525/collabra.115>
- Diener, E., Napa-Scollon, C. K., Oishi, S., Dzokoto, V., & Suh, E. M. (2000). Positivity and the construction of life satisfaction judgments: Global happiness is not the sum of its parts. *Journal of Happiness Studies: An Interdisciplinary Periodical on Subjective Well-Being*, *1*, 159–176. <https://doi.org/10.1023/A:1010031813405>
- Espinosa Bayal, M. A., & Pérez Moreno, S. (2021). *La infancia vulnerable en España: Riesgos y respuestas políticas ante la crisis de la Covid-19* [Vulnerable childhood in Spain: Risks and political responses to the Covid-19 crisis]. (Debate Booklets Number 7). UNICEF Comité Español. Huygens Editorial
- European Anti-Poverty Network. (2022). *El estado de la pobreza en España. Seguimiento de los indicadores de la agenda UE 2030. 2015–2021* [The state of poverty in Spain. Monitoring the indicators of the EU 2030 agenda. 2015–2021] (XII Report). <https://www.eapn.es/estadodopobreza/ARCHIVO/documentos/informe-2022-compilado.pdf>
- Franzen, A., & Pointner, S. (2013). The external validity of giving in the dictator game. *Experimental Economics*, *16*(2), 155–169. <https://doi.org/10.1007/s10683-012-9337-5>
- Freitas, A. L., Gollwitzer, P., & Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology*, *40*(6), 739–752. <https://doi.org/10.1016/j.jesp.2004.04.003>
- Fujita, K., & Han, H. A. (2009). Moving beyond deliberative control of impulses: The effect of construal levels on evaluative associations in self-control conflicts. *Psychological Science*, *20*(7), 799–804. <https://doi.org/10.1111/j.1467-9280.2009.02372.x>
- Fujita, K., Orvell, A., & Kross, E. (2020). Smarter, not harder: A toolbox approach to enhancing self-control. *Policy Insights from the Behavioral and Brain Sciences*, *7*(2), 149–156. <https://doi.org/10.1177/2372732220941242>
- Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, *90*, 351–367. <http://doi.org/10.1037/0022-3514.90.3.351>

- Gardner, J., & Oswald, A. J. (2007). Money and mental wellbeing: A longitudinal study of medium-sized lottery wins. *Journal of Health Economics*, *26*, 49–60. <http://doi.org/10.1016/j.jhealeco.2006.08.004>
- Gasper, K., & Clore, G. L. (2002). Attending to the big picture: Mood and global versus local processing of visual information. *Psychological Science*, *13*, 34–40. <https://doi.org/10.1111/1467-9280.00406>
- Goudie, R. J. B., Mukherjee, S., De Neve J.-E., Oswald, A. J., & Wu, S. (2012). *Happiness as a driver of risk-avoiding behavior* (CEP Discussion Paper No. 1126). Centre for Economic Performance. <http://doi.org/10.2139/ssrn.1846390>
- Haushofer, J., & Shapiro, J. (2016). The short-term impact of unconditional cash transfers to the poor: Experimental evidence from Kenya. *The Quarterly Journal of Economics*, *131*(4), 1973–2042. <https://doi.org/10.1093/qje/qjw025>
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd Ed.). The Guilford Press.
- Iacobucci, D., Posavac, S. S., Kardes, F. R., Schneider, M. J., & Popovich, D. L. (2015). Toward a more nuanced understanding of the statistical properties of a median split. *Journal of Consumer Psychology*, *25*, 652–665. <https://doi.org/10.1016/j.jcps.2014.12.002>
- Igartua, J.-J., & Hayes, A. F. (2021). Mediation, moderation, and conditional process analysis: Concepts, computations, and some common confusions. *The Spanish Journal of Psychology*, *24*, Article e49. <https://doi.org/10.1017/SJP.2021.46>
- Instituto Nacional de Estadística. (2023). *Altas de distribución de renta de los hogares 2021* [Registration of household income distribution 2021]. https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177088&menu=ultiDatos&tidp=1254735976608
- Jetten, J., Mols, F., & Postmes, T. (2015). Relative deprivation and relative wealth enhances anti-immigrant sentiments: The v-curve re-examined. *PLOS ONE*, *10*(10), Article e0139156. <https://doi.org/10.1371/journal.pone.0139156>
- Kim, E. S., Kubzansky, L. D., & Smith, J. (2015). Life satisfaction and use of preventive health care services. *Health Psychology*, *34*(7), 779–782. <https://doi.org/10.1037/hea0000174>
- Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaib, A., Pankowski, D., Lieberoth, A., & Ahmed, O. (2020). Who is the most stressed during the COVID-19 pandemic? Data from 26 countries and areas. *Applied Psychology: Health and Well-Being*, *12*, 946–966. <https://doi.org/10.1111/aphw.12234>
- Labroo, A. A., & Patrick, V. M. (2009). Psychological distancing: Why happiness helps you see the big picture. *Journal of Consumer Research*, *35*, 800–809. <https://doi.org/10.1086/593683>
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, *75*(1), 5–18. <https://doi.org/10.1037/0022-3514.75.1.5>
- Lucas, R. E., & Schimmack, U. (2009). Income and well-being: How big is the gap between the rich and the poor? *Journal of Research in Personality*, *43*(1), 75–78. <https://doi.org/10.1016/j.jrp.2008.09.004>
- MacGregor, K. E., Carnevale, J. J., Dusthimer, N. E., & Fujita, K. (2017). Knowledge of the self-control benefits of high-level versus low-level construal. *Journal of Personality and Social Psychology*, *112*(4), 607–620. <http://doi.org/10.1037/pspp0000130>
- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, *341*(6149), 976–980. <https://doi.org/10.1126/science.1238041>
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, *7*(1), 19–40. <https://doi.org/10.1037/1082-989X.7.1.19>
- Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. Macmillan Publishers.
- Mullainathan, S., & Shafir, E. (2014). *Scarcity: The new science of having less and how it defines our lives*. Macmillan Publishers.
- Oishi, S., & Kesebir, S. (2015). Income inequality explains why economic growth does not always translate to an increase in happiness. *Psychological Science*, *26*(10), 1630–1638. <https://doi.org/10.1177/0956797615596713>
- Quoidbach, J., Mikolajczak, M., & Gross, J. J. (2015). Positive interventions: An emotion regulation perspective. *Psychological Bulletin*, *141*(3), 655–693. <https://doi.org/10.1037/a0038648>
- Save the Children Spain. (2020). *Infancia en reconstrucción. Medidas para luchar contra la desigualdad en la nueva normalidad* [Childhood in reconstruction. Measures to fight inequality in the new normal]. https://www.savethechildren.es/sites/default/files/2020-07/Informe_Infancia_En_Reconstruccion.pdf
- Seidlitz, L., & Diener, E. (1993). Memory for positive versus negative life events: Theories for the differences between happy and unhappy persons. *Journal of Personality and Social Psychology*, *64*(4), 654–664. <https://doi.org/10.1037/0022-3514.64.4.654>
- Shah, S. S. H., Aziz, J., Jaffari, A. R., Waris, S., Ejaz, W., Fatima, M., & Sherazi, S. K. (2012). The impact of brands on consumer purchase intentions. *Asian Journal of Business Management*, *4*, 105–110.
- Sun, R., Balabanova, A., Bajada, C. J., Liu, Y., Kriuchok, M., Voolma, S.-R., Đurić, M., Mayer, C.-H., Constantinou, M., Chichua, M., Li, C., Foster-Estwick, A., Borg, K., Hill, C., Kaushal, R., Diwan, K., Vitale, V., Engels, T., Aminudin, R., ... Sauter, D. (2023). Emotional experiences and psychological well-being in 51 countries during the COVID-19 pandemic. *Emotion*. Advance online publication. <https://doi.org/10.1037/emo0001235>
- Sussman, R., Lavallee, L. F., & Gifford, R. (2015). Pro-environmental values matter in competitive but not cooperative commons dilemmas. *The Journal of Social Psychology*, *156*(1), 43–55. <https://doi.org/10.1080/00224545.2015.1052362>
- Sweeney, A. M., & Freitas, A. L. (2014). Relating action to abstract goals increases physical activity reported a week later. *Psychology of Sport and Exercise*, *15*(4), 364–373. <https://doi.org/10.1016/j.psychsport.2014.03.009>
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, *110*(3), 403–421. <https://doi.org/10.1037/0033-295X.110.3.403>
- Trope, Y., & Liberman, N. (2010). Construal level theory of psychological distance. *Psychological Review*, *117*, 440–463. <https://doi.org/10.1037/a0018963>
- United Nations Children's Fund. (2020). *Impacto de la crisis por Covid-19 sobre los niños y niñas más vulnerables* [Impact of the Covid-19 crisis on the most vulnerable children]. UNICEF España. https://www.unicef.es/sites/unicef.es/files/comunicacion/COVID_infancia vulnerable_unicef.pdf
- Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review*, *94*(1), 3–15. <https://doi.org/10.1037/0033-295X.94.1.3>
- Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology*, *57*(4), 660–671. <http://doi.org/10.1037/0022-3514.57.4.660>
- Vallacher, R. R., & Wegner, D. M. (2012). Action identification theory. In P. A. M. van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 327–348). Sage Publications Ltd. <https://doi.org/10.4135/9781446249215.n17>
- Walker, R., & Chase, E. (2014). Adding to the shame of poverty: The public, politicians and the media. *Child Poverty Action Group*, *148*, 9–13. <https://doi.org/10.35648/20.500.12413/11781/ii269>
- White, K., MacDonnell, R., & Dahl, D. W. (2011). It's the mind-set that matters: The role of construal level and message framing in influencing consumer efficacy and conservation behaviors. *Journal of Marketing Research*, *48*, 472–485. <https://doi.org/10.1509/jmkr.48.3.472>
- Williams, L. E., Stein, R., & Galguera, L. (2013). The distinct affective consequences of psychological distance and construal level. *Journal of Consumer Research*, *40*, 1123–1138. <https://doi.org/10.1086/674212>