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**The Language of Investments: How Language-Structure Influences Crowdfunding**

**Investments**

**Abstract**

In this study we leverage the linguistics literature, which recognizes the role of language attributes for shaping individual behaviours, to explain heterogeneity in crowdfunding investment in entrepreneurial ventures. Specifically, we theorize that the use of weak-future languages (e.g., Chinese), creating a perception that the future is temporally closer to the present than strong-future languages (e.g., English), favour future-oriented behaviours, such as investing in crowdfunding entrepreneurial ventures. To test this thesis, we use a mixed-method approach, combining an original dataset of crowdfunding investment in 53 countries (Study 1) and a randomized experiment on 77 bilingual (English-Chinese) students' investment behaviour (Study 2). We find that people from countries that use weak-future languages are more actively engaged in crowdfunding entrepreneurial ventures than people from countries that use strong-future languages, over and above the stable effect of national culture. In other words, by perceiving the future as closer, the future takes on more psychological importance for these weak-future speakers and therefore they appear to enact more future-oriented behaviours.

**Keywords:** Language, language future-time-reference, crowdfunding, future-oriented behaviour, investments

## 1. Introduction

Linguists and anthropologists have enriched our understanding of language and its consequences on human behaviour (Sapir, 1921; 1951; Whorf, 1956; Boroditsky et al., 2011; Dancygier & Sweetser, 2009). The famous Sapir/Whorf hypothesis posits that languages shape our perception and interpretation of the world around us, which means that people who speak different languages do not experience the same reality (He, 2011). Several researchers studied the direct link between language structure and cognition in relation to space, colour, shapes (Winawer et al., 2007; Boroditsky & Gaby, 2010) and time (Boroditsky et al., 2011). Differences in language structure result in different economic behaviours (e.g., Chen, 2013; Liang et al., 2018), including entrepreneurial activities and financing (Liuberté & Dimov, 2021; Hechavarria et al., 2017; Balachandra et al., 2021; Short & Anglin, 2019), savings (Chen, 2013), and policy orientations among others (Pérez & Tavits, 2017).

Due to the importance of language in influencing people's behavior, leveraging linguistic studies (Boroditsky, 2001; Costa et al., 2014; Dancygier & Sweetser, 2009), we investigate whether variation across a language characteristic called future-time reference (FTR) – which represents the strength of the use of future in language influencing how close or how distant future events are perceived (Dancygier & Sweetser, 2009; James, 1982)– influence investments in entrepreneurial ventures via crowdfunding. Crowdfunding is based on a large number of individual investors who invest relatively small amounts of money via the Internet in early-stage businesses (Mollick, 2014). Unlike traditional entrepreneurial investing, which is done by experts, crowdfunding has a broader appeal—people can go online and invest, without expertise and with low barriers to entry.

We test our language-based model of crowdfunding investment with two complementary studies. In Study 1, we use archival data of crowdfunding investments in 53 countries, to test the main effect of language on the volume of crowdfunding. We find that countries with a weak-future language —that do not linguistically distinguish the future from the present— engage in more crowdfunding of entrepreneurial ventures than countries with a strong-future language — that clearly distinguish present from future. Subsequently, we complement our observational study with an individual-level randomized experiment on 77 bilingual Chinese students (Study 2), to establish causality and to exclude the possibility that our findings might be fully driven by cultural, rather than linguistic, differences. We find that, at the individual

level, those bilingual participants who were assigned to receive a crowdfunding pitch in a weak-future language (Chinese), were more likely to invest in the focal venture, than those bilingual participants who were assigned to receive the same crowdfunding pitch in a strong-future language (English). In simple terms, language generates a difference in crowdfunding of entrepreneurial ventures even for people from the same culture.

Overall we demonstrate that, by perceiving the future as closer (Dancygier & Sweetser, 2009; James, 1982), the future takes on more psychological importance for these weak-future speakers and therefore they appear to enact more future-oriented behaviours.

Our study provides an interdisciplinary explanation for cross-country variation in early-stage crowdfunding investment and contributes to the entrepreneurship literature by linking entrepreneurial finance (e.g., Mollick, 2014; Belleflamme et al., 2014) with a linguistic perspective of entrepreneurship, namely, with how language affects entrepreneurship phenomena.

## **2. Theoretical background: Linguistic Features and Cognitive Frames**

Languages shape our perception and interpretation of the world around us (Sapir, 1921; Whorf 1956; Brown & Lenneberg, 1954; Boroditsky, 2001). Thus, the language people speak affects the ways they think and behave (He, 2011). Indeed, words encode core concepts and intrinsic meanings that give individuals access to information and stimulate different cognitive frames (Tyler & Evans 2001), i.e., introspective states (one's own conscious thoughts and feelings) and individual perceptions and beliefs that direct and guide information processing, and ultimately, behavior (Slobin 1991; Costa et al., 2014). As an illustration, Slobin (1987) argued that language affects thought, because a language may grammatically require speakers to attend to and encode different aspects of their experiences when speaking. Such variations in grammatical systems may affect the speakers' representations of reality (Boroditsky, 2001; Evans & Levinson, 2009).

The effects of language on cognitive frames has been empirically shown in relation to space, color, shapes (Winawer et al., 2007; Boroditsky & Gaby, 2010), and time (Boroditsky, 2001; Boroditsky et al., 2011). For example, speakers of languages that define space in absolute terms—using cardinal directions (e.g., Australian tribes)—are better at orientating themselves than speakers of languages that define space in a relative way—such as, right, left, forward, etc. (e.g., Dutch) (Levinson, 2003). Moreover, people find it easier to recognize and

remember shades of colors for which there is a specific name in their native language (d'Andrade, 1995; Winawer et al., 2007). Furthermore, children who use more transparent languages find mathematics easier because they have clear and consistent representations of the base system (decimal in most languages) (Miller et al., 2005).

## **2.1 Language Future Time Reference**

The way individuals refer to future events in their language has an important effect on their cognitive frames and behavior (Boroditsky, 2001; Chen, 2013; d'Andrade, 1995). The presence or absence of grammatical future time reference is a stable linguistic feature (Gibbs, 1994; Dahl, 2000), which influences how close or how distant future events are perceived (Dancygier & Sweetser, 2009; James, 1982). Linguists call this *distancing*, meaning that distant (past or future) tenses are used instead of the present tense to convey that an event is distant from current reality (Dancygier & Sweetser, 2009). Speakers of weak-future languages –who are not required grammatically to distinguish between present and future– appear to perceive future events as closer than do speakers of strong-future languages – who are required to mark future events. In other words, by perceiving the future as more distant, the future takes on less psychological importance for these strong-future speakers (Dancygier & Sweetser, 2009). Recently, economics studies have started to investigate the influence of this particular language characteristics on economic behaviours. For instance, Chen (2013) demonstrated that speakers of weak-future languages adopt a more future-oriented behaviour than speakers of strong-future languages; they save more, retire with more wealth, smoke less, and are less obese. In a corporate-strategy context, Liang et al. (2018) showed that firms whose working-language has a strong-future grammatical structure have a lower future orientation, performing worse in future-oriented activities. Corporate finance studies found that firms whose working-language has a weak-future grammatical structure have higher precautionary cash holdings (Chen et al., 2017) and are less likely to engage in earnings management (Kim et al., 2017) than those whose working-language has a strong-future grammatical structure. In a political context, Pérez and Tavits (2017) that speakers using a weak- future language support more future-oriented government policies (e.g., an environmental green-gas tax).

Investing in entrepreneurial ventures is a future-orientated behavior. Drawing on cognitive and linguistic studies (Aronoff & Rees-Miller, 2003; Boroditsky, 2001), and on empirical findings in the management and economic literature (Chen, 2013), we theorize that

speakers of weak-future languages, perceiving the future as closer (vis-à-vis speakers of strong-future languages) (Dancygier & Sweetser, 2009), are more prone to future-oriented behaviours, consequently, attracted to investing in entrepreneurial ventures via crowdfunding.

*Hypothesis 1: Speakers of weak-future languages engage in more crowdfunding investment than speakers of strong-future languages.*

### 3. Material and Methods

To test the relationship between language future time reference and crowdfunding of entrepreneurial ventures, we conducted two complementary studies: (1) An observational study with archival data, at the country level of analysis, and (2) A randomized experiment with bilingual (English/Chinese) master students as proxies of crowdfunding investors, to establish causality and control for the possibility of national culture driving the relationship.

#### 3.1 Study 1: Cross-Country Empirical Study

##### 3.1.1 Sample and Data

Our dataset includes crowdfunding investments in early-stage companies in 53 countries between 2010 and 2016 from studies mapping the alternative finance industry, published by the Centre for Alternative Finance at the University of Cambridge<sup>1</sup>. We collected macroeconomic data such as the size of the population, the GDP, and the total entrepreneurship activity (TEA), from EUROSTAT, The World Development Indicators database (available on the World Bank website), and the Global Entrepreneurship Monitor (GEM). We gathered data on country-level risk propensity (Hofstede, 1980; 2001) from Hofstede's online tools. For data on language characteristics —weak- or strong-future languages- we adopted the language classifications developed by the European Science Foundation's Typology of Languages in Europe (EUROTYP) project (Dahl, 2000)<sup>2</sup>.

##### 3.1.2 Variables and Measures

**Dependent variable.** *Crowdfunding investment* measures the amount invested in crowdfunding per-capita (ln), in the focal country.

**Independent variable.** The variable “*Strong FUTURE*” represents the strength of future use in language is a dummy variable that takes the value zero for weak-future language countries, and 1 otherwise.

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<sup>1</sup> <https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/>

<sup>2</sup> The EUROTYP project is the most extensive research program to study the cross-linguistic grammaticalization of future time referencing. The project was funded by the European Science Foundation, involved some 100 linguistics scholars for just over 5 years (1990-1994), and resulted in an 800-page report (Dahl, 2000).

**Control variables.** We control for the potential influence of cultural characteristics on early-stage investments, including *Uncertainty avoidance (ln)* and *Individualism* employing Hofstede’s (1980) measures. We control for *Total Entrepreneurial Activity (ln)* (TEA), i.e. the percentage of individuals of a country actively involved in starting a business; *Business registration cost (ln)*, which captures the cost to register a business as a percentage of gross national income (GNI) per capita; country’s *Gross domestic product (GDP)*; *Deposit interest rate*; *Domestic savings*, calculated as GDP less consumption expenditure, as a proportion of GDP; and *Digital literacy (ln)*, as a percentage of individuals who regularly use the Internet). We include year fixed-effects to control for any unobserved macro-level environmental changes that might affect early-stage investment through crowdfunding.

### 3.1.3 Descriptive Statistics

Table 1 presents the list of countries in our sample, indicating whether their dominant spoken language is a weak- or a strong-future language. Among the 53 countries included in our database, 17 are in the weak-future language category, representing 32 percent of the sample. The remaining 36 countries are in the strong-future language category (68 percent of the sample). Our sample is unbalanced: 35 percent of the observations refer to countries with a weak-future language, and 65 percent of the observations refer to countries with a strong-future language. We observe that countries in the weak-future language category invest on average 30 percent more (6.49 Euros per-capita per year) than countries in the strong-future language category (4.55 Euros per capita per year).

----Table 1 about here-----

### 3.1.4 Results: Study 1

We estimated a random effects model. A country fixed-effects model was not applicable since it discards information on differences between countries, vital to our theoretical interest in a cross-national comparison (Wooldridge, 2010). We ran a Breusch–Pagan Lagrange Multiplier (LM) test, which was statistically significant ( $p = 0.000$ ), for confirmation that a random effects was the best estimation model. We also considered whether endogeneity was a concern but concluded that language characteristics are exogenous predictors of current economic behavior; language is an old, inherited, and relatively stable population feature, and it cannot be related endogenously to recent investments in entrepreneurial firms. In Table 2,

we present the descriptive statistics and correlation among our variables. In Table 3, we report the random-effects model and the model fit statistics.

----Insert table 2 and 3 here----

Model 1 in Table 3 reports the effect of the control variables including Uncertainty avoidance, Individualism, TEA, Business registration cost, GDP, Deposit interest rate, Domestic savings, Digital literacy, and Year, on our dependent variable Crowdfunding Investment. We observe that crowdfunding investment is influenced by *Uncertainty avoidance* ( $\beta = -1.444, p = 0.006$ ), *Individualism* ( $\beta = 0.028, p = 0.025$ ), *TEA* ( $\beta = 0.566, p = 0.067$ ), *Deposit interest rate* ( $\beta = -0.010, p = 0.005$ ), *Domestic savings* ( $\beta = -0.046, p = 0.027$ ) and *Digital literacy* ( $\beta = 0.625, p = 0.045$ ). We then introduced *the variable Strong FUTURE* in Model 2. We hypothesized that speakers of weak-future languages invest more funds in crowdfunding campaigns than speakers of strong-future languages. The results show a significant negative association between strength of future use in language and the per-capita amount invested through crowdfunding ( $\beta = -1.043, p = 0.049$ ). Specifically, speakers of weak-future languages, on average, invest 35 per cent more per-capita per year via crowdfunding than speakers of strong-future languages. This finding provides support for Hypothesis.

### 3.2 Study 2: Randomized Experiment

#### 3.2.1 Aim and Participants

At individual-level to test out Hypothesis on whether language affects crowdfunding investment over and above the effect of national culture, we run a randomized experiment in which we manipulated the language of a crowdfunding campaign, comparing a weak-future language (Chinese) with a strong-future language (English). We randomly assigned bilingual participants (Chinese/English), sharing the same cultural background (Chinese), to one of the two language conditions. We chose participants from the same country (China), thus sharing the same culture to isolate the effect of language structure on investment decisions. We recruited participants, between February and June 2019, in a Dublin-based business school, and via Prolific, a UK-based online platform for survey and experiment tasks (the highest quality platform at the time of our writing (Peer et al., 2017)). All participants were university students of Chinese origin and fluent in Chinese (their mother tongue) and English, as they were living and studying in an English-speaking country.

We modelled our research design on two recent experimental studies using business

students, as proxies for investors, to evaluate an entrepreneurial investment proposition (see Chen et al., 2009; Zunino et al., 2017). We received 77 usable responses. The participants were studying for a masters in Management (n=20); masters in Risk Management (n=25); masters in International Management (n=6), masters in Entrepreneurship (n=5), doctorate in Management (n=7) and bachelors in business and economics (n=14). Despite the participants' young age, and the fact that they were students, they reflected a profile consistent with crowdfunding investors (Zunino et al., 2017). Indeed, because crowdfunding 'democratized' investment, anyone (especially young people with good business acumen) can invest small sums of money in entrepreneurial ventures.

### 3.2.2 Procedure

The setting of our experiment is the equity crowdfunding market. We selected a real crowdfunding campaign from a UK platform, and we asked respondents to evaluate the investment opportunity. As we mentioned above, we randomly assigned participants to two language conditions of the crowdfunding campaign, Chinese (weak-future) and English (strong-future). Participants completed a physical instrument (a questionnaire). In the first section, they were informed about the study and about their investment task. We also asked participants whether they were native Chinese speakers, whether they were proficient in English, and whether they participated as a backer or project proponent in crowdfunding platforms. Moreover, we asked about their risk propensity. In the second section, participants read the crowdfunding proposal of the venture, divided in six sections: Introduction of the business idea; Intended impact; Accomplishments; Team; Market, marketing and competition strategy; Common questions with answers (Q&A). After reading the crowdfunding proposal, we asked participants to answer questions evaluating the investment proposal. In the third section, we administered a final block of questions to capture the socio-demographics of the participants.

### 3.2.3 Variables

**Dependent variables.** Our main dependent variable is the *Amount invested* in the proposed entrepreneurial venture. Participants indicated the amount of money they were likely to invest in the venture on a scale of 1 to 14 (1=\$0; 2=\$0-\$10; 3=\$10-\$50; 4=\$50-\$100; 5=\$100-\$200; 6=\$200-\$500; 7=\$500-\$1,000; 8=\$1,000-\$2,500; 9=\$2,500-\$5,000; 10=\$5,000-\$10,000; 11=\$10,000-\$50,000; 12= \$50,000-\$100,000; 13=\$100,000-\$150,000; 14=More than

\$150,000). To increase the reliability of our results, we measured three additional dependent variables. *Funding goal* measures the participants' expectation that the venture would meet its funding goal (on a scale from 1 to 5, where 1= Definitely yes and 5=Definitely not). *Performance* captures the participants' expectation that the venture would succeed (a dummy variable taking the value of 1 when the venture is expected to succeed and 2 when the venture is expected to fail). *Interest in investing* measures participants' interest in investing in the venture on a scale from 1 to 5, where 1= Definitely yes and 5=Definitely not.

***Treatment variable.*** *Strength of future use in language* is a dummy variable, taking the value of 0 if the crowdfunding proposal (and all the questions) were administrated in Chinese (weak-future language), and the value of 1 if they were administrated in English (strong-future language).

***Control variables.*** We control for the socio-demographic characteristics of the participants. Specifically, we control for *age* (on a categorical scale from under 18 to 65+ years old), *gender* (male or female), *level of education* (on a categorical scale including high-school, undergraduate, master and PhD), and *field of education* (business, engineering, law, life sciences, other sciences).

### 3.2.4 Descriptive Statistics

Of the 77 participants, 30% were male and 70% were female; 57% were between 18-24 years old; 39% were between 25-34 years old, and 4% were between 35-44 years old. All the participants were Chinese nationals, with 74% living in Ireland, 20% in the UK, and 6% in the US. 73% of the participants were master's students, 7% PhD students, and the remaining 18% were undergraduate students. On average, participants considered the investment proposal as "moderately attractive" (2.03 out of 5) and would invest between \$250 and \$750.<sup>3</sup>

In Table 4 we present the descriptive statistics and correlation among our variables. We randomly assigned participants to one of two language conditions. 40 participants received a Chinese version of the instrument, and 37 participants received an English version. As we can see in Table 5, there is no significant difference in the means for participants' age, gender, and level of education across the two conditions, which indicates that the random allocation of subjects to the conditions worked well.

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<sup>3</sup> The average investment in a crowdfunding project in 2018 is £1428 (report by Crowdcube, a major equity crowdfunding platform in the UK).

----Insert Table 4 and 5 about here----

3.2.5 Results: Study 2

To test the impact of the strength of use of future in language on the intensity of crowdfunding investment, we compare the means for our dependent variable(s), in the two language conditions of the experiment to determine whether the mean differences are statistically significant (see Table 6). Our results show that participants who received the investment proposal in Chinese (weak-future language condition) invested on average between \$500 and \$1,000 (7.3 on the 14-point scale) whereas equivalent participants who received the proposal in English (strong-future condition) invested on average between \$200 and \$500 (6.08 in the 14-point scale). This difference between the two conditions is meaningful and statistically significant (mean difference = 1.219,  $p=0.05$ ).

We found similar results for our additional dependent variables. Regarding *Funding goal* (whether participants believed the company would reach their funding goal), participants in the weak-future language (Chinese) condition were significantly more optimistic than their counterparts in the strong-future language (English) condition (mean difference = -0.311,  $p=0.033$ ). For the variable *Performance* (participants’ expectations about whether the company would succeed), we also observed significantly higher optimism in the weak-future language (Chinese) condition, vis-à-vis the strong-future language (English) condition (mean difference = -0.521,  $p=0.01$ ). Regarding *Interest in investing*, there appeared to be more investment interest by participants in the weak-future language (Chinese) condition than in the strong-future language (English) condition, but this mean difference did not reach statistical significance (mean difference = -0.171,  $p=0.149$ ).<sup>4</sup>

----Insert Table 6 about here----

Overall, the results of our randomized experiment (Study 2) corroborate the results of our observational data (Study 1). Those who use weak-future languages tend to invest more in crowdfunding than those who use strong-future languages, after random assignment of subjects to conditions, providing support for our Hypothesis.

4. Discussion and Conclusion

<sup>4</sup> We note that, for the variables *Funding goal*, *Performance*, and *Interest in Investing*, due to the reverse coding of their scales, a lower mean would indicate higher crowdfunding investment.

Departing from and leveraging the linguistics studies that posit that *distancing* – past or future tenses are used instead of the present to convey that a current event is distance to the present (Dancygier & Sweetser, 2009; Chen, 2013)— we investigated the influence of the future use in language on crowdfunding investment in entrepreneurial ventures.

We find support to our theorizing that people in countries with weak-future languages by perceiving the future as more closer, the future takes on more psychological importance behaviors (Dancygier & Sweetser, 2009; James, 1982), are more prone to invest in crowdfunding. In essence, strength of the use of future in language induces perceptions of the future as closer or more distant, subsequently affecting future-oriented economic behavior.

Moreover, we illustrate that there is an additional effect of language on cognitive frames and subsequent economic behavior, *over and above the stable effect of culture*. The finding that two sets of randomly assigned bilingual participants, all from the same national and cultural background, reacted differently to the same crowdfunding proposal, because it was pitched to them in a different language, gives us confidence that the observed cross-country differences in the volume of crowdfunding investment, is driven (at least in part) by linguistic structures that speakers are obliged to use, over and above stable cultural characteristics.

A language leads its speakers to momentarily perceive and mark the future as closer to, versus further away from, the present, which alters their behavior. In simple terms, even for people of the same culture, using a different language makes a difference in their future-oriented behavior.

#### **4.1 Theoretical Contribution**

This study offers an interdisciplinary contribution to the entrepreneurship literature by linking entrepreneurial finance (including investor behavior; e.g., Mollick, 2014; Belleflamme et al., 2014) with a linguistic perspective of entrepreneurship, by explaining how language structure affects entrepreneurship-related economic behaviors. Narratives can help us to understand issues such as entrepreneurial action (Gartner, 2007; Mantere et al., 2013; Liuberté & Dimov, 2021), attracting investors (Allison et al., 2013; Martens et al., 2007; Balachandra et al., 2021; Short & Anglin, 2019), and building legitimacy (Manning & Bejarano, 2017). However, rather than focusing on the content of the entrepreneurs' (or their ventures') narratives, we investigate the role of linguistic structure. By linking linguistic structure to the investment in entrepreneurial ventures, we provide new insights into how and why investors

differ in their investments in entrepreneurial ventures (both within and across individuals and cultures).

With the recent advancements in explaining the content (e.g., Gafni et al., 2019; Kaminski & Hopp, 2019), presentations (e.g., Davis et al., 2017; Shane et al., 2020), and facial expressions (e.g., Stroe et al., 2020) of entrepreneurs' pitches to the crowd, our findings offer an important boundary condition and possible contingency. That is, perhaps some content, presentations, and facial expressions are more effective when communicated in (or with) a weak-future language (vis-à-vis a strong future language) or vice versa.

Future research can explore the interaction between language and the content of what was communicated . For example, does the content of the crowdfunding pitch influence the strength of the relationship between language structure and the crowds' investment in an entrepreneurial venture?

Moreover, future research can explore the role of language structure on entrepreneurial activity other than the crowds' investment in entrepreneurial ventures. Rather than focusing on investors, how does the entrepreneurs' language structure influence the economic behaviors of employees, customers, and other audience members? Interestingly, when communicating with a bilingual audience, do entrepreneurs choose the language that stimulates a desired mindset in that audience? There are ample opportunities for future research in this domain.

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Table 1. Sample descriptive statistics

Country	Language FUTURE	Country	Language FUTURE
Argentina	Strong	Japan	Weak
Australia	Strong	Jordan	Strong
Austria	Weak	Latvia	Strong
Belgium	Weak	Lebanon	Strong
Brazil	Weak	Lithuania	Strong
Bulgaria	Strong	Luxemburg	Weak
Canada	Strong	Malaysia	Weak
Chile	Strong	Mexico	Strong
China	Weak	New Zealand	Strong
Croatia	Strong	Nigeria	Strong
Czech Republic	Strong	Norway	Weak
Denmark	Weak	Poland	Strong
Egypt	Strong	Portugal	Strong
Estonia	Weak	Romania	Strong
Finland	Weak	Russia	Strong
France	Strong	Singapore	Strong
Germany	Weak	Slovakia	Strong
Ghana	Strong	South Africa	Strong
Greece	Strong	South Korea	Strong
Hong Kong	Weak	Spain	Strong
Hungary	Strong	Sweden	Weak
Iceland	Weak	Switzerland	Weak
India	Strong	The Netherlands	Weak
Iran	Strong	UK	Strong
Ireland	Strong	Ukraine	Strong
Israel	Strong	US	Strong
Italy	Strong		

	N. obs.	N. of countries	Mean	SD	Min	Max
<i>Crowdfunding investment</i>						
(i) Strong-FUTURE	109	36	4.551	12.4	0.0004	81.25
(ii) Weak-FUTURE	59	17	6.496	24.42	0.003	167.4

Table 2. Descriptive statistics and pair-wise correlations: crowdfunding investment

	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Crowdfunding*	-0.859	2.517	1									
(2) Strong FUTURE	0.648	0.478	-0.12 <i>0.10</i>	1								
(3) Uncertainty Avoidance	4.051	0.472	-0.30 <i>0.00</i>	0.17 <i>0.02</i>	1							
(4) Individualism	52.234	22.66	0.35 <i>0.00</i>	-0.13 <i>0.07</i>	-0.01 <i>0.86</i>	1						
(5) TEA	-2.35	0.549	-0.01 <i>0.848</i>	0.33 <i>0.00</i>	-0.05 <i>0.47</i>	-0.30 <i>0.00</i>	1					
(6) Business registration cost	1.049	1.412	-0.460 <i>0.000</i>	0.09 <i>0.21</i>	0.42 <i>0.00</i>	-0.43 <i>0.00</i>	0.23 <i>0.00</i>	1				
(7) GDP (Billion)	1848.98	3498.7	0.301 <i>0.000</i>	-0.09 <i>0.19</i>	-0.13 <i>0.08</i>	0.15 <i>0.04</i>	-0.01 <i>0.83</i>	-0.13 <i>0.07</i>	1			
(8) Deposit interest rate	3.595	4.884	-0.444 <i>0.000</i>	0.20 <i>0.00</i>	0.17 <i>0.02</i>	-0.30 <i>0.00</i>	0.42 <i>0.00</i>	0.33 <i>0.00</i>	-0.15 <i>0.04</i>	1		
(9) Domestic savings	24.256	10.847	0.108 <i>0.162</i>	-0.33 <i>0.00</i>	-0.47 <i>0.00</i>	-0.02 <i>0.76</i>	-0.15 <i>0.04</i>	-0.31 <i>0.00</i>	0.11 <i>0.13</i>	-0.21 <i>0.00</i>	1	
(10) Digital literacy	4.175	0.464	0.434 <i>0.000</i>	-0.21 <i>0.00</i>	-0.11 <i>0.13</i>	0.42 <i>0.00</i>	-0.27 <i>0.00</i>	-0.37 <i>0.00</i>	-0.05 <i>0.45</i>	-0.38 <i>0.00</i>	0.24 <i>0.00</i>	1
(12) Year	2014	1.360	0.262 <i>0.000</i>	0.22 <i>0.00</i>	0.04 <i>0.59</i>	-0.25 <i>0.00</i>	0.19 <i>0.01</i>	-0.02 <i>0.72</i>	-0.12 <i>0.10</i>	0.14 <i>0.05</i>	-0.05 <i>0.45</i>	-0.02 <i>0.71</i>

n = 168; *p*-values in *italics*. \*Annual per-capita amount in Euros

Table 3: Effect of language features on crowdfunding

DV: Crowdfunding	I		II	
	Coeff	SE	Coeff	SE
Strong FUTURE			-1.043*	0.528
Uncertainty avoidance	-1.444**	0.523	-1.25*	0.624
Individualism	0.028*	0.012	0.026*	0.012
TEA	0.566†	0.308	0.761*	0.309
Business registration cost	-0.263	0.308	-0.288	0.202
GDP	0.0001*	0.000	0.0001*	0.000
Deposit interest rate	-0.093†	0.052	-0.096*	0.045
Domestic savings	-0.046*	0.020	-0.050*	0.025
Digital literacy	0.625*	0.312	0.597*	0.255
Year Dummies	Yes		Yes	
Constant	-1.083	2.595	-3.105	3.023
Observations	168		168	
R squared	54.23%		56.20%	

Notes: DV, dependent variable. †  $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$  (two-sided tests).  
SE: Standard Errors (Robust)

Table 4: Descriptive statistics and pair-wise correlations

	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Strength of future use in language	0.48	0.50	1						
(2)Amount invested	6.71	3.30	-0.19 <i>0.11</i>	1					
(3) Funding goal	2.32	0.75	0.21 <i>0.07</i>	-0.10 <i>0.39</i>	1				
(4) Performance	1.35	0.94	0.28 <i>0.01</i>	-0.17 <i>0.15</i>	0.41 <i>0.00</i>	1			
(5) Interest in investing	2.53	0.72	0.12 <i>0.30</i>	-0.36 <i>0.00</i>	0.41 <i>0.00</i>	0.38 <i>0.00</i>	1		
(6) Gender	1.75	0.44	0.06 <i>0.60</i>	-0.25 <i>0.03</i>	0.08 <i>0.48</i>	0.11 <i>0.33</i>	-0.04 <i>0.72</i>	1	
(7) Education	2.91	0.54	-0.03 <i>0.79</i>	0.08 <i>0.48</i>	-0.09 <i>0.45</i>	-0.04 <i>0.73</i>	-0.04 <i>0.71</i>	-0.03 <i>0.81</i>	1
(8) Age	3.78	3.56	0.38 <i>0.00</i>	0.00 <i>0.99</i>	0.05 <i>0.69</i>	0.52 <i>0.00</i>	0.17 <i>0.15</i>	0.12 <i>0.30</i>	0.02 <i>0.84</i>

n = 77; *p*-values in *italics*

Table 5: Mean differences among control variables in the two conditions

	Age				Gender			Education		
	Obs	M	SD	t-test	M	SD	t-test	M	SD	t-test
(a) Chinese	40	2.475	0.598	(a) - (b) < 0	1.725	0.452	(a) - (b) < 0	2.92	0.055	(a) - (b) > 0
(b) English	37	2.486	0.650	Pvalue: 0.4681	1.777	0.421	Pvalue: 0.3001	2.891	0.114	Pvalue: 0.398
Combined	77	2.480	0.07		1.75	0.435		2.909	0.061	
Diff		-0.011			-0.052			0.033		

n=77; M, mean; SD, standard deviation

Table 6: Effect of language FUTURE on crowdfunding investment propensity

	Amount invested				Funding goal		
	Obs	M	SD	t-test	M	SD	t-test
(a) Chinese	40	7.3	3.298	H1: (a) - (b) >0	2.175	0.780	H1: (a) - (b) <0
(b) English	37	6.081	3.217	Pvalue : 0.052	2.486	0.692	Pvalue : 0.033
Combined	77	6.714	3.296		2.324	0.085	
Diff		1.218			-0.311		

  

	Performance				Interest in investing		
	Obs	M	SD	t-test	M	SD	t-test
(a) Chinese	40	1.1	0.303	(a) - (b) < 0	2.45	0.677	(a) - (b) < 0
(b) English	37	1.621	1.276	Pvalue: 0.01	2.621	0.758	Pvalue: 0.149
Combined	77	1.350	0.942		2.532	0.717	
Diff		-0.521			-0.171		

n=77; M, mean; SD, standard deviation