Psychological distancing and language intensity in P2P lending

Abstract

Peer-to-Peer (P2P) lending is referred to as lending money to unknown borrowers directly through online platforms without using traditional financial intermediaries. We leverage insights from the literature on psychological distancing and affective intensity to argue that linguistic styles, as the manifestation of social psychological distance, have a negative impact on P2P funding success. Testing our arguments with data from a major Chinese P2P platform, we find that using too many 'you' and negations (proxies for social psychological distance) in the borrower's description will dampen a lender's willingness to support a funding campaign. Moreover, when the social psychological distance is large, language intensity can be perceived as desperate, making a lender even less willing to support the funding campaign. Our research shed new light on the role of language in P2P funding success and has practical implications for lenders, borrowers and regulators in overcoming barriers in P2P lending.

Keywords social psychological distance; language intensity; P2P lending; language intensity

1 Introduction

Peer-to-Peer (P2P) lending transactions are defined as lending money to strangers directly through online platforms without traditional financial intermediaries such as banks (Ge et al., 2017). Lending platforms can operate at a lower cost than other financial institutions, so they can pass the saving on to lenders through high returns and to borrowers through low interest rates. These loans are unsecured, unlike traditional financial institutions that rely heavily on collateral (Huang et al., 2021). This feature of P2P platforms is particularly attractive to borrowers who cannot provide collateral, but it may make lenders unlikely to be compensated in the event of default. P2P lending is also called debt-based crowdfunding[1] because each lender only contributes to a part of the total loans (Nisar et al., 2020). Other types of crowdfunding include reward and equity-based crowdfunding. More than $78 billion in loans are facilitated by the two leading US P2P platforms, Prosper and Lending Club. There are around 6,600 platforms in China, and the total amount of P2P loans is approximately 9 trillion RMB as of 2021 (Xu et al., 2022). As a result, P2P lending has become an essential source of funds for consumers and entrepreneurs (Lin et al., 2013; Herzenstein et al., 2011; Parhankangas and Renko, 2017; Huang et al., 2021). Given the huge amount of P2P loans transacted each year, P2P lending deserves attention from both researchers and practitioners.

Information asymmetry is the main source of financial risk in P2P lending (Ge et al., 2017). Information asymmetry in the P2P context means that borrowers have an information advantage over lenders and lenders need to make decisions under incomplete information. To reduce information asymmetry, borrowers are encouraged to communicate directly with lenders. Since P2P lending takes place in online settings, borrowers can only communicate their projects' financial "soundness" to potential lenders in written form. Unlike offline interactions in which non-verbal cues matter, in online interactions, borrowers' use of language is essential. The crowdfunding literature has investigated the association between language and funding outcomes in different settings, including reward-based crowdfunding (Parhankangas and Renko, 2017; Anglin et al., 2018), equity-based crowdfunding (Block et al., 2018) and P2P lending (Herzenstein et al., 2011; Allison et al., 2013; Majumdar and Bose, 2018). Studies have found the vital role of language in framing the signals of the creditworthiness of funding applicants and the financial soundness of projects in P2P lending (Huang et al., 2021; Dorfleitner et al., 2016; Anglin et al., 2018). However,

[1] Crowdfunding is raising funds from many people, normally through the internet.

these studies have primarily focused on using language in the context of project descriptions to mitigate information asymmetry and its resulting risks.

The use of language in P2P lending platforms also involves using various linguistic styles that can induce emotional connection and reduce the social psychological distance between borrowers and lenders, which should increase the likelihood of funding success. Linguistic styles include auxiliary verbs, prepositions, conjunctions, pronouns and negations (Tausczik and Pennebaker, 2010; Toma and D'Angelo, 2015). Style words account for 55% of the total words we typically use, although they only represent 0.04% of all words (Pennebaker, 2011; Tausczik and Pennebaker, 2010). The use of style words can connect readers with the social and psychological worlds of the message's author (Parhankangas and Renko, 2017; Pennebaker and Chung, 2013; Tausczik and Pennebaker, 2010). Comparatively speaking, the role of language in this respect is less well understood, and research in this area is significantly underdeveloped. To fill this gap, this study examines the effect of social psychological distance, which stems from the use of style words, on funding success. Social psychological distance is defined as people's perception of the degree of distance between things and objects and the self (Li et al., 2009).

Trope and Liberman (2010) have identified four dimensions of psychological distance, including spatial distance (i.e. close location vs location far away), social distance (i.e. friend vs stranger), temporal distance (i.e. tomorrow vs next year) and probabilistic distance (i.e. less likely to occur vs closer to certainty). We focus on social psychological distance for the following reasons. First, social psychological distance is the most relevant concept in P2P lending. The lenders and borrowers are strangers. If borrowers can make lenders feel like they are friends, borrowers' chances of success probably will increase. Also, measuring other psychological distances with information available in the P2P platforms is not easy. For example, the lenders' location is unavailable, so we cannot measure the spatial distance. Second, Trope and Liberman (2010) argued that the four dimensions of psychological distance are interrelated, and activation of one dimension will stimulate the other dimensions. Therefore, although we only test social psychological distance, we can draw some conclusions on the other dimensions.

We suggest that linguistic styles in online communication are associated with the social psychological distance to decrease P2P lending success. Brown and Ford (1961) showed how people addressing each other in the English language is one of the important ways to show social psychological distance. Trope and Liberman (2010) suggested that social psychological distance separates 'self' from 'others', 'in-group individuals' from 'out-group individuals' and 'similar others' from 'dissimilar others'. When the social-psychological distance increases, listeners or

readers will feel less involved with what the person is telling (or writing to) them, and therefore, a less emotional connection will be forged (Williams et al., 2014). However, if the social psychological distance between investors and borrowers is minimal, investors, as readers, will feel emotionally connected with the funding story (Charness and Gneezy, 2008; Zhao et al., 2020). A successful P2P lending campaign relies on support from lenders. When borrowers fail to connect themselves to lenders, they are less likely to succeed.

Against this background, we aim to make the following contributions. First, drawing on consumer psychology literature on social psychological distance, we argue that content matters and the linguistic styles associated with social psychological distance can also affect the funding outcome. The extant literature documents that positively framed messages influence consumers (Bester and Jere, 2012; Maheswaran and Meyers-Levy, 1990). These positively framed messages affect consumer behaviour mainly through cognitive responses (Huang et al., 2021). Affective or emotional responses produced by social psychological distance have been largely ignored. We provide evidence that the social-psychological distance can supplement extant studies, giving a new picture of the impact of language on online marketplaces. We attempt to extend the extant literature that focuses extensively on the language content. Second, we explore whether language intensity that attempts to elicit strong emotional responses from the readers may strengthen/offset the negative effect of social psychological distance on funding success. Language intensity is defined as language that implies direction and degree of distance from neutrality (strong positive or negative emotions) (Bowers, 1963; Clementson et al., 2016). This exploration is necessary given that lenders are exposed to both linguistic styles and language intensity at the same time.

To perform our empirical analysis, we use data from one of the leading Chinese P2P platforms, Renrendai, and following Huang et al. (2021), we adopt a Heckman two-stage model to mitigate the risk of sample selection. First, we use linguistic styles - the number of second-person pronouns and negations words - to proxy for social-psychological distance and find that these style words associated with social-psychological distances negatively predict funding success. The results are in line with the psycholinguistics literature that suggests psychological distancing to be associated with negative interpersonal relationships. We have also tested the role of language intensity. This study has three measures - extreme positive sentiment, extreme negative sentiment and exclamation marks - to proxy language intensity. The results indicate that language intensity strengthens the negative relationship between social-psychological distance and funding success.

This study is useful to lenders, borrowers and policymakers. First, in this market, lenders are also the consumers who purchase financial products online and expect financial returns. This study shows that lenders tend to be affected by style words and rely on affective responses. However, these style words reveal little information about borrowers' ability to repay the loan. Lenders need to focus on information that can indicate the borrowers' creditworthiness. Borrowers may be aware of the importance of the content they deliver to lenders, but this study shows that style words also play a significant role in practice. They need to think carefully about using style words when presenting themselves. Second, policymakers and platform managers are suggested to find mechanisms to alleviate the impact of asymmetric information and enable informed consumer decision-making.

2 Theoretical Background and Hypothesis Development

2.1 Social psychological distance and affective responses

To explore how social psychological distancing relates to P2P funding performance, we draw from the psychology literature on the 'affective response'. We argue that increased social psychological distance may reduce the investors' affective responses, which translates into a decreased likelihood of funding success. As mentioned above, social psychological distance is defined as people's perception of the degree of distance between things and objects and the self (Li et al., 2009). Following Zhang (2013), we define affective response as an individual's stimulated emotion. Emotions play an essential role in consumers' responsiveness to specific decisions and feelings of satisfaction (Williams et al., 2014; Williams and Bargh, 2008). The affective responses conjured by the written language are important in technology-mediated communication. In the case of crowdfunding platforms, it is widely documented that one of the investors' main motivations for supporting crowdfunding projects is to help others realise their dreams.[2] (Giudici et al., 2018; Cholakova and Clarysse, 2015; Boudreau et al., 2015), particularly in pro-social activities (Rachlin and Jones, 2008). The implication is that language that reduces the emotional appeal of the written

[2] Van Wingerden and Ryan (2011) surveyed 124 crowdfunding investors in various funding platforms (equity or debt-based) and found that many investors are more likely to support projects following intrinsic motivations than only targeting a financial return.

message may discourage potential investors from supporting a project as they may not develop an emotional connection with the person behind the message.

P2P funding success can be influenced by affective responses to funding request descriptions (Pengnate and Riggins, 2020). First, affective responses are particularly salient when individuals cannot cognitively deal with online messages (Petty and Cacioppo, 1986). In an online funding setting, people are likely to share messages with strong emotional appeals, and they also tend to react favourably to such messages. Affective messages can establish emotional connections between borrowers and potential lenders (McAllister, 1995). Second, extant studies have shown that affective responses influence individuals' attitudes, judgments, and decision-making (Pengnate and Riggins, 2020; MacInnis et al., 1991; Chaiken and Maheswaran, 1994). For example, a demanding decision may be simplified by the decision makers' feelings about the stimulus (Schwarz, 1990). Third, when making judgments or choices, social psychological distance can weaken affective responses to these events (Williams et al., 2014). A sense of social psychological closeness promotes affective response, whereas a social-psychological distant mindset undermines affective elements (Williams et al., 2014). Fourth, Homer and Yoon (1992) suggested that affective and cognitive responses in persuasion are complementary. This complementarity implies that affective responses may influence cognitive responses, while cognitive responses emerge from the perceived ability and competence of the other party (Huang et al., 2021; Lee and Van Dolen, 2015). Cognitive responses may also be compromised when affective responses are weakened by psychological distance.

Third, emotions of any type (positive or negative) can sometimes yield similar results, whereas psychological distance tends to reduce both (Williams et al., 2014). Positive emotions produce positive feedback from others and result in positive social interactions (Augustine et al., 2011; Sheldon and Lyubomirsky, 2006). By contrast, although it seems counterintuitive, negative emotions can occasionally elicit comfort and social support from perceivers (Han et al., 2018). Fisher et al. (2008) found the ‘empathy-helping’ effect in fund-raising appeals, which suggests that negative emotions induced by a description of hardship can positively affect donation appeals.

2.2 Hypothesis development

The words we use to convey daily messages consist of content words and style words (Abe, 2011; Toma and D'Angelo, 2015). Content words such as adjectives, verbs and nouns can carry much of

the meaning, whilst style words or linguistic styles[3] are related to how information is conveyed. Using style words is a social skill because it can help to build a connection in the social and psychological worlds between the message sender and the reader (Parhankangas and Renko, 2017; Pennebaker and Chung, 2013; Tausczik and Pennebaker, 2010).

Extant studies show that the frequency of certain style words is associated with how we are perceived by others (Robinson et al., 2013; Parhankangas and Renko, 2017; Fausey and Boroditsky, 2010; Pezzuti et al., 2021). P2P lenders are sensitive to the use of linguistic styles of potential borrowers. In the analyses of the linguistic style of a Chinese P2P platform, Han et al. (2018) found that readability—proxied by the length of sentences and the positive emotion of the message—is associated with a higher likelihood of funding success. More directly related to our study, Chen et al. (2018) found that higher punctuation is related to a lower likelihood of P2P funding success.

Borrowers may emotionally connect/disconnect with their potential lenders by unconsciously using certain style words that may reduce/increase social psychological distance (Tausczik and Pennebaker, 2010). Tidwell and Walther (2002) found that interactive strategies commonly employed to reduce social psychological distance in face-to-face contexts are less effective in online settings. Accordingly, people are likely to pay attention to the subtle but essential information conveyed by online linguistic style because of the lack of familiar cues to get to know each other (Flanagin, 2007).

For instance, using style words, such as present-tense verbs and first-person pronouns, implies a temporal and social 'present', which suggests a close social psychological distance (Mehl et al., 2013; Pennebaker and King, 1999). Conversely, linguistic psychological distance decreases the number of first-person pronouns and increases negations (Olekalns et al., 2010; Toma and Hancock, 2012).

We argue that when potential lenders look at a project description, they are likely to feel emotionally connected with the borrowers if the description is laden with style words that create a sense of psychological closeness (Hernández-Ortega, 2018). Moreover, using pronouns implies a social relationship, as pronouns have linguistic functions that suggest a shared social identity (Mühlhausler and Harré, 1990). Social identity enables people to recognise whether he/she is

[3] Style words or linguistic style are used interchangeably in this study.

similar to themselves. For example, the use of ‘you’ indicates a perception of the uniqueness of the other persons, whereas the use of ‘we’ shows shared identity and inclusiveness (Mühlhausler and Harré, 1990; Simmons et al., 2005; Kern et al., 2012). The shared identity and inclusiveness created by using style words reduce the psychological distance between lenders and borrowers and help develop a connection with the project. In contrast, words such as 'you’ and negations associated with increased social psychological distance disconnect borrowers and lenders, so using these words is less likely to be funded. Against this background, we hypothesise that:

H1. *Social psychological distances are negatively related to funding success.*

The moderating role of language intensity

In this section, we want to explore the moderator that may strengthen the negative relationship between social psychological distance and funding success. Closely related to our study that focuses on the role of language in the P2P market, Language Expectancy Theory (LET henceforth) asserts that recipients’ expectations are influenced by the message content, message features and message attributes (e.g. word choice and intensity) (Burgoon et al., 2002; Averbeck, 2010). LET postulates that message features positively or negatively confirm the recipient's expectation about the senders’ message (Averbeck, 2014; 2010). It also posits that the persuasion power of the message may depend on language intensity (Burgoon et al., 2002). Language intensity is the extent to which language deviates from neutrality and can be strongly positive or negative emotions (Clementson et al., 2016). LET states that deviating from neutrality can be achieved via two linguistic ways: 1) directness towards the audience and 2) emotionally laden words (Bradac et al., 1979).

Drawing on the LET, we argue that language intensity strengthens the negative relationship between psychological distance and funding success. When the psychological distance is high, high language intensity will amplify the distance further and result in adverse outcomes. In an experimental analysis, Jensen et al. (2013) found that online product reviews with high language intensity have a much more significant negative impact on the product's credibility than reviews with neutral language intensity. In the P2P lending market, borrowers are expected to present their situations (e.g. loan purpose and repayment plan) professionally and objectively (Lee et al., 2019; Allison et al., 2013). In an Internet-mediated transaction environment, borrowers only have a limited number of persuasion strategies at their disposal (Jensen et al., 2013). Given the information overload and the prospective lenders' short attention span in online P2P platforms, borrowers may consciously or unconsciously resort to high-intensity language. However, when the borrower uses

high-intensity language in the loan description, they may unexpectedly reveal their desperate need for money and may not convince lenders that they have the plan to pay back the loan (Han et al., 2018). Hence, when lenders review funding application postings in a P2P platform, if they already form a sense of social psychological distance from the borrowers' chosen style words, they may feel the social psychological distance even greater if they are confronted by the text laden with high language intensity and thus decide against the campaign's decision. Against this background, we hypothesise the following:

H2. *Language intensity strengthens the negative relationship between psychological distancing and funding success.*

3 Research Setting

Renrendai is one of the largest P2P platforms operating in Mainland China, and many papers use Renrendai's data for their representativeness (Mi and Zhu, 2017; Tao et al., 2017; Yao et al., 2018; Li and Hu, 2019; Ding et al., 2019). The online P2P platform was established in 2010, and by October 2018, its accumulative transaction reached 71.4 Billion RMB (Renrendai.com). Now, it has been ranked 2nd by wdzj.com among all 1,881 P2P platforms in China. The peer-to-peer lending process in Renrendai works as follows. Firstly, borrowers submit their application form with their national ID number and other personal information such as contact number, address, employment and income. In the application form, they specify the requested loan amount, the interest rate they would like to pay, the duration they will pay back the loan, the purpose of borrowing and any other information they find helpful to their application. They are also encouraged to disclose additional information such as education qualifications, car and house ownership, marital status and other professional certifications to promote their credit rating. The platform then verifies the information submitted by applicants and assigns a credit grade to the applicant. Each credit grade corresponds to a specific credit rating, ranging from HR (high risk) to AA (very safe). The loan application process is very similar to other Chinese P2P platforms. Although some platforms encourage applicants to upload photos and declare friendship, they all use in-house credit ratings to classify borrowers. Establishing an in-house credit rating system requires information from submitted documents.

Due to the lack of a reliable personal credit rating agency, Chinese P2P platforms rely heavily on offline authentication to reassure investors. Renrendai cooperates with Ucredit (www.ucredit.com), an offline verification company, to perform a physical check. Borrowers can submit their

applications through Ucredit's offline branch. Documents are verified and checked offline, and the application can be listed on the Renrendai website for bidding. All borrowers recommended by Ucredit will be assigned an A-class credit rating when their application is listed online. Ucredit acts as an offline partner of Renrendai and operates as an independent Micro Finance company.

The platform makes profits by matching borrowers and lenders. According to the credit rating, borrowers must pay a premium from 0% to 5%. In addition, a 0.3% annual service fee is charged based on the outstanding loan principal. If the funding campaign is unsuccessful, borrowers are not charged. However, investors will be charged if they wish to pull their money out ahead of the agreement date. Although the collateralised P2P model has been increasingly popular in China in recent years, loans in Renrendai are all uncollateralised. The loan terms are up to 3 years, and the loan size ranges from 3,000 RMB to 500,000 RMB. Renrendai guarantees that the principal of investors will be paid back via a reserve fund established by the platform to cover the default and late payment. The fund is topped up constantly by the service fees charged.

4 Data Description

We collect data for our empirical analysis from the Renrendai platform between 1 Jan 2015 and 31 Dec 2015. This study only focuses on loans aimed at financing new business ventures. A total of 43,824 listings were identified, and data were gathered in the sample period. After excluding non-business-related loans such as travelling, wedding and car purchasing, our dataset has 31,049 listings. Among them, 8,924 listings have successfully raised funds. In addition, a set of relevant information such as loan terms, borrowers' demographic information and credit rating assigned by the platform was extracted.

Dependent Variable

Our main dependent variable is funding success. The funded is a dummy variable, which takes one if the loan application is successful. The rationale is that if the linguistic style can influence lenders' decision-making, it will be manifested by the probability of funding success.

Independent Variable

The independent variables to proxy social psychological distancing are the number of second-person pronouns (NumYou) and the number of negations (Negations)[4]. Toma and Hancock (2012) suggested that linguistically, psychological distancing manifests itself by decreasing first-person pronouns and increasing negations. First-person plural pronouns ('we' and 'ours') imply inclusiveness, whereas second- and third-person pronouns ('you' and 'they') suggest distance and exclusion. Moreover, in Mandarin, the second-person pronoun 'ni' is perceived as disrespectful (Jiang et al., 2013). As using first- and third-plural pronouns is unlikely to happen when writing to an unknown audience (Toma and Hancock, 2012), we follow Toma and Hancock (2012) to measure psychological distancing using the number of second-person pronouns (NumYou).

Toma and Hancock (2012) also suggested that psychological distance increases along with the use of negations. Xu (2015) invited 113 Chinese college students with an average age of 18.8 years old to participate in an experiment related to negations communication. The results show that senders' negations communication darkens receivers' impressions. Specifically, when positive information is delivered with a negation, receivers tend to respond negatively. Moreover, using a doctor–patient experiment, Burgers et al. (2012) found that patients experience more negative feelings when positively framed bad news with negations are delivered than with affirmations. We, therefore, predict a negative relationship between negations and funding outcomes.

Moderator

The moderator is language intensity. Li and Zhan (2011) suggested that several exclamation marks and strong positive and negative emotions can be used to identify language intensity. Therefore, we follow Huang et al. (2021) to calculate the sentiment index of borrowers' descriptions. Then, we adopt the SnowNLP package in Python to process Chinese textual data. SnowNLP package can calculate sentiment index based on the borrowers' descriptions. The algorithm that SnowNLP uses

[4] Examples of second-person pronouns and negations are as follows: 'The purpose of the loan is to buy machinery and pay a deposit of the business. As long as the business works well, I can have approximately RMB 20,000 per month. There is no problem paying back the loan. Hope you trust me'. 'I have some spare time after work, so I would like to apply for my first loan here to do some small business. I have no idea whether it is trustworthy or not trustworthy (NT: in English, we may omit last trustworthy but in Chinese, we keep it), so I just try a small amount of money. I am working at Changsha and have bought a 150-sq ft flat in my hometown'.

for index calculation is Naïve Bayes, a probability model for binary classification. The output index is a continuous number and ranges from 0 to 1. The higher index indicates more positive sentiment. Then, we follow Li and Zhan (2011) to create two dummy variables, *ExtremePositiveSentiment* and *ExtremeNegativeSentiment*. *ExtremePositiveSentiment* takes one if the sentiment index is higher than 0.9; otherwise, 0. *ExtremeNegativeSentiment* takes one if the sentiment index is lower than 0.1; otherwise, 0. Finally, following Li and Zhan (2011) and Han et al. (2018), the last variable to proxy language intensity is the number of exclamation marks (*Exclamation*).

Control variables include several words used to describe the project, education, age, loan amount, loan duration and monthly income. A longer text is considered a signal of openness and transparency from the borrowers' end of the transaction; therefore, we expect that lenders will be willing to fund well-described and explained loans (Dorfleitner et al., 2016). Therefore, we expect a positive association between the number of words and investors' actions. Income indicates the income range where n = 0 (less than 1,000 RMB), 1 (between 1,000 and 2,000 RMB), 2 (between 2,001 and 5,000 RMB), 3 (between 5,001 and 10,000 RMB), 4 (between 10,001 and 20,000 RMB), 5 (between 20,001 and 50,000 RMB) and 6 (over 50,000 RMB); Degree indicates the educational level where n = 0 (high school or lower), 1 (junior college), 2 (undergraduate) and 3 (master or above); NonOffline is coded one if the listing has not been verified through the offline authentication. Credit rating is provided by Renrendai, which ranges from HR to AA in six categories. We control for credit rating by including six dummies.

5 Research Design and Model Specification

Our research interest is whether social psychological distancing measured by linguistic styles is associated with investors' decision-making. Considering that we cannot observe language styles from the borrowers who use offline authentication services and the offline branch staff will upload a template to the description if they use them, we need to confine our sample only to the listings without offline authentication. However, borrowers who do not choose authentication services may display a specific demographic pattern. Therefore, simply regressing this sample is inappropriate. Factors influencing borrowers' choice of authentication service could also be correlated to the lenders' decisions. In this case, the coefficients of linguistic styles would be correlated to the error term. A selection bias exists if we use ordinary least squares (OLS) or generalised least squares (GLS) (Wang et al., 2008).

We adopt Heckman's (1979) two-step method to overcome the selection bias. In short, the Heckman two-step method corrects sample selection by using a probit model to regress the individual characteristics of offline authentication decisions. Then, the outcome variable is regressed in the second step using the least square on the independent variables, our interests and fitted values from the first step (selection equation).

Identifying the Heckman method needs a valid exclusion restriction in the selection equation. Accordingly, we need a variable in the selection equation but exclude it in the second stage equation. If we fail to meet exclusion restrictions in the selection equation, the estimates of the second equation are likely to be biased (Angrist and Krueger, 2001; Hamilton and Nickerson, 2003). In this study, we use the dummy variable "branch", which indicates whether the city has an offline branch to carry out the physical check. As mentioned previously, Renrendai has a partnership with Ucredit and borrowers can submit their application through Ucredit's offline branch. This variable is valid because in the second step, the variable "branch" is unrelated to the dependent variable, "funding success". Hence, we exclude the variable "branch" in our main analysis. If no local branch exists, borrowers may apply online without authentication. Other variables include mortgage, car loan, age, income, education and gender. We conjecture whether borrowers' choice of offline authentication or not is associated with their self-confidence. For example, borrowers with previous loan records (mortgage or car loan) may be willing to perform offline authentication because loan history may signal good credit trustworthiness. Additionally, female borrowers are more likely to use offline services because they are more conservative than male borrowers, who are bold and risk-taking. We use the STATA to estimate the two equations mentioned above.

$$\text{Prob (NonOffline} = 1) = \beta_0 + \beta_1 \text{Mortgage} + \beta_2 Carloan + \beta_3 Branch + \beta_4 age + \beta_5 Income + \beta_6 Education + \beta_7 Gender + \mu, \quad (1)$$

$$\text{Prob (Funded} = 1) = \beta_0 + \beta_1 Linguistic\ styles + \beta_2 CreditRating + \beta_3 Interest + \beta_4 Duration + \beta_5 Ln\ Amount + \beta_6 age + \beta_7 Income + \beta_8 Education + \beta_9 Gender + \mu, \quad (2)$$

where (2) is the main equation, whilst (1) is the sample selection equation. Linguistic styles include *NumYou* and *Negations*.

6 Empirical Results

Table 1 shows the descriptive statistics. Panel A is for unsuccessful loans, and Panel B displays the statistics of successful campaigns. Compared with successful loans, unsuccessful loans have, on average, higher numbers of 'You' (0.02 against 0.00) and Negations (0.360 against 0.140). These statistics provide initial support for our hypotheses. Table 2 shows the VIF test results. The maximum VIF is 2.01, and the mean VIF is 1.38. Given that its threshold is 10, no sign of multicollinearity exists.

Table 1. Descriptive Statistics

Panel A Unsuccessful Loans					
Variable	N	Mean	sd	min	max
WordCount	22125	58.03	52	4	718
Ln_Amount	22125	10.88	1	8.010	13.12
Income	22125	3.060	1.170	0	6
Interest	22125	12.65	0.670	8	13
Months	22125	20.20	6.180	3	36
Age	22125	30.41	6.240	22	56
Marriage	22125	0.620	0.570	0	3
Gender	22125	0.160	0.360	0	1
NumberOfYou	22125	0.02	0.170	0	5
Negation	22125	0.360	0.770	0	12
ExtremePositiveSentiment	22125	0.090	0.280	0	1
ExtremeNegativeSentiment	22125	0.030	0.180	0	1
Exclamation	22125	0.210	0.740	0	40
NonOffline	22125	1	0.040	0	1
Mortgage	22125	0.120	0.320	0	1
Car loan	22125	0.070	0.250	0	1
Branch	22125	0.430	0.500	0	1
Panel B Successful Loans					
Variable	N	Mean	sd	min	max
WordCount	8924	117.2	57.84	19	492
Ln_Amount	8924	10.82	0.650	8.010	12.44
Income	8924	3.610	1.310	0	6
Interest	8924	11.43	0.960	8	13.20
Months	8924	25.26	9.970	3	48
Age	8924	37.22	8.430	20	62
Marriage	8924	0.930	0.510	0	3
Gender	8924	0.260	0.440	0	1
NumberOfYou	8924	0.00	0.0300	0	1
Negation	8924	0.140	0.430	0	8
ExtremePositiveSentiment	8924	0.140	0.340	0	1
ExtremeNegativeSentiment	8924	0.280	0.450	0	1
Exclamation	8924	0.0300	0.290	0	11
NonOffline	8924	0.280	0.450	0	1
Mortgage	8924	0.350	0.480	0	1
Car loan	8924	0.0900	0.290	0	1
Branch	8924	0.870	0.330	0	1

Table 2. VIF

Variable	VIF	1/VIF
Interest	2.01	0.497819
Months	1.86	0.537454
WordCount	1.76	0.568922
Age	1.51	0.663612
Ln_Amount	1.41	0.710865
Income	1.36	0.737805
Marriage	1.32	0.758994
ExtremeNegativeSentiment	1.25	0.802875
Negation	1.22	0.821578
ExtremePositiveSentiment	1.15	0.867163
Exclamation	1.03	0.969682
Gender	1.03	0.974608
NumberOfYou	1.02	0.977696
Mean VIF	1.38	

Table 3 shows the first-step Heckman selection model results, which is a probit regression of not performing offline authentication against factors that influence whether a borrower engages in offline authentication. The dependent variable, *NonOffline*, is a binary variable indicating whether a borrower engaged in offline authentication. *NonOffline* would take one if the borrowers did not choose offline authentication because, in the second step, we only focus on the borrowers without offline authentication. Table 3 model (1) excludes *Age, Marriage, income* and *Gender*. After adding these details to model (2), the R square increases to 0.437 from 0.334. The increase in the R square confirms the need to include these variables. The value of the Chi-square change (-3266.0648, $p < 0.01$) at the bottom of Table 3 again implies that Model 2 has a better fit. Hence, we use model (2) in the main analysis. In line with our prediction, financial accessibility plays a crucial role in offline authentication. The negative and significant coefficient of *branch* indicates that if a local branch in the city exists, the borrower is likely to undergo offline authentication. A mortgage and car loans and being in the higher income bracket signal creditworthiness and grant borrowers confidence. Thus, the coefficient of mortgage and car loan and income is negative and significant, which implies that borrowers with a mortgage and car loan and higher income are likely to use offline services. The significantly negative coefficient of age indicates that younger borrowers are more risk-taking than older borrowers. Thus, they are willing to apply online directly without offline authentication.

Table 3. Selection Equation

	(1) NonOffline	(2) NonOffline
Mortgage	-0.987***	-0.835***
	(-43.05)	(-34.16)
Car loan	-0.262***	-0.294***
	(-7.58)	(-7.92)
Branch	-2.723***	-2.862***
	(-36.66)	(-37.70)
Age		-0.0611***
		(-39.48)
Marriage		-0.309***
		(-14.14)
Income		0.0206*
		(2.38)
Gender		-0.360***
		(-13.86)
Constant	3.333***	5.773***
	(44.76)	(60.52)
N	31049	31049
Pseudo R-square	0.334	0.437
Log-Likelihood (LL.)	-10542.435	-8909.4026
Deviance (-2LL or Chi square change vs Model 1)		-3266.0648***

*** 1% ** 5% * 10%; Z statistics in parentheses;

Tables 4 and 5 show the empirical results of the primary analysis (second step). Generally, the use of the Heckman model is suitable because the Inverse Mills Ratio (IMR) is significant for all the model specifications. The dependent variable is funding success. Table 4 shows the results of the number of 'you' (*NumberOfYou*), and model 1 shows that the coefficient of *NumberOfYou* is -0.461 and significant at 5%. We then gradually add interaction terms of *NumberOfYou* and

language intensity variables to test the moderating effects of language intensity. Table 4 model 2 shows the interaction of *ExtremePositiveSentiment* and *NumberOfYou*, which is negative and significant (β = -3.077, $p < 0.01$). The interaction term of *ExtremeNegativeSentiment* and *NumberOfYou* is not statistically significant (β = 0.170, $p > 0.1$), whereas the interaction of *Exclamation* and *NumberOfYou* is negative and significant (β = -3.167, $p < 0.01$).

Table 5 shows the results of *the Negations*. Model 1 shows that Negations are negatively related to funding success, statistically significant at 1% (β = -0.113, $p < 0.01$). Again, we put interactions of language intensity variables and negations into the model. The three interactions of language intensity and Negation, namely, *ExtremePositiveSentiment*Negation*, *ExtremeNegativeSentiment*Negation* and *Exclamation* Negation*, are not statistically significant.

The effect of language intensity has been studied differently, but the results are inclusive (Hamilton et al., 1990). Some studies find language intensity can increase credibility and clarity with a positive effect on perception, while others document either no or the opposite effect. In terms of our study, although both second-person pronouns and negations have a negative effect on funding success, the coefficient of second-person pronouns is larger (as shown in table 4 and table 5). This means that relative to second-person pronouns, negations are perceived less negatively by lenders. Extant literature suggests that perception plays a key role in the power of language intensity (Liebrecht et al., 2019). Our results show a moderating effect of language intensity when the negative perception is at a higher level but no moderating effect when the negative perception is less. The moderating effect of language intensity perhaps only exists when negative perception reaches a threshold.

Table 4. Main results: the number of you

	(1) Funded	(2) Funded	(3) Funded	(4) Funded
WordCount	1.042***	0.999***	1.066***	1.046***
	(0.247)	(0.246)	(0.245)	(0.247)
WordCount Square	-0.121***	-0.112***	-0.127***	-0.121***
	(0.0341)	(0.0341)	(0.0340)	(0.0342)
Ln_Amount	-0.775***	-0.775***	-0.776***	-0.776***
	(0.0215)	(0.0215)	(0.0215)	(0.0215)
Income	0.264***	0.264***	0.266***	0.264***
	(0.0193)	(0.0193)	(0.0192)	(0.0193)
Interest	-0.203***	-0.206***	-0.205***	-0.203***
	(0.0489)	(0.0495)	(0.0493)	(0.0489)
Months	0.0143**	0.0143**	0.0142**	0.0143**
	(0.00594)	(0.00602)	(0.00598)	(0.00594)
Age	0.0190***	0.0195***	0.0195***	0.0189***
	(0.00352)	(0.00348)	(0.00349)	(0.00352)
Marriage	0.0760**	0.0725**	0.0738**	0.0762**
	(0.0360)	(0.0359)	(0.0361)	(0.0360)
Gender	0.0575	0.0598	0.0587	0.0570
	(0.0495)	(0.0496)	(0.0497)	(0.0496)
NumOfYou	-0.461**	-0.455**	-0.548**	-0.423**
	(0.199)	(0.199)	(0.266)	(0.193)
IMR	0.248***	0.238***	0.235***	0.248***
	(0.0615)	(0.0608)	(0.0607)	(0.0616)
ExtremePositiveSentiment		-0.179**		
		(0.0863)		
ExtremePositiveSentiment*NumberOfYou		-3.077***		
		(0.269)		
ExtremeNegativeSentiment			0.286***	
			(0.0683)	
ExtremeNegativeSentiment* NumberOfYou			0.170	
			(0.312)	
Exclamation				-0.0239
				(0.0287)
Exclamation* NumberOfYou				-3.167***
				(0.238)
Constant	9.086***	9.175***	9.033***	9.075***
	(0.642)	(0.643)	(0.643)	(0.643)
CreditRating	Control	Control	Control	Control
N	31049	31049	31049	31049

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5. Main results: the number of negations

	(1) Funded	(2) Funded	(3) Funded	(4) Funded
WordCount	0.935***	0.872***	0.952***	0.955***
	(0.250)	(0.253)	(0.251)	(0.235)
WordCount Square	-0.0995***	-0.0886**	-0.105***	-0.102***
	(0.0351)	(0.0356)	(0.0353)	(0.0324)
Ln_Amount	-0.776***	-0.775***	-0.777***	-0.777***
	(0.0213)	(0.0214)	(0.0214)	(0.0265)
Income	0.260***	0.259***	0.262***	0.261***
	(0.0194)	(0.0194)	(0.0193)	(0.0185)
Interest	-0.199***	-0.202***	-0.200***	-0.200***
	(0.0489)	(0.0496)	(0.0494)	(0.0493)
Months	0.0138**	0.0137**	0.0137**	0.0139**
	(0.00596)	(0.00605)	(0.00599)	(0.00608)
Age	0.0184***	0.0189***	0.0189***	0.0184***
	(0.00351)	(0.00348)	(0.00349)	(0.00348)
Marriage	0.0737**	0.0700*	0.0718**	0.0737**
	(0.0360)	(0.0359)	(0.0361)	(0.0372)
Gender	0.0590	0.0626	0.0595	0.0586
	(0.0496)	(0.0496)	(0.0498)	(0.0507)
Negation	-0.113***	-0.104***	-0.110***	-0.122***
	(0.0297)	(0.0301)	(0.0331)	(0.0312)
IMR	0.246***	0.235***	0.234***	0.245***
	(0.0613)	(0.0606)	(0.0605)	(0.0614)
ExtremePositiveSentiment		-0.131		
		(0.0881)		
ExtremePositiveSentiment*Negation		-0.0809		
		(0.0919)		
ExtremeNegativeSentiment			0.293***	
			(0.0734)	
ExtremeNegativeSentiment*Negation			-0.0229	
			(0.0556)	
Exclamation				-0.0371
				(0.0313)
Exclamation* Negation				0.0253
				(0.0202)
Constant	9.184***	9.309***	9.140***	9.160***
	(0.639)	(0.643)	(0.644)	(0.620)
CreditRating	Control	Control	Control	Control
N	31049	31049	31049	31049

Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

7 Conclusion and Discussion

This research aimed to advance our understanding of how social psychological distancing affects P2P funding performance. Social psychological distancing is a crucial predictor of P2P funding success after controlling for sample selection bias. Our results are consistent with the work of Parhankangas and Renko (2017), which suggests that avoiding psychological distancing is essential for social entrepreneurs in a reward-based crowdfunding campaign. We extend their results to a debt-based crowdfunding platform. This finding is also consistent with the psycholinguistics literature, which suggests that psychological distance is associated with negative interpersonal outcomes (Simmons et al., 2005; Revenstorf et al., 1984). Specifically, the number of 'you' and the number of negations used in the borrowers' descriptions are negatively related to the willingness of the lender to support the funding campaign. Moreover, we posit that language intensity strengthens the negative relationship between social psychological distancing and funding success. Our empirical results support the hypotheses.

Our contributions to the literature are twofold. Firstly, this paper contributes to the literature that concerns the role of language in crowdfunding (Parhankangas and Renko, 2017; Anglin et al., 2018; Herzenstein et al., 2011; Allison et al., 2013; Majumdar and Bose, 2018). This literature has focused on how borrowers use language strategically to improve the likelihood of funding success in different campaigns. Studies commonly apply signalling theory to determine the effect of message framing (i.e.narratives are written on purpose (Huang et al., 2021; Anglin et al., 2018; Block et al., 2018)). However, borrowers may unconsciously write something that influences lenders' decisions. Drawing on consumer psychology literature on social psychological distance and affective responses, we shed further light on the role of language in P2P lending by showing that social psychological distance produced by the unconscious use of linguistic style can reduce affective responses, which negatively influences P2P funding success.

Secondly, we contribute to the literature mentioned above by identifying language intensity as one of the factors that modify the relationship between linguistic styles and P2P funding success. As such, we present a more nuanced understanding of the role of language in P2P lending. On the one hand, prior studies found a detrimental role of language intensity in Internet-mediated environments (Han et al., 2018; Li and Zhan, 2011). However, their research does not support LET, which posits a moderating role of language intensity interacting with source characteristics (Han et al., 2018). We show the moderating effect of language intensity with social psychological distancing in

determining lenders' perceptions and finding support for LET. On the other hand, existing research separately examines social psychological distancing and language intensity. However, language intensity is closely related to the tone of communication, and both cannot be separated during communication.

Consequently, recipients perceive the quality of messages by using both linguistic styles and tone of communication. Therefore, investigating how social psychological distancing induced by linguistic styles interacts with language intensity is important. Our results suggest that language intensity negatively strengthens the negative association between second-person pronouns and funding success but has no significant effect on the relationship between negations and funding success.

Moreover, the findings offer implications to lenders, borrowers and policymakers. First, lenders are the most important market participants. P2P lenders are not sophisticated, and this market has severe information asymmetry. Lenders need to make an investment decision without sufficient information and time; as a result, they may rely on style words to simplify the problem, as suggested by the findings. However, style words cannot reveal the creditworthiness of the borrowers.

For borrowers, avoiding psychological distancing with lenders through linguistic styles and tone of communication is essential. For example, borrowers should reduce the use of second-person pronouns and negations. Especially in China, the use of second-person pronouns, ‘ni’, shows disrespect. In addition, recipients are confused if the high-frequency use of negations in communication causes difficulty in processing negations for human beings. They always want to convince potential lenders to support their funding campaign. Huang et al. (2021) suggest that borrowers use words such as credence, honesty, integrity and reliability to arouse cognitive responses, which increases the odds of funding success. The findings of this study suggest borrowers should also pay attention to affective responses. Affective responses can stem from style words. Some style words, such as second-person pronouns and negations associated with social psychological distance, cannot appeal to lenders emotionally and negatively affect funding success. Furthermore, as indicated by our findings, an intense tone is not helpful in P2P lending, so borrowers should restrain themselves from using exclamation marks or harsh tones.

For policymakers, the volume of P2P loans is huge and cannot be ignored. They are responsible for improving financial infrastructure to mitigate the impact of asymmetric information. Our research suggests that in internet-mediated P2P lending, affective responses can have a role in influencing a lender’s decision-making. Thus, borrowers can use language to dress up the descriptions of their funding campaigns even though style words have very little to do with their

ability to pay back loans. The trouble is that lenders could read too much into the style words if systems operated by individual P2P platforms to rate the financial creditability of borrowers are opaque, incompatible and unreliable. In this respect, policymakers' intervention will be more effective if they focus on supporting the creation of nationwide credit rating systems that can consistently and reliably rate the creditworthiness of borrowers.[5] The unified rating score from such systems should incorporate information that can be useful to assess creditworthiness. For example, Berg et al. (2020) find that people's online footprints in registrations and website access can be very useful information to predict default. Such information is private but can be useful for assessing creditworthiness. Therefore, when incorporating such information, policymakers need to enact and enforce laws to protect the privacy of borrowers. Platform operators can include unified rating scores in borrowers' profiles. By doing so, lenders will be provided with more credible hard information to support their decision-making and to rationalise their affective responses.

There are several limitations to this study. First, we collected data in 2015. The data now is no longer available to researchers. However, we think the findings still hold for the following reasons. 1) The social psychological distance created by style words is relevant to many platforms. We expect how consumers respond to textual messages in an internet-mediated environment is relatively unchanged because the online interactions (e.g., no face-to-face interaction) are still largely unchanged. 2) This study aims to understand consumers' responses to style words, which is a behavioural issue. The recent P2P research on behavioural aspects in top journals using Chinese settings encounters similar data issues, but the findings still hold because people's behaviours remain the same. For example, Xu et al. (2022) used Chinese P2P platform data in 2014 and find behaviour features combined with baseline features can have a better fraud detection ability. Second, although we constructed our variables based on loan description, we ignored the specific content. However, investors are also believed to consider the information they mentioned. Therefore, researchers are encouraged to analyse the specific content when conducting further investigation. Lastly, this research is solely based on the data from one Chinese crowdfunding platform, Renrendai. Although Renrendai is one of the biggest and most popular platforms in China; hence, future studies may explore different platforms to validate our results.

[5] We thank an anonymous reviewer for making this suggestion.

Reference

Abe, J., 2011. Changes in Alan Greenspan's language use across the economic cycle: A text analysis of his testimonies and speeches. *Journal of Language and Social Psychology*, 30(2), pp. 212–223.

Allison, T.H., McKenny, A.F., & Short, JC, 2013. The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. *Journal of Business Venturing*, *28*(6), pp. 690–707.

Anglin, A.H., Short, J.C., Drover, W., Stevenson, R.M., McKenny, A.F., & Allison, T.H., 2018. The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of Business Venturing*, *33*(4), pp. 470–492.

Averbeck, J. M., 2014. Expanding language expectancy theory: The suasory effects of lexical complexity and semantic complexity on effective health message design. *Communication Studies*, 65(1), pp. 72–95.

Averbeck, J.M. (2010), "Irony and language expectancy theory: Evaluations of expectancy violation outcomes," Communication Studies, Vol. 61 No. 3, pp. 356–372.

Batra, R. & Ray, M.L., 1986. Affective responses mediating acceptance of advertising. *Journal of consumer research*, *13*(2), pp. 234–249.

Bester, S. and Jere, M.G., 2012. Cause-related marketing in an emerging market: Effect of cause involvement and message framing on purchase intention. *Journal of Database Marketing & Customer Strategy Management*, 19(4), pp.286-293.

Berg, T., Burg, V., Gombović, A. and Puri, M., 2020. On the rise of fintechs: Credit scoring using digital footprints. *The Review of Financial Studies*, 33(7), pp.2845-2897.

Block, J. H., Hornuf, L., & Moritz, A., 2018. Which updates during an equity crowdfunding campaign increase crowd participation. *Small Business Economics*, 50(1), pp. 3–27.

Boudreau, K. J., Jeppesen, L. B., Reichstein, T., & Rullani, F. (2015). Crowdfunding as 'donations': theory & evidence. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2669545

Bowers, John Waite., 1963. Language intensity, social introversion, and attitude change. *Speech Monographs*, 30, pp. 345–52.

Brown, R. & Ford, M. (1961). Address in American English. Journal of Abnormal and Social Psychology, 62(2), pp. 375–385.

Burgers, C., Beukeboom, C. J., & Sparks, L., 2012. How the doc should (not) talk: When breaking bad news with negations influences patients' immediate responses and medical adherence intentions. *Patient Education and Counseling*, 89(2), pp. 267–273.

Burgoon, M. Language expectancy theory: Elaboration, explication, and extension. In C.R. Berger and M. Burgoon (ed.), Communication and Social Influence Processes. *East Lansing: Michigan State University Press*, 1995, pp. 29–52.

Burgoon, M. & Miller, G.R. An expectancy interpretation of language and persuasion.In H. Giles and RN St. Clair (eds.), Handbook of Language and Social Psychology. *London:Wiley & Sons*, 1985, pp. 51–72.

Burgoon, Michael, Vickie Pauls Denning, & Laura Roberts. 2002. Language Expectancy Theory. In *The Persuasion Handbook: Developments in Theory and Practice*, eds. James P. Dillard and Michael Pfau. Thousand Oaks, CA: Sage, pp. 117–36.

Chaiken, S. & Maheswaran, D., 1994. Heuristic processing can bias systematic processing: effects of source credibility, argument ambiguity, and task importance on attitude judgment. *Journal of personality and social psychology*, *66*(3), p. 460.

Chen, X. P., Yao, X., & Kotha, S., 2009. Entrepreneur passion and preparedness in business plan presentations: a persuasion analysis of venture capitalists funding decisions. *Academy of Management Journal*, *52*(1), pp. 199–214.

Cholakova, M., & Clarysse, B. (2015). Does the possibility to make equity investments in crowdfunding projects crowd out reward-based investments? *Entrepreneurship Theory and Practice*, *39*(1), pp. 145–172.

Clementson, D. E., Pascual-Ferrá, P., & Beatty, M. J., 2016. How language can influence political marketing strategy and a candidate's image: Effect of presidential candidates' language intensity and experience on college students' ratings of source credibility. *Journal of Political Marketing*, 15(4), pp. 388–415.

Defazio, D., Franzoni, C., & Rossi-Lamastra, C., 2020. How pro-social framing affects the success of crowdfunding projects: The role of emphasis and information crowdedness. *Journal of Business Ethics*, pp. 1–22.

Ding, J., Huang, J., Li, Y., & Meng, M., 2019. Is there an effective reputation mechanism in peer-to-peer lending? Evidence from China. *Finance Research Letters*, 30, pp. 208–215.

Dorfleitner, G., Priberny, C., Schuster, S., Stoiber, J., Weber, M., de Castro, I., & Kammler, J., 2016. Description-text related soft information in peer-to-peer lending–Evidence from two leading European platforms. *Journal of Banking & Finance*, *64*, pp. 169–187.

Fausey, C. M., & Boroditsky, L., 2010. Subtle linguistic cues influence perceived blame and financial liability. *Psychonomic Bulletin & Review*, 17(5), pp. 644–650.

Flanagin, A.J., 2007. Commercial markets as communication markets: Uncertainty reduction through mediated information exchange in online auctions. *New Media & Society*, *9*(3), pp. 401–423.

Fungacova, Z. & Weill, L., 2014. A view on financial inclusion in Asian countries. *BOFIT Policy Brief*, *2014*(8), p. 3.

Ge, R., Feng, J., Gu, B. and Zhang, P., 2017. Predicting and deterring default with social media information in peer-to-peer lending. *Journal of Management Information Systems*, 34(2), pp.401-424.

García, M. N., Muñoz-Gallego, P. A., Viglia, G., & González-Benito, Ó., 2020. Be social! The impact of self-presentation on peer-to-peer accommodation revenue: *Journal of Travel Research*, 59(7), pp. 1268–1281.

Giudici, G., Guerini, M., & Rossi-Lamastra, C. (2018). Reward-based crowdfunding of entrepreneurial projects: The effect of local altruism and localised social capital on proponents' success. *Small Business Economics*, *50*(2), pp. 307–324.

Goff, P.A., Steele, C.M., & Davies, P.G., 2008. The space between us: stereotype threat and distance in interracial contexts. *Journal of personality and social psychology*, *94*(1), p. 91.

Gonzalez, L. & Loureiro, Y.K., 2014. When can a photo increase credit? The impact of lender and borrower profiles on online peer-to-peer loans. *Journal of Behavioral and Experimental Finance*, *2*, pp. 44–58.

Hamilton, M.A., Hunter, J.E. and Burgoon, M., 1990. An empirical test of an axiomatic model of the relationship between language intensity and persuasion. *Journal of Language and Social Psychology*, 9(4), pp.235-255.

Hamilton, B.H. and Nickerson, J.A., 2003. Correcting for endogeneity in strategic management research. *Strategic organisation*, 1(1), pp.51-78.

Han, J.T., Chen, Q., Liu, J.G., Luo, X.L., & Fan, W., 2018. The persuasion of borrowers' voluntary information in peer-to-peer lending: An empirical study based on elaboration likelihood model. *Computers in Human Behavior*, *78*, pp. 200–214.

Han, S., Lerner, J. S., & Keltner, D., 2007. Feelings and consumer decision making: The appraisal-tendency framework. *Journal of Consumer Psychology*, 17(3), pp. 158–168.

Heckman, J.J., 1979. Sample selection as a specification error. *Econometrica*, *47*, pp. 153–161.

Hernández-Ortega, B., 2018. Don't believe strangers: Online consumer reviews and the role of social psychological distance. *Information & Management*, *55*(1), pp. 31–50.

Herzenstein, M., Dholakia, U.M. and Andrews, R.L., 2011. Strategic herding behavior in peer-to-peer loan auctions. *Journal of Interactive Marketing*, *25*(1), pp.27-36.

Herzenstein, M., Sonenshein, S., & Dholakia, U. M., 2011. Tell me a good story and I may lend you money: The role of narratives in peer-to-peer lending decisions. *Journal of Marketing Research*, 48**,** pp. 138–149.

Homer, P. M. & Yoon, S. G., 1992. Message framing and the interrelationships among ad-based feelings, affect and cognition. *Journal of Advertising*, *21*(1), pp. 19–33.

Huang, J., Sena, V., Li, J. and Ozdemir, S., 2021. Message framing in P2P lending relationships. *Journal of Business Research*, 122, pp.761-773.

Jensen, M. L., Averbeck, J. M., Zhang, Z., & Wright, K. B., 2013. Credibility of anonymous online product reviews: A language expectancy perspective. *Journal of Management Information Systems*, 30(1), pp. 293–324.

Jiang, X., Li, Y., & Zhou, X., 2013. Is it over-respectful or disrespectful? Differential patterns of brain activity in perceiving pragmatic violation of social status information during utterance comprehension. *Neuropsychologia*, 51(11), pp. 2210–2223.

Kern, M.C., Lee, S., Aytug, Z.G., & Brett, J.M., 2012. Bridging social distance in inter-cultural negotiations: "you" and the bi-cultural negotiator. *International Journal of Conflict Management*.

Koh, Y., Lee, M., Kim, J., &Yang, Y.Y., 2020. Successful restaurant crowdfunding: the role of linguistic style. *International Journal of Contemporary Hospitality Management*.

Larrimore, L., Jiang, L., Larrimore, J., Markowitz, D., & Gorski, S., 2011. Peer-to-peer lending: The relationship between language features, trustworthiness, and persuasion success. *Journal of Applied Communication Research*, 39(1), pp. 19–37.

Lee, C. H., Bian, Y., Karaouzene, R., & Suleiman, N. (2019). Examining the role of narratives in civic crowdfunding: linguistic style and message substance. *Industrial Management and Data Systems*.

Lee, H-H. M. & van Dolen, W., 2015. Creative participation: Collective sentiment in online co-creation communities. *Information & Management, 52*, pp. 951–964.

Levine, M. & Thompson, K., 2004. Identity, place, and bystander intervention: Social categories and helping after natural disasters. *The Journal of social psychology*, *144*(3), pp. 229–245.

Li, J. & Zhan, L., 2011. Online Persuasion: How the written word drives WOM: Evidence from consumer-generated product reviews. *Journal of Advertising Research, 51*(1), pp. 239–57.

Li, J. & Hu, J., 2019. Does university reputation matter? Evidence from peer-to-peer lending. *Finance Research Letters*, 31, pp. 66–77.

Liebrecht, C., Hustinx, L. and van Mulken, M. (2019) 'The Relative Power of Negativity: The Influence of Language Intensity on Perceived Strength', *Journal of language and social psych*ology, 38(2), pp. 170–193.

Lin, M., Prabhala, N. R., & Viswanathan, S. (2013). Judging borrowers by the company they keep: Friendship networks and information asymmetry in online peer-to-peer lending. *Management Science*, 59(1), pp. 17–35.

Ludwig, S., Ruyter, K. de, Friedman, M., Brüggen, E. C., Wetzels, M., & Pfann, G., 2013. More than words: The influence of affective content and linguistic style matches in online reviews on conversion rates. *Journal of Marketing*, 77(1), pp. 87–103.

Lundberg, U., Bratfisch, O., & Ekman, G., 1972. Emotional involvement and subjective distance: A summary of investigations. *Journal of Social Psychology*, 87(2), pp. 169–177.

Maclnnis, D.J., Moorman, C., & Jaworski, B.J., 1991. Enhancing and measuring consumers' motivation, opportunity, and ability to process brand information from ads. *Journal of Marketing*, *55*(4), pp. 32–53.

Maheswaran, D. and Meyers-Levy, J., 1990. The influence of message framing and issue involvement. *Journal of Marketing research*, 27(3), pp.361-367.

Majumdar, A. & Bose, I., 2018. My words for your pizza: An analysis of persuasive narratives in online crowdfunding. Information & Management, 55(6), pp. 781–794.

Martens, M. L., Jennings, J. E., & Jennings, P. D., 2007. Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. *Academy of Management Journal*, 50**,** pp. 1107–1132.

McAllister, D.J., 1995. Affect- and cognition-based trust as foundations for interpersonal cooperation in organisations. *Academy of Management Journal*, *38*(1), pp. 24–59.

Mehl, M. R., Robbins, M. L., & Holleran, S. E., 2013. How taking a word for a word can be problematic: Context-dependent linguistic markers of extraversion and neuroticism. *Journal of Methods and Measurement in the Social Sciences*, 3(2), pp. 30–50.

Mi, J.J. & Zhu, H., 2017. Can funding platforms' self-initiated financial innovation improve credit availability? Evidence from China's P2P market. *Applied Economics Letters*, *24*(6), pp. 396–398.

Miller, G., 1995. *The science of words*. New York: Scientific American Library.

Mühlhausler, P. & Harré, R. (1990), *Pronouns and People: The Linguistic Construction of Social and Personal Identity*, Basil Blackwell, Oxford.

Nisar, T.M., Prabhakar, G. and Torchia, M., 2020. Crowdfunding innovations in emerging economies: Risk and credit control in peer-to-peer lending network platforms. *Strategic Change*, 29(3), pp.355-361.

Nook, E. C., Schleider, J. L., & Somerville, L. H., 2017. A linguistic signature of psychological distancing in emotion regulation. *Journal of Experimental Psychology: General*, 146(3), pp. 337–346.

Olekalns, M., Brett, J., & Donohue, W., 2010. Words are all I have: Linguistic cues as predictors of settlement in divorce mediation. *Negotiation and Conflict Management Research*, *3*(2), pp. 145–168.

Pancer, S.M., 1988. Salience of appeal and avoidance of helping situations. *Canadian Journal of Behavioural Science/Revue Canadienne des sciences du comportement*, *20*(2), p. 133.

Pancer, S.M., McMullen, L.M., Kabatoff, R.A., Johnson, K.G., & Pond, C.A., 1979. Conflict and avoidance in the helping situation. *Journal of Personality and Social Psychology*, *37*(8), p. 1406.

Parhankangas, A., & Renko, M., 2017. Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing*, 32(2), pp. 215–236.

Peng, K., Fan, Y., & Hsu, T., 2004. Proposing the content perception theory for the online content industry—a structural equation modeling. *Industrial Management and Data Systems*, 104(6), pp. 469–489.

Pennate, SF & Riggins, F.J., 2020. The role of emotion in P2P microfinance funding: A sentiment analysis approach. *International Journal of Information Management*, *54*, p. 102138.

Pennebaker, J. W. & King, L. A., 1999. Linguistic styles: Language use as an individual difference. *Journal of Personality and Social Psychology*, 77, pp. 1296–1312.

Pennebaker, J. & Chung, C. K., 2013. *Counting little words in big data: The psychology of individuals, communities, culture, and history*, pp. 25–42.

Pennebaker, James W., 2011. The Secret life of pronouns, *New Scientist*, 211 (2828), pp. 42–45.

Petty, R.E. & Cacioppo, J.T., 1986. The elaboration likelihood model of persuasion. In *Communication and persuasion* (pp. 1–24). Springer, New York, NY.

Pezzuti, T., Leonhardt, J.M. and Warren, C., 2021. Certainty in language increases consumer engagement on social media. *Journal of Interactive Marketing*, *53*, pp.32-46.

Rachlin, H. & Jones, B.A., 2008. Altruism among relatives and non-relatives. *Behavioural processes*, *79*(2), pp. 120–123.

Revenstorf, D., Hahlweg, K., Schindler, L., & Vogel, B., 1984. Interaction analysis of marital conflict. *Marital interaction: Analysis and modification*, pp.159–181.

Robinson, R.L., Navea, R., & Ickes, W., 2013. *Predicting final course performance from students' written self-introductions: a LIWC analysis*. J. Lang. Soc. Psychol. XX, pp. 1–11

Saiedi, E., Mohammadi, A., Broström, A., & Shafi, K. (2020). Distrust in banks and Fintech participation: The Case of peer-to-peer lending: *Entrepreneurship Theory and Practice*.

Schwarz, N. & Clore, G.L., How Do I Feel About It? Information functions of affective states. *Affect, cognition and social behavior (1988: Hogrefe International, Toronto)*, pp. 44–62.

Schwarz, N., 1990. *Feelings as information: Informational and motivational functions of affective states*. The Guilford Press.

Shabash, S., McAlister, A.R., Hagerstrom, A., Quilliam, E.T., Ripon, NJ, & Richards, J.I., 2013. Between likes and shares: Effects of emotional appeal and virality on the persuasiveness of anti-cyberbullying messages on Facebook. *Cyberpsychology, Behavior, and Social Networking*, *16*(3), pp. 175–182.

Simmons, R.A., Gordon, P.C., & Chambless, D.L., 2005. Pronouns in marital interaction: What do "you" and "I" say about marital health?. *Psychological science*, *16*(12), pp. 932–936.

Tao, Q., Dong, Y., & Lin, Z., 2017. Who can get money? Evidence from the Chinese peer-to-peer lending platform. *Information Systems Frontiers*, *19*(3), pp. 425–441.

Tausczik, Y. R., & Pennebaker, J. W. , 2010. The psychological meaning of words: LIWC and computerised text analysis methods. *Journal of Language and Social Psychology*, 29(1), pp. 24–54.

Tidwell, L.C. & Walther, J.B., 2002. Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*, *28*(3), pp. 317–348.

Toma, C.L. & Hancock, J.T., 2012, What lies beneath: The linguistic traces of deception in online dating profiles, *Journal of Communication*, 62(1), pp. 78–97.

Toma, C.L. & D'Angelo, J.D., 2015. Tell-tale words: linguistic cues used to infer the expertise of online medical advice. *J. Lang. Soc. Psychol*. 34, pp. 25–45

Trope, Y. & Liberman, N., 2010. Construal-level theory of psychological distance. *Psychological Review*, *117*(2), p. 440.

Van Wingerden, R. & Ryan, J., 2011. Fighting for funds: An exploratory study into the field of crowdfunding. *Extraction*, *14*(151), pp.1–082.

Wang, H., Choi, J., & Li, J., 2008. Too little or too much? Untangling the relationship between corporate philanthropy and firm financial performance. *Organization Science*, *19*(1), pp. 143–159.

Williams, L. E., Stein, R., & Galguera, L., 2014. The distinct affective consequences of psychological distance and construal level. *Journal of Consumer Research*, *40*(6), pp.1123–1138.

Williams, L.E., & Bargh, JA, 2008. Keeping one's distance: The influence of spatial distance cues on affect and evaluation: Research article. *Psychological Science*, 19(3), pp. 302–308.

Xu, T.J., 2015. Negation bias of linguistic and its effect on the impression valuation (Master Dissertation). Huazhong Normal University, Wuhan.

Xu, J. J., Chen, D., Chau, M., Li, L., & Zheng, H. (2022). PEER-TO-PEER LOAN FRAUD DETECTION: CONSTRUCTING FEATURES FROM TRANSACTION DATA. *MIS Quarterly*, 46(3).

Yao, J., Chen, J., Wei, J., Chen, Y. & Yang, S., 2018. The relationship between soft information in loan titles and online peer-to-peer lending: evidence from RenRenDai platform. *Electronic Commerce Research***,** pp. 1–19.

Zhang, P., 2013. The affective response model: A theoretical framework of affective concepts and their relationships in the ICT context. *MIS quarterly*, pp. 247–274.

Zhao, Y., Wang, L., Tang, H., & Zhang, Y., 2020. Electronic word-of-mouth and consumer purchase intentions in social e-commerce. *Electronic Commerce Research and Applications*, *41*, p. 100980.