


Similarity bias in credit decisions for entrepreneurs on the brink of bankruptcy

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Abstract

For entrepreneurs in financial distress, it is of vital importance that investors and bankers accurately assess the viability of their business, free of unwanted biases that bear no relevance to the assessment of the chance of survival. Despite the prevalence of entrepreneurs facing financial distress, little research has yet investigated the role of cognitive biases in funding decisions in this important context. The current research attends to this issue and investigated whether entrepreneurs who are perceived by a banker as more similar are more likely to receive capital to save their business from bankruptcy than entrepreneurs who are perceived as less similar to the banker. Additionally, we investigated whether similarity bias affected bankers' attributions of what caused the financial distress as well as their perceptions of entrepreneurs' trustworthiness. Using an experimental research design, we found a similarity bias in bankers' causal attributions and trustworthiness judgments, but not in their credit decisions. We contrast our findings with similarity bias research among equity investors and discuss the implications for theory and practice.

1 | INTRODUCTION

Throughout entrepreneurs' professional life span, external parties judge the growth potential and viability of their ventures in relation to possible investments or for the extension of credit by financial institutions such as banks. This is true in the start-up phase, in times of significant growth, and also when a venture is in decline and experiencing financial distress. During such periods of substantial decline, entrepreneurs typically require additional funding from investors and/or shareholders, or additional credit from their bank to finance a turnaround or to survive a loss-making phase. When entrepreneurs are unable to fulfill their duties toward their bank and require additional credit or a deferment on their loan payments, it is the duty of the bank's representative to assess the viability of the distressed venture. If the banker judges positively, ensuing support from the bank can be expected. If the banker judges negatively, however, bankruptcy might follow. Hence, the entrepreneur's future depends for an important part on the banker's assessment of the venture's future prospects.

For entrepreneurs the consequences of bankruptcy can be detrimental, both professionally and personally (Jenkins et al., 2014; Kesteren et al., 2017; Ucbasaran et al., 2013). Furthermore, banks and other creditors can also suffer major losses in case of bankruptcy. Consequently, for both entrepreneurs and bankers involved, but possibly most eminently for the entrepreneurs, it is of utmost importance that the viability of their businesses is accurately assessed. Fortunately, bankers are trained to be objective, are experts in the industries their clients operate in, and are aware of (macro-) economic trends that influence the chances of a company's survival. It, therefore, stands to reason that bankers are in a good position to objectively and accurately assess the likelihood that a distressed company will be able to perform a successful turnaround and resume profitability.

At the same time, however, assessing a venture's viability is a complex matter and humans are notoriously vulnerable to cognitive biases when making judgments under uncertainty (Baron, 2014; Kahneman, 2011; Kahneman et al., 1982; Tversky & Kahneman, 1974).

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Indeed, research suggests that bankers can, in fact, succumb to the effects of cognitive biases such as the hindsight bias (i.e., the feeling that after the fact someone “knew all along” something would happen) (Bias & Weber, 2009) and the status quo bias (i.e., the tendency to stick to a current and known position or previously chosen position) (Burmeister & Schade, 2007). However, to the best of our knowledge no research has been conducted investigating the extent to which biases affect judgments and (credit) decisions made by bankers regarding the future of struggling entrepreneurs.

This is surprising for two reasons. First, given the relatively high failure rates of new start-ups where typically only 50% survives the first 5 years of being in business (BLS, 2019), entrepreneurs will almost invariably face financial distress at some point in their careers and will then have to liaise with their financiers to find a solution in order to survive. Moreover, amidst the current COVID-19 pandemic, business owners worldwide are increasingly facing substantial financial distress and many are currently entering insolvency proceedings, or their businesses already seized to exist. To prevent as much economic loss as possible and facilitate a rapid recovery of global economies, it is important that relevant stakeholders are able to correctly identify those businesses that have a good chance to survive and those that do not. A risk of cognitive biases in the context of financial distress (including the distress that stems from the current pandemic) is that such important judgments are erroneously affected by irrelevant factors, ultimately resulting in a degree of randomness in terms of which businesses are subjected to rescue efforts and which are left for dead.

Second, cognitive biases typically surface under conditions characterized by uncertainty, time pressure, and emotional turmoil (e.g., Tversky & Kahneman, 1974). Indeed, for several biases it has been demonstrated that these exert stronger effects when the situation at hand is increasingly precarious (e.g., Kneer & Bourgeois-Gironde, 2017; Schkade & Kilbourne, 1991). Hence, the risk of financiers succumbing to unwanted cognitive biases is particularly high in the context of financial distress. We consider the lack of research on cognitive biases in key financing decisions in the context of financial distress a critical gap to fill.

The goal of our research is, therefore, twofold. First, we aim to draw attention to this important yet understudied area of biases in financial decision making in the context of financial distress. Second, we aim to provide a first empirical test of whether bankers are affected by biases in their credit decisions when confronted with an entrepreneur in financial distress. More specifically, drawing from research on biases in early-stage funding decisions (e.g., venture capital), we test whether similarity bias affects bankers in such a way that they will attribute the cause of an entrepreneur's decline to external factors rather than to the entrepreneur and also whether bankers have more trust in the entrepreneur when the entrepreneur is perceived to be similar to the banker. Finally, we test whether ultimately there is a relationship between perceived similarity and credit decisions. In what follows, we first briefly review the literature on similarity bias and explain why this bias is particularly interesting

in this context. Next, we introduce two alternative hypotheses regarding the susceptibility of bankers to similarity bias. Finally, we provide a first empirical test of whether bankers are indeed affected by similarity bias when evaluating the cause of a business' decline, the trustworthiness of an entrepreneur, and when making credit decisions.

1.1 | Similarity bias

When someone evaluates another person more favorably or behaves in a more positive manner toward another person as a result of a (perceived) shared identity or other shared characteristics, this is called similarity bias (or the similar-to-me effect; Byrne, 1972). People are inherently social and tribal creatures in the sense that we tend to make snap judgments of whether another person belongs to the same group or not, sometimes based on only limited information, which can subsequently affect attitudes and behaviors toward that person (Tajfel, 1970; Tajfel & Turner, 1979; Turner et al., 1979). Favoring those who belong to one's own group versus members of an out-group (i.e., in-group bias), as well as similarity biases more generally, can largely be explained by social identity theory (Tajfel, 1982) and self-categorization theory (Turner, 1999). These two theories indicate that people categorize and identify themselves along certain dimensions (e.g., age, sex, race, profession, etc.), with the purpose of deriving a positive self-identity from belonging to certain social groups. When membership of a particular group is then made salient, others are likely perceived and evaluated along that same dimension (i.e., as being part of the same group or not), which in turn affects attitudes and behaviors toward that individual, such that people generally evaluate others who belong to the same group from which they derive their identity more favorably (Branscombe et al., 1999; Haslam, 2001; Hewstone et al., 2002).

The notion that perceived similarity to others can affect cognitive processes and subsequent behavior has been widely demonstrated, for example, in the context of assigning blame in cases of rape (Grubb & Harrower, 2009), in the context of job applications (e.g., Dalessio & Imada, 1984; Lin et al., 1992), or when evaluating the credibility of expert witnesses (Gardner et al., 2013) (for more studies on similarity bias, see e.g., Gino et al., 2009; McKeever, 2015; Strauss et al., 2001; Tidwell et al., 2013; Wilson et al., 2016). More relevant for the present purposes, similarity biases have also been found in financial decision making. Research found that venture capitalists (VCs) evaluate an investment opportunity more favorably if they believe the founding entrepreneur thinks in a more similar way to themselves (Murnieks et al., 2011). Moreover, VCs have been shown to prefer start-up teams that match themselves in terms of professional or educational background (Franke et al., 2006). Finally, a more recent study has shown that financial analysts issue more favorable forecasts of a particular company when they perceive the company's CEO to be similar to themselves in terms of personality (Becker et al., 2019). Thus, evidence suggests that equity investors are not immune to the effects of similarity bias.

Importantly, as discussed, whether bankers in the specific context of credit decisions for entrepreneurs in financial distress are also affected by similarity bias remains an open question. That is, are entrepreneurs facing bankruptcy more likely to receive additional capital from their bank if a banker perceives the entrepreneur as more similar to him/herself?

1.2 | Alternative hypotheses on similarity bias in bankers' credit decisions

Two alternative hypotheses can be put forward regarding the question whether bankers dealing with distressed credit are affected by similarity bias. The first is that bankers might be affected by similarity bias to the same extent, or perhaps more strongly so, as any other person. The second is that elements unique to funding decisions by bankers in the context of financial distress render this group of financiers immune to the effects of similarity bias.

Regarding the first hypothesis, based on the discussed theories (e.g., social identity theory) and the discussed literature on similarity biases in financial decision making, it stands to reason that bankers might, by virtue of being human, be vulnerable to similar fundamental processes, favoring struggling entrepreneurs who are perceived as being similar to themselves. Additionally, for several biases (e.g., hindsight bias and outcome bias) it has been shown that they exert stronger effects in the case of negative events (Kneer & Bourgeois-Gironde, 2017; Schkade & Kilbourne, 1991). It might, therefore, be that similarity bias too is more likely to surface in case of an adverse event, as such events typically trigger sensemaking processes and causal attributions (Hastie, 1984). For example, there is some evidence that female entrepreneurs are disadvantaged by credit institutions in terms of their likelihood of obtaining funding (e.g., Belucci et al., 2009; Carter & Peter, 1998; Carter et al., 2007; Fraser, 2005) and that this gender bias might be particularly pronounced in conditions of economic turmoil (Thébaud & Sharkey, 2016). Moreover, whereas first-time investment decisions are largely forward-looking given the limited or even complete absence of operational and financial data, judgments and decisions made by financiers facing a business in decline also have a backward-looking element. That is, financiers want to know what the major causes of the financial distress are, as this will affect their trust in the management team and consequently their perspective on the company's prospects. Hence, in the context of financial decline, similarity bias might not only affect expectations of the future, but also sensemaking processes and attributions regarding the cause of the financial decline, which combined might aggravate the effect of the bias. In sum, there is ample reason to expect bankers to be affected by similarity bias when faced with a business in decline.

As for the second hypothesis, important differences exist between early-stage investment decisions by equity investors (e.g., VCs), among whom similarity biases have been identified, and decisions made by bankers in the context of financial distress, and these differences might suggest bankers are less susceptible to similarity

bias or perhaps even not at all. Even though both situations are similar in the sense that both VCs and bankers are faced with uncertainty and have to assess the likelihood a company will ultimately succeed, the differences between the two center around (1) the nature of the relationship between the financiers and entrepreneurs, and (2) information asymmetry.

Regarding the relationship with entrepreneurs, VCs typically acquire an equity stake in a company and take board seats, in that sense becoming part of the entrepreneurial team. In contrast, banks typically extend secured loans (e.g., collateralized loans) instead of acquiring an equity stake and as a result their relationship with the owners is more distant. To reduce the risk and moral hazards, and to make sure they will be aligned with their future business partners (i.e., the company owners), VCs might have a stronger incentive to focus on a venture's entrepreneurial team than do bankers. Hence, the different nature of the relationships VCs and bankers have with entrepreneurs possibly makes VCs more focused on the characteristics (e.g., personalities, management styles, history, etc.) of the entrepreneurs when assessing an investment opportunity. This increased focus on entrepreneurs might ultimately make VCs more susceptible to similarity bias.

Following directly from differences in the relationship are differences in information asymmetry. Information asymmetry emerges when two parties in a transaction do not have access to the same information, posing a risk (i.e., moral hazard) for the party with less information. Such asymmetric information is more likely to arise after initial contracting (e.g., Boot & Thakor, 1993; Cumming & Johan, 2008; Trester, 1998), but can also exist in the investment stage (Cohen & Dean, 2005). For example, it is common for VCs to have very little information regarding the entrepreneur's skill level during the stages of contract negotiations and capital investment, as this typically only becomes apparent in later stages (e.g., Chan et al., 1990). It could be argued that information asymmetry and accompanying moral hazards are less of an issue for bankers deciding over a company's future that has been with the bank for some time and is now facing financial decline, because in such cases there is ample information for bankers to draw from (for research on the relationship between information asymmetry and moral hazards, see e.g., Fu et al., 2019; Hölmstrom, 1979). Indeed, banks are likely to have access to large quantities of both "hard" quantitative data and "soft" qualitative data, as increased exposure to a company's owner over a prolonged period of time allows for more information to be gathered (see also Fredriksson & Moro, 2014). Hence, given VCs' general lack of hard or soft information in relation to founding entrepreneurs, and since hard data are impossible to obtain, VCs might have a need to increase their access to soft data and will therefore more strongly rely on the characteristics of a venture's founding team.

There is indeed evidence that supports the notion that VCs are more focused on gathering information about entrepreneurs, while bankers are more focused on the financial aspects of a potential transaction. For example, Mason and Stark (2004) found that bankers particularly focused on the financials of the proposal

and largely disregarded information pertaining to the entrepreneur, whereas equity investors (e.g., VCs and Business Angels) factored their assessment of the entrepreneur more strongly into their investment decisions. Also, Storey (1994) provided evidence for the idea that in bank lending, personal characteristics of new firm founders are largely unrelated to lending decisions. In contrast, MacMillan et al. (1985) surveyed VCs regarding the criteria they use to evaluate new venture proposals and found that "above all it is the quality of the entrepreneur that ultimately determines the funding decision." Finally, research has also shown that in case of information asymmetry between current owners and outside (equity) investors, these investors use information regarding the legitimacy of a company's top management team as a signal of value in an attempt to reduce their investment risk (Cohen & Dean, 2005). In summary, there seems to be strong evidence for the notion that information regarding the entrepreneurial team is more important to VCs than it is to bankers when it comes to funding decisions (see also Dixon, 1991; Franke et al., 2006; Goslin & Barge, 1986; Muzyka et al., 1996; Nagy et al., 2012; Shepherd & Zacharakis, 1999; Tyebjee & Bruno, 1981) and it can thus be argued that bankers dealing with distressed credit will be less affected by similarity bias than equity investors.

This leaves us with two hypotheses that we pit against each other in the current paper. To briefly recap, on the one hand, it could be argued that the heuristics and biases in human cognition are so innate and automatic that we can safely assume that, similar to equity investors, bankers dealing with distressed companies will most likely also succumb to the effects of similarity bias, especially since many cognitive biases are aggravated amidst dire circumstances. On the other hand, it might be that bankers dealing with distressed credit are actually less susceptible to similarity bias, given that bankers dealing with distressed credit suffer less from information asymmetry than equity investors in early-stage funding, and considering the evidence showing that bankers are more focused on the financial aspects of a potential transaction, rather than analyzing the company owners. An important goal of this study is, therefore, to provide a first test of similarity bias among professional bankers specialized in distressed credit.

We also aim to contribute to the literature on financial decision making and similarity bias by drawing attention to the important topic of lending decisions in the context of financial distress and the role of cognitive biases in such decisions more specifically. As argued, many entrepreneurs will at some point face strong financial decline and will therefore need to liaise with their financiers to work out a solution. Despite this context of financial and emotional turmoil providing all the ingredients for biases to manifest, no research (to the best of our knowledge) has yet empirically tested whether biases affect bankers' sensemaking process when faced with a struggling entrepreneur, or their subsequent credit decisions (for an overview of research on biases among different types of financiers and entrepreneurs outside the context of financial decline, see Zhang & Cueto, 2017). We, therefore, think it is important to empirically

study whether bankers in the highly relevant context of financial distress are affected by similarity biases.

2 | THE CURRENT STUDY

We tested whether bankers who are confronted with an entrepreneur in financial distress and who perceive an entrepreneur to be similar to themselves (1) are more likely to attribute the cause of the distress to external factors and, therefore, do not hold the entrepreneur accountable, (2) are more likely to trust the entrepreneur to be able to turn the company around, and (3) are more likely to extend additional credit. In what follows, we briefly elaborate on each of these three issues.

2.1 | Similarity bias and causal attributions

A noteworthy aspect of the banker-entrepreneur relationship in the context of near insolvency is that a sensemaking process is likely to take place in which the banker aims to understand the cause of a company's financial decline. If a banker believes the entrepreneur is the primary cause of the decline (maybe even under ideal market conditions), this will likely affect the banker's trust in the entrepreneur's ability to turn their company around. Likewise, if a banker believes the decline is due to external circumstances, this will likely not affect the trust the banker might have in the owner.

A relevant theory to draw from when aiming to understand the relationship between causal attributions, perceived trustworthiness, and risk-taking behavior is that of Tomlinson and Mayer (2009). According to the authors, people seek to understand the cause of an adverse event (i.e., a trust violation in their model) and depending on the outcome of such causal attributions, trust repair is either facilitated or hampered. Specifically, individuals tend to analyze the cause of a trust violation along the dimensions of locus of causality (i.e., cause is internal or external to the agent), controllability (i.e., was the cause of the trust violation controllable or not), and stability (i.e., is the cause of a stable or temporal nature). If the cause of a particular adverse event is perceived to be due to external factors, this will likely not result in a trust violation in the first place, thereby nullifying the need to repair the trustworthiness of a trustee (e.g., Lewicki & Bunker, 1996; Tomlinson & Mayer, 2009). Therefore, we focus on locus of causality (i.e., external or internal cause) as the key part of the causal attribution process. It is important to note that we do not claim that there has been a breach of trust in the banker-entrepreneur relationship when a company faces substantial decline (although there might have been). Rather, we merely consider the literature on trust repair to be of importance for the current context because an adverse event has occurred (company facing bankruptcy) and bankers will likely try to make sense of the causes of the financial decline, as such knowledge is relevant for deciding whether or not to extend further credit.

We ask whether perceived similarity with an entrepreneur in financial distress is associated with external causal attributions regarding the cause of the financial distress. That is, will a banker who is faced with an entrepreneur who requires additional credit for her/his struggling business be more inclined to attribute the cause of the entrepreneur's financial problems to external factors (e.g., economic downturn, new laws/regulations, etc.), rather than to internal factors (e.g., entrepreneurial skills and leadership), when the entrepreneur is perceived as similar to the banker? A wide body of research outside the realm of financial decision making found that following an adverse event seemingly caused by a certain actor, people are inclined to attribute the adversity to internal factors (i.e., to the actor) when the actor is dissimilar or part of an out-group, and more to external factors (i.e., to the situation) when the actor is perceived as similar or as part of their in-group (e.g., Banks, 1976; Burger, 1981; Kouabenan et al., 2001; Shaver, 1970). To test whether a similar bias can be observed in the present context, we formulated the following hypothesis:

Hypothesis 1 *Perceived similarity is positively related to external causal attributions.*

2.2 | Similarity bias, trustworthiness, and credit decisions

It is important to distinguish between the concepts of trustworthiness and trust. The act of extending credit to a struggling entrepreneur constitutes an act of trust, as trusting someone is typically seen as the willingness to take a risk in a relationship (Mayer et al., 1995) or “a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (Rousseau et al., 1998). Indeed, in the banker–entrepreneur relationship it is the banker who, at risk of incurring financial losses, accepts vulnerability when extending a loan based on the expectation that the entrepreneur will be able to fulfill her duties toward the bank and ultimately repay the loan. Hence, the decision to extend credit is an expression of trust on behalf of a banker. Trustworthiness, moreover, is a quality of a particular person rather than an action. A trustworthy entrepreneur is someone who is perceived by a banker to be competent, benevolent, and honest, which jointly result in a level of trust in the entrepreneur (Mayer et al., 1995).

An entrepreneur's trustworthiness has been identified as a key factor in financial decision making of equity investors, often ranking among the top three investment criteria (e.g., Aldrich & Fiol, 1994; Harrison et al., 1997; Hill et al., 2006; Sudek, 2006; Van Osnabrugge & Robinson, 2000). Empirical research has demonstrated that the more trust-building behaviors were displayed by entrepreneurs in their relationship with business angels, the more likely they were to receive funding from these investors (Maxwell & Lévesque, 2014). Moreover, interpersonal trust in entrepreneurs, acquired through interactions over time, helps investors in the dealmaking process

of early-stage technology ventures (Scarbrough et al., 2013). Also, business angels operating in countries characterized by high levels of trust are more likely to make angel investments than those operating in countries with lower levels of trust (Bottazzi et al., 2016; Ding et al., 2015). Hence, trust and trustworthiness seem to play a key role in the investor–entrepreneur relationship and research suggests this is also the case in the bank–entrepreneur relationship (e.g., Saporito et al., 2004; Saporito & Colwell, 2010).

Outside the context of financial decision making, a relationship has been found between perceived similarity and perceived trustworthiness. For example, it has been shown that similarity in terms of facial features leads to heightened perceived trustworthiness (L. M. DeBruine, 2005; Farmer et al., 2014) and cooperation (DeBruine, 2002; Kret et al., 2015; Krupp et al., 2008). Within the context of mergers and acquisitions, it has been shown that higher degrees of similarity between the senior management of two firms influenced post-acquisition trust toward the acquiring firm (Yildiz, 2014). Hence, it might be that entrepreneurs who are perceived to be similar by a banker will also be perceived as more trustworthy by that banker and are also more likely to receive credit. To test this, we formulated the following hypotheses:

Hypothesis 2 *Perceived similarity is positively related to the perceived trustworthiness of an entrepreneur.*

Hypothesis 3 *Perceived similarity is positively related to the likelihood of extending additional credit.*

3 | METHOD

We tested the hypotheses outlined above using an experimental research design. We chose this specific method in large part to avoid the typical problems associated with more post hoc methodologies in which participants are required to retrospectively indicate why they made certain decisions (e.g., Baddeley, 1979). Such methods can be sub-optimal as memories may be inaccurate and overall validity may be low (e.g., Trochim, 2001; Van Der Vaart et al., 1995). It will, for example, be difficult for bankers to accurately remember to what extent they perceived an entrepreneur they dealt with at some point in time to be similar to themselves and to what extent they trusted the entrepreneur. Moreover, it would be hard to also take into account all the differences that exist across real-life cases to be able to isolate the influence of perceived similarity on credit decisions.

While we recognize the limitations of using vignettes in experimental research, such as potential threats to the external validity and thus generalizability following from difficulties in recreating a realistic banker–entrepreneur context, overall we consider the chosen methodology appropriate and useful for the current study. Specifically, the combination of an experimental research design with a realistic scenario (the case was developed in collaboration with a senior banker) improves the external validity, while at the same time allowing for controlling key variables and drawing causal

inferences. That is, using vignettes we can keep all variables that are not of interest for the current studies fixed and, therefore, isolate the potential effect of similarity (for a review of the experimental vignette methodology, including best practices, see Aguinis & Bradley, 2014).

We asked participants to read a business case describing an entrepreneur whose business was in financial distress and for which the entrepreneur required additional capital to finance a turnaround. Participants were asked (1) to what extent they perceived the entrepreneur to be similar to themselves, (2) what they believed to be the cause of the decline (i.e., internal or external cause), (3) how trustworthy they perceived the entrepreneur to be, and finally (4) how likely they believed it to be they would comply with the entrepreneur's request and provide the additional capital necessary to avoid bankruptcy. To add to the realism of the case, we designed a case involving an entrepreneur who is active in the commercial real estate business and who can therefore offer collateral when requesting additional capital, thereby simulating the typical situation in which a bank will have a relatively secured position. Moreover, an issue facing many entrepreneurs in financial distress is the difficulty of paying their costly real estate leases, which often triggers the insolvency proceedings. Additionally, an issue facing the owners of the real estate is the steep increase of defaults on the leases and the difficulty of finding new commercial tenants. The case used in the current study is modeled after these common dynamics and can be found in the Supporting Information available online.

3.1 | Participants

In this study, 146 bankers participated and were either recruited with the cooperation of several major Dutch banks or via an e-mail invitation. Of the total sample, 121 (82.9%) were male. The average age was 43.8 ($SD = 9.5$) and the average number of years of professional experience was 9.7 ($SD = 7.3$). This specific group of bankers all specialized in distressed credit and worked at their banks' departments that deal with businesses in distress.

3.2 | Procedure

The study was built and administered using Qualtrics online survey software and participants received a link that directed them to the survey. At the start of the survey, participants were informed that the goal of the study was to investigate judgment and decision making processes in the context of distressed credit and that their participation was completely anonymous. Participants first answered several demographic questions regarding their sex, age, profession, and years of experience. Next, participants were presented with a business case and asked to read the case thoroughly before proceeding to the next stage. Prior to reading the specifics of the case, participants were asked to adopt the perspective of the banker who had to decide over the business case in which

a struggling entrepreneur required additional capital to finance a turnaround.

After the case, participants were asked questions that aimed to measure the variables in the following order: (1) perceived similarity, (2) causal attributions, (3) perceived trustworthiness of the entrepreneur, and (4) likelihood of extending credit. Before being asked to answer the main question regarding the likelihood of extending credit, participants were once again presented with the case and thus given the opportunity to read it once more.¹

3.3 | Business case

The case concerned an entrepreneur who had started in the commercial real estate business only a few years ago and who now owned five properties for commercial lease. One of the rental contracts was abruptly ended due to a bankruptcy of the business that was leasing one of the five properties. It should be noted that such a concrete external event does not by definition mean that the cause of the entrepreneur's financial distress was outside of the entrepreneur's control. One could easily argue that an entrepreneur in the commercial real estate business should have a sufficient financial cushion to at least survive the default of one of its tenants. As a result of the default, the entrepreneur's revenue dropped and he could no longer meet his obligations toward his bank, which is why the entrepreneur was transferred to the department dealing with distressed credit. The entrepreneur felt that in order to be able to rent out that fifth property again, the property needed to be thoroughly renovated. Without the renovation, bankruptcy (both professional and personal) was imminent. The entrepreneur had no personal funds left and, therefore, needed the bank to finance the renovation. The amount required was substantial and amounted to 5% of the credit already outstanding. The full case can be found in the Supporting Information online. Participants were asked to what extent they considered the case to be realistic on a scale ranging from 1 (very unrealistic) to 7 (very realistic). The average score was 6.25 ($SD = 2.21$).

3.4 | Independent variables

3.4.1 | Perceived similarity

Three items about the participants' client (i.e., the entrepreneur) aimed to measure the perceived similarity with this client (Cronbach's $\alpha = .82$). Participants were asked to what extent they agreed with the following three statements: (1) "I believe to have a similar character as my client, [client name]," (2) "I believe to have similar norms

¹Participants were also asked to answer questions about blame attributions, their belief in free will, their sleep quality of the night before, as well as three basic arithmetic questions that aimed to measure their cognitive thinking style. These questions were included as part of a separate study and will not be discussed in this paper. Details of these questions as well as the results are available upon request.

and values as my client, [client name],” and (3) “I believe to be generally similar to my client, [client name].” Participants answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7). The answers to these questions were averaged to create a single score for perceived similarity.

3.4.2 | Actual similarity

This study also experimentally manipulated actual similarity between the participant and the entrepreneur as described in the case. Specifically, participants were randomly assigned to either the “similar” condition or the “dissimilar” condition. At the beginning of the experiment, after the general introduction, and before the business case was presented, participants were asked several demographic questions concerning for example age, gender, and professional experience. The respondents’ age was then used in the similarity manipulation. Specifically, at the beginning of the case, a brief description was provided of the entrepreneur that differed based on the assigned condition on the following dimensions: (1) age, (2) professional background, (3) educational background, and (4) socioeconomic status. In the similar condition, the entrepreneur was of the same age as the participant (e.g., “in his thirties,” “in his forties” etc.), had a professional background in financial services before starting their own business, completed a university degree, and had a first and last name that corresponded to names that are more common among elite families (Onland & Bloothoof, 2008). We assumed that the majority of the participating bankers had obtained a university degree and were part of higher socioeconomic groups, which is why it was expected that they would perceive the entrepreneur in this condition as more similar than they would in the dissimilar condition. In the dissimilar condition, the entrepreneur was as far removed as possible in terms of age (i.e., “in his sixties” if participant’s age < 45; “in his late twenties” if participant’s age > 45), had a professional background as a communication advisor in the cultural sector, completed no formal schooling, and had a first and last name that corresponded to names that are more common among lower socioeconomic groups (Onland & Bloothoof, 2008).

Combined, we assumed that altering the entrepreneur’s age, professional and educational background, and implicitly his socioeconomic status, would suffice to manipulate the similarity with the participant. Such a similarity manipulation based on only few factors such as age and background has been used in previous research and proven successful (e.g., Shaver, 1970). Indeed, age has been shown to be an important factor when categorizing individuals (Brewer & Lui, 1989). Also, based on the minimal group paradigm (Tajfel, 1970), it should be expected that information regarding age and (professional) background are sufficient to attribute group membership toward individuals.

Nonetheless, despite the successful manipulation of similarity in previous studies using only a limited number of factors, there are many other studies that found no effect of actual similarity, but only of perceived similarity (e.g., Ferris & Judge, 1991; Strauss

et al., 2001; Tidwell et al., 2013; Turban & Jones, 1988). This is in accordance with work by Byrne (1972), who suggested that for the proposed similar-to-me effect to be manifested, an observer must first actually perceive the other as similar. As we included both perceived and actual similarity in this study, we were able to compare effects relating to each factor.

3.5 | Dependent variables

3.5.1 | Causal attribution

Participants’ perceptions of the cause of the entrepreneur’s dire situation were measured using the following two items: (1) “[Name client] is [himself/herself] the primary cause of the imminent bankruptcy of [his/her] business” and (2) “External factors outside of [name client]’s control are the primary cause of [his/her] company’s imminent bankruptcy.” Participants answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7). The first item measured internal attributions and the second measured external attributions. We reverse scored the internal attribution item and then averaged the two items to get a single causal attribution score representing the extent to which participants believed the cause of the entrepreneur’s difficult situation was largely due to external factors (reflected by a higher score) rather than due to the entrepreneur him/herself (reflected by a lower score).

3.5.2 | Perceived trustworthiness

To measure the perceived trustworthiness of the entrepreneur, three items were administered (Cronbach’s $\alpha = .70$). Following the work of Mayer and colleagues (1995), each of these items aimed to capture a specific dimension of trustworthiness: (1) ability, (2) benevolence, and (3) integrity. For ability, the item was: “I trust that my client, [client name], has the ability to make [his/her] company financially healthy again.” The item measuring benevolence was: “I trust that my client, [client name], will act in a benevolent manner toward me.” The item measuring trust in the entrepreneur’s integrity was: “I trust that my client, [client name], is a person of integrity who delivers on [his/her] promises and who is honest toward me.” All items were answered on a 7-point Likert scale, ranging from *Strongly disagree* (1) to *Strongly agree* (7).

Mayer et al. (1995) created a questionnaire consisting of five to six items to measure each of these components of trustworthiness. In this study, however, we limited the scale to a single item per component for the following reasons. First, based on a pilot study in which we included all 17 items from Mayer et al.’s (1995) trustworthiness scale, we learned that the participants considered it to be difficult to answer a large number of questions about a person they did not know and of whom they had only received a brief description. Second, we wanted to use items that were relevant for the present context and focused on trustworthiness in relation to

	Dissimilar condition		Similar condition		$F(1,138)$	p	η_p^2
	M	SD	M	SD			
Causal attribution	3.96	1.05	4.11	1.05	0.72	.398	.005
Trustworthiness	4.31	0.79	4.76	0.85	10.46	.002	.070
Credit decision	4.71	1.45	4.51	0.85	1.35	.248	.010

TABLE 1 Means, standard deviations, and statistical tests for the manipulated similarity conditions for each of the three dependent variables

entrepreneurship, while most items developed by Mayer et al. (1995) are more generic.

3.5.3 | Likelihood of extending credit

We measured participants' behavioral intentions regarding the entrepreneur's request for additional capital. Specifically, the participants were asked, if they were the banker deciding over this particular case, how likely it was that they would provide the entrepreneur with the required funds to finance the property's renovation. This variable was measured by asking participants the following question: "How likely do you believe it to be that you would comply with [client name]'s request for additional funding for the renovation?" Participants answered on a 7-point Likert scale, ranging from *Very unlikely* (1) to *Very likely* (7).

4 | RESULTS

4.1 | Data preparation

We thought it important that participants properly read the case as this was vital for being able to answer the subsequent questions. Therefore, participants who spent less than 60 s on the case were excluded from the analyses. This cut-off criterion that we chose is purposefully lenient as reading the case that consisted of 447 words in 60 s would require a reading speed of 7.3 standard deviations above the average reading speed ($M = 228$ words per minute, $SD = 20$; Trauzettel-Klosinski & Dietz, 2012). Hence, it is safe to assume we only excluded those who indeed did not devote sufficient attention to the case. In total, six participants were excluded from the analyses and doing so did not affect any of the findings as similar effects and significance levels were found when the complete sample was analyzed.²

4.2 | Similarity bias

First, we tested whether participants in the similar condition indeed perceived the entrepreneur to be more similar than participants in

the dissimilar condition. We found a statistically significant difference in the expected direction, $t(138) = 4.08$, $p < .001$, $d = 0.70$, such that those in the similar condition ($M = 3.72$, $SD = 1.13$) perceived the entrepreneur to be more similar to themselves than those in the dissimilar condition ($M = 3.02$, $SD = 0.91$).

Next, two separate analyses were conducted to test for similarity bias in the participants' causal attributions, trustworthiness judgments, and ultimate credit decision. We conducted a Multivariate Analysis of Variance (MANOVA) to test whether manipulated similarity affected the dependent variables. The results showed a multivariate effect of manipulated similarity, $F(3,136) = 6.23$, $p = .001$, $\eta_p^2 = .121$. Subsequent univariate analyses revealed that manipulated similarity affected only the perceived trustworthiness of the entrepreneur, $F(1,138) = 10.46$, $p = .002$, $\eta_p^2 = .070$, such that entrepreneurs were deemed to be more trustworthy by those in the similar condition ($M = 4.76$, $SD = 0.85$) than by those in the dissimilar condition ($M = 4.31$, $SD = 0.79$). No effect was found for causal attributions, $F(1,138) = 0.72$, $p = .398$, $\eta_p^2 = .005$, or for the final credit decision, $F(1,138) = 1.35$, $p = 0.248$, $\eta_p^2 = .010$. Please see Table 1 for the results.

In addition to manipulated similarity, we conducted correlation analyses to see whether perceived similarity correlated with any of the dependent variables. As Table 2 shows, perceived similarity was significantly correlated with external causal attributions (Pearson $r = .195$, $p = .021$) and perceived trustworthiness (Pearson $r = .305$, $p < .001$), but not with the likelihood of extending credit (Pearson $r = .106$, $p = .214$).

4.3 | Exploratory analyses

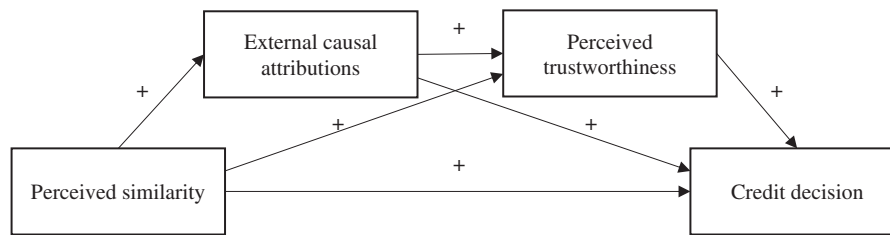
For exploratory purposes, we tested whether the study variables were related in such a way that the relationship between perceived similarity and the likelihood of extending credit was mediated in a serial manner by causal attributions and perceived trustworthiness. Specifically, we hypothesized that the relationship between perceived similarity and the likelihood a banker will extend credit to a struggling entrepreneur is mediated in serial by causal attributions and perceived trustworthiness, such that high levels of perceived similarity lead to more external causal attributions, which increase the perceived trustworthiness of the entrepreneur, ultimately resulting in a higher chance of extending the required capital by the banker (see Figure 1).

To investigate the exploratory hypothesis that perceived similarity predicts the final credit decision through causal attributions and perceived trustworthiness, we performed a serial mediation

²Appendix B of the Supporting Information online contains the results of the analyses when the entire sample was included.

TABLE 2 Pearson correlations for all study variables ($N = 140$)

	<i>M</i>	<i>SD</i>	Sim. (manip.)	Sim. (perc.)	Causal attr.	Trustworth.	Credit decis.
Similarity (manipulated)			-	.33**	.07	.27**	-.10
Similarity (perceived)	3.33	1.07		-	.20*	.31**	.11
Causal attribution	4.03	1.07			-	.34**	.37**
Trustworthiness	4.51	0.85				-	.39**
Credit decision	4.58	1.45					-

* $p < .05$; ** $p < .01$.**FIGURE 1** Hypothesized serial mediation model for the relationship between perceived similarity and bankers' credit decisions**TABLE 3** Unstandardized regression coefficients (b), standard errors (SE), and significance levels (p) for the proposed sequential mediation model for Study 3, with causal attribution (M_1) and trustworthiness (M_2) as mediators of the relationship between perceived similarity (X) and the final credit decision (Y)

	M_1			M_2			Y (Credit decision)		
	b	SE	p	b	SE	p	b	SE	p
X (Sim. Perc.)	.19	.08	.021	.20	.06	.002	-.06	.11	.59
M_1 (Causal attr.)	-	-	-	.23	.06	<.001	.37	.11	.001
M_2 (Trustw.)	-	-	-	-	-	-	.54	.14	<.001
Constant	3.39	.29	<.001	2.92	.31	<.001	.83	.66	.59
	$R^2 = .038$			$R^2 = .172$			$R^2 = .219$		
	$F(1,138) = 5.46, p = .021$			$F(2, 137) = 14.24, p < .001$			$F(3,136) = 12.68, p < .001$		

analysis using Hayes' (2013) PROCESS (10,000 bootstraps). The analyses of the mediation paths revealed that perceived trustworthiness mediates the relationship between perceived similarity and the final credit decision (see also Table 3), as indicated by a significant indirect effect, $b = .11$, 95% CI [0.03, 0.21]. Furthermore, the mediation path from perceived similarity through causal attributions to the final credit decision was also significant, $b = .08$, 95% CI [0.01, 0.18], as well as the total serial mediation model, $b = .02$, 95% CI [0.004, 0.05]. A comparison of the regression weights of the different indirect effects shows that the indirect effect through perceived trustworthiness accounted for the majority of the variance (see Table 4).

5 | DISCUSSION

We set out to draw attention to the important yet understudied topic of decision making processes in the context of financial

TABLE 4 Unstandardized regression coefficients (b), standard errors (SE), and 95% confidence intervals for each path of the sequential mediation analysis of Study 3

Path	b	SE	95% CI
Sim. → Cause → DV	.072	.037	0.01, 0.15
Sim. → Trustworthiness → DV	.107	.046	0.03, 0.21
Sim. → Cause → Trustworthiness → DV	.024	.013	0.004, 0.05

decline. Additionally, we aimed to provide a first empirical test of whether bankers dealing with distressed credit succumb to similarity bias when confronted with an entrepreneur in financial distress who requires additional capital to save his/her business. The data showed that bankers appear to succumb only partly to the effects of similarity bias in that they attribute the cause of the distress to external factors rather than to the entrepreneur and also consider the entrepreneur to be more trustworthy when the entrepreneur

is perceived as more similar to the banker than when the entrepreneur is perceived as dissimilar. Importantly, however, similarity with the entrepreneur (manipulated or perceived) was not significantly (directly) related to the likelihood of extending credit. This finding suggests that ultimately bankers might not be affected by similarity bias when deciding whether or not to extend additional credit to an entrepreneur in financial distress.

We note that perceived similarity was in fact associated with external causal attributions and increased perceived trustworthiness of the entrepreneur. It seems, therefore, that in line with the discussed literature on similarity bias, bankers are similar to other financial professionals in the sense that perceived similarity does affect their causal attributions and perceptions of trustworthiness, but just not their ultimate inclination to extend credit to entrepreneurs in financial distress. With this data, we provide the first evidence for the idea that, given the idiosyncrasies of bankers dealing with distressed credit (e.g., less information asymmetry, increased focus on "hard" financial data, etc.), this particular subset of financial professionals might be less susceptible to similarity bias (compared to other financial professionals such as equity investors) when deciding over lending requests.

Despite the absence of an overall relationship between perceived similarity and the credit decision (i.e., no total effect), exploratory mediation analyses revealed that causal attributions and trustworthiness judgments mediated the relationship between perceived similarity and the decision to extend credit in a sequential manner. Moreover, we also found that perceived similarity predicted causal attributions and perceived trustworthiness of the entrepreneur, which then predicted the likelihood of extending the requested capital. The indirect effect from perceived similarity to the likelihood of extending credit through perceived trustworthiness was the strongest.

The existence of a significant indirect effect in the absence of a total effect can suggest the existence of a suppression effect (e.g., Mackinnon et al., 2010; Rucker et al., 2011) in which one or more suppressor variables that were not included in the model suppressed the positive indirect effect, resulting in a net effect of zero. However, as of yet scholars are unsure what exactly can explain the existence of an indirect (albeit small) effect in the absence of a total effect. Regardless, the conclusion concerning bankers being less affected by similarity bias remains the same. That is, bankers were affected by similarity bias in their causal attributions and trustworthiness judgments, but this ultimately did not influence their credit decisions.

5.1 | Theoretical implications

Our findings have several theoretical implications in light of previous research. First, the current study adds to the literature on biases in financial decision making by providing the first investigation of similarity bias among bankers dealing with entrepreneurs in financial distress. We consider this study to be of added value as

we questioned whether previous research on similarity bias among VCs could be generalized to the specific context of bankers facing lending requests from entrepreneurs in financial distress. The finding that bankers in our study were less affected by similarity bias when deciding whether or not to provide new capital to an entrepreneur in financial distress contradicts previous research that did find a similarity bias in financial decision making among VCs (e.g., Becker et al., 2019; Franke et al., 2006; Murnieks et al., 2011). We encourage future research to build on the present work and use the inherent differences across financial professionals and institutions to shed more light on when biases are more (or less) likely to occur and among which group. Doing so may result in useful insights that can ultimately be used to reduce the unwanted impact of biases in financial decision making. Considering that research on debiasing in entrepreneurship research is rather limited (Zhang & Cueto, 2017), the suggested route might prove useful for further work on debiasing methods.

Second, the results can shed light on which factors affect bankers' decision making when confronted with an entrepreneur in financial distress. The empirical research on bankers' judgments and decision making is scarce, particularly in the context of distressed credit, which is why the current research is particularly useful. From the research on investment decision making of VCs it is already known that trust in the entrepreneur is a key variable (e.g., Aldrich & Fiol, 1994; Harrison et al., 1997; Hill et al., 2006; Sudek, 2006; Van Osnabrugge & Robinson, 2000). The results of the current research suggest that perceived trustworthiness is an important predictor of bankers' credit decision, as it is for VCs (see also Howorth & Moro, 2006, 2012; Moro & Fink, 2013). Moreover, idiosyncratic to the current context of distressed credit, attributions regarding the cause of a business' decline also predicted the intention to provide additional capital.

Finally, we provide support for and extend Tomlinson and Mayer's (2009) model of trust repair. Specifically, in line with their model, we found that in situations involving an adverse event (in their model a trust violation), causal attributions indeed matter for perceptions of trustworthiness. Moreover, we found support for the link from causal attributions via perceived trustworthiness to trusting behavior (i.e., extending credit). Additionally, we extend the model of trust repair by including perceived similarity as a factor. Indeed, perceived similarity affected both perceived trustworthiness and causal attributions, which in turn predicted the likelihood of extending credit.

These contributions are particularly timely considering the current COVID-19 pandemic, which threatens the existence of many businesses and that calls for prudent financial decision making to prevent unnecessary damage to the global economy.

5.2 | Practical implications

It is encouraging that we did not find strong evidence for a similarity bias in bankers' credit decisions. If our findings hold true, research should focus on examining what exactly makes bankers

less susceptible to similarity bias, as these insights could help other financial professionals such as equity investors to protect themselves from this bias. For example, it has been suggested that relative to equity investors, bankers have a more standardized and structured approach to their credit decisions, resulting in consistency in their judgments (Mason & Stark, 2004). Therefore, equity players might benefit from adopting similar approaches in analyzing their investment opportunities in order to limit the potential effect of similarity bias from weighing too heavily on their decision. Also, once research has identified what exactly protects bankers from similarity bias, bankers themselves can more effectively home in on those elements and further limit the effects of the bias.

However, we did find evidence for similarity bias in bankers' assessments of the causes of a company's decline, as well as in their judgments of the entrepreneur's trustworthiness. Since these two components are particularly important in the context of business failure, there is a risk that biased causal attributions and trustworthiness judgments ultimately find their way to the final credit decisions. Banks, and in particular their departments dealing with distressed credit, should therefore take note and find ways to limit the effects similarity bias might have on their client-facing staff.

To counter effects of any bias, one must first understand the underlying mechanisms of the bias. A fruitful avenue for future research aiming to find the drivers behind the findings of the current research is that of investigating individual differences that might moderate susceptibility to similarity biases. For example, we would encourage future research to include personality measures or other factors that might affect susceptibility to similarity biases. The personal need for structure might influence the degree to which financial professionals will categorize an entrepreneur and subsequently compare themselves to the entrepreneur (Moskowitz, 1993). Likewise, in line with research showing that analysts rely less on intuition in their judgments (Thoma et al., 2015), it might be worthwhile to include the Cognitive Reflection Test (CRT; see for example Pennycook et al., 2016) in future studies to investigate the potential moderating role of thinking styles. Perhaps such future research can help to not only alleviate the unwanted effects of similarity bias in bankers' judgments, but also in selecting bankers based on their susceptibility to biases.

5.3 | Limitations and future research

Some issues remain with this study, and these should be studied carefully in research following the findings presented herein. First, even though we did find an effect of the similarity condition on levels of perceived similarity, manipulated similarity only affected the perceived trustworthiness of the entrepreneur and not causal attributions, whereas *perceived* similarity was associated with both variables. This begs the question whether the similarity manipulation was perhaps largely unsuccessful. Despite there being a significant difference between the two conditions in perceived

similarity with the entrepreneur, participants in the similar condition still did not really perceive the entrepreneur to be very similar to themselves, as indicated by an average score below the midpoint of the 7-point scale ($M = 3.72$, $SD = 1.13$). The finding that perceived similarity was a better predictor of the variables in this study is in line with previous research that found no effect of actual similarity, but only of perceived similarity (e.g., Ferris & Judge, 1991; Strauss et al., 2001; Tidwell et al., 2013; Turban & Jones, 1988). Such a discrepancy between the effects of actual and perceived similarity is in accordance with Byrne (1972), who suggested that for the proposed similar-to-me effect to be manifested, an observer must first actually perceive the other as similar. As our data also shows, participants did not consider the entrepreneur to be very similar to themselves, regardless of the condition they were assigned to. In the end, only the age of the participant was used to manipulate the similarity with the entrepreneur and it is possible that the sample in our study was less homogenous in terms of their professional background, educational background, and socioeconomic status (i.e., the other factors used in the description of the entrepreneur) than we assumed a priori. It might, therefore, be worthwhile to more closely match characteristics of participants with those of the protagonist of a case in future studies, as this might result in a more successful similarity manipulation.

Second, even though we found robust evidence for the notion that perceived similarity in the banker-entrepreneur relationship has relevant consequences for causal attributions and perceived trustworthiness, the finding that perceived similarity was ultimately unrelated to credit decisions in bankers warrants further scrutiny. First of all, the methods used have some limitations. As is inherent to the methodology of experimental vignettes, it remains uncertain to what extent the findings can be generalized to real-life cases. Even though the case was developed in collaboration with bankers and was perceived as realistic, an online study is different from actually interacting with entrepreneurs and having to make consequential decisions. It would, therefore, be worthwhile to build on the current research using different methods.

Moreover, the scales we used for measuring causal attributions and perceived trustworthiness were based on previous research, but with the purpose of keeping the study as short as possible to increase conversion rates, we significantly reduced the number of items used (two for causal attributions and three for perceived trustworthiness) and also made them context specific. As a result, despite having high face validity and acceptable internal consistencies, the shortened scales we used were not validated and may thus lack construct validity.

Overall, the materials we used were relatively idiosyncratic, and before drawing strong conclusions it would be necessary to replicate the findings using different materials, populations, and methods. Specifically, we (1) used a sample of Dutch bankers, (2) presented these bankers with a very specific scenario of a struggling entrepreneur in the real estate sector, and (3) used self-report measures for the expected likelihood of extending credit rather than

measuring actual behavior. Combined, these points warrant a careful assessment of the generalizability of the present findings to other, real-world settings. This case focused on an entrepreneur in the commercial real estate sector. Even though we purposefully chose this sector to add to the realism and timeliness of the case, it is possible that credit decisions in this context are different from those in other contexts.

Moreover, the current sample was predominantly male (%), which therefore did not allow for a comparison between male and female bankers. Given the finding in previous research that male and female loan officers adhere to slightly different criteria in assessing loan applications, as well as the finding that men and women use different negotiation strategies (Carter et al., 2007), it would be worthwhile for future research to take gender into account.

Furthermore, it might be that the finding of bankers not being affected by similarity bias might be confined to the specific context of companies in financial distress. It might, therefore, be that when bankers have to decide whether or not to extend credit to an entrepreneur with whom the bank does not have a prior history, bankers will be equally incentivized to closely observe and analyze the company owners to gather as much "soft" information as they can to base their decision on, possibly making it more likely for similarity bias to have an effect. There is already some evidence that suggests that in initial lending applications, the behavior entrepreneurs display (i.e., voluntary information disclosure) affects bankers' perceptions of entrepreneurial competence, suggesting that at least in the absence of an existing relationship, bankers might actively evaluate entrepreneurs to reduce the risk associated with extending credit (Moro et al., 2014).

Having said that, relative to equity investors, bankers are less likely to provide credit in the initial stages of venture formation and growth, precisely because there is too little information available on the business' viability (making lending too risky). Whereas bankers are unlikely to invest in the earliest stages, equity investors might find themselves in a similar position as bankers dealing with distressed credit when a company they invested in faces substantial decline and requires additional capital to survive a loss-making phase. Hence, it would be interesting to see whether equity investors are also less affected by similarity bias when they too have access to "hard" quantitative data in addition to soft data, both acquired over a prolonged period of working together. In other words, did we find a lack of similarity bias among bankers primarily because of unique features of this group, or can the results also be explained by differences in the amount of hard and soft information available at different stages of the financier-entrepreneur relationship?

Another factor that might be relevant in this regard is the size of the bank. That is, large banks are typically more distant and less relationship oriented. Small banks, moreover, seem better able to acquire and rely on "soft" information when extending credit. Indeed, research has shown that large banks use a more standardized credit assessment approach, whereas smaller banks rely more heavily on the preexisting relationship with the borrower (Berger et al., 2001, 2005; Cole et al., 2004). It may, therefore, be that smaller banks

might in a sense be more similar to equity investors in that they are willing to (and have to) provide capital when information is scarce.

In sum, following the current research it remains unknown whether the lack of similarity bias among bankers can be generalized to real-world contexts, and if so what exactly can explain the absence of this bias. Nonetheless, we consider the findings of the current research to be of added value to the literature and encourage future research to study differences in cognitive biases in different types of financial professionals in different phases of the entrepreneurial life cycle, as this can ultimately lead to invaluable insights on how to reduce cognitive bias in the crucial context of assessing a business' potential.

ACKNOWLEDGMENTS

The authors thank Johan Jol for his assistance in developing the study materials, Michiel van Dijk and Jean-Pierre van der Rest for their help in liaising with the banks and the data acquisition process, and Eric van Dijk for his valuable feedback throughout the process and his feedback on previous versions of the manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in OSF at <http://doi.org/10.17605/OSF.IO/MNBF2>.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

How to cite this article: Strohmaier N, Adriaanse J, van den Bos K, Pluut H. Similarity bias in credit decisions for entrepreneurs on the brink of bankruptcy. *J Appl Soc Psychol*. 2021;51:683–697. <https://doi.org/10.1111/jasp.12775>