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Family involvement and new venture debt financing

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ABSTRACT

New ventures often require debt financing but face difficulties convincing lenders of their creditworthiness because of agency problems. Researchers have shown that social capital can help small firms reduce lenders' agency concerns but new ventures do not yet have their own social capital. We propose that family involvement increases a venture's ability to borrow family social capital for the purpose of obtaining debt financing. Empirical tests with 1267 new ventures suggest that family involvement directly and indirectly improves a new venture's access to debt financing.

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1. Executive summary

Debt financing is an important source of capital but difficult to obtain for new ventures owing to agency problems caused by the conflicts of interest and asymmetric information between borrowers and lenders. Many solutions to these problems are available to large established firms but small firms tend to have to rely on their social capital with lenders (Bosse, 2009). Unfortunately, new ventures will not yet have developed the needed organizational social capital. Therefore, entrepreneurs must either use their personal social capital or "borrow" other people's social capital. To borrow other peoples' social capital, however, entrepreneurs must first resolve the agency problems related to borrowing social capital because, like financial capital, social capital may be misused by the borrower.

In this study we focus on the family as the source of borrowed social capital and propose that family involvement aligns the interests of the family and the venture. By doing so, family involvement should increase the venture's ability to borrow family social capital to both directly and indirectly resolve agency problems with lenders. Indirect effects occur when borrowed family social capital enhances the venture's ability to implement traditional mechanisms that reduce borrower–lender agency costs. The specific indirect effects studied are the ability of family involvement to improve a venture's relationship with lenders and to increase the probability of obtaining a third party guarantee. Direct effects occur when borrowed family social capital is itself used to reduce the perceived agency costs of lenders and, consequently, improve access to debt financing over and above the access obtained through the implementation of traditional agency cost control mechanisms.

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We tested our hypotheses using a sample of 1267 new ventures that previously received consulting services from the Small Business Development Center (SBDC) program in the United States. The results support our hypotheses that family involvement improves a venture's access to debt financing indirectly by enhancing the venture's ability to employ traditional agency cost control mechanisms and directly through management and governance. Furthermore, a Tobit analysis for truncation of the dependent variable, a Heckman two-stage test for self-selection bias, Hausman specification tests for endogeneity, and alternative specifications of the dependent and independent variables all indicate that our results are robust.

Prior to this study, whether family involvement could resolve borrower–lender agency problems was theoretically unclear. By providing a theory based on the concept of borrowed social capital and supporting evidence on how family involvement can improve a new venture's access to debt financing, we contribute to the entrepreneurship, family business, and agency theory literatures. We also contribute to social capital theory by noting that using other people's social capital has its own agency problems. However, because we measured family involvement, rather than borrowed family social capital directly, confirmatory research is needed.

For entrepreneurs, our study suggests that access to debt financing can be improved by borrowing social capital from family members. According to our results, the most reliable way to borrow family social capital is to increase the involvement of family members in the venture's governance and management.

2. Introduction

Debt financing is an important source of capital for new ventures (Bates, 1997; Cassar, 2004) and critical to their success (Evans and Jovanonic, 1989; Holtz-Eakin et al., 1994). Compared to equity financing, it lowers the probability of leaking value-creating intellectual property to competition (Townsend, 1979), does not require giving up ownership control (Ueda, 2004), and can be less costly, after tax (Graham, 2000).

The current theory of debt financing is based on the agency problems caused by potential conflicts of interest and asymmetric information between lenders and borrowers. Contractual solutions are available to large firms (Smith and Warner, 1979) but often not to smaller firms (e.g., Petersen and Rajan, 1994; Uzzi, 1999). Debt financing of new ventures is further complicated by their liability of newness (Stichcombe, 1965) and opacity in terms of available information. Since what works for large or small firms may not work for new ventures, there is a need for separate research on new venture debt financing. This study addresses that need.

The key to resolving the agency problems of debt financing for small firms appears to be social capital with lenders (e.g., Bosse, 2009; Petersen and Rajan, 1994; Uzzi, 1999) but new ventures will not yet have developed the required organizational social capital. Therefore, entrepreneurs must either use their personal social capital or, if personal social capital is lacking or insufficient, make use of other people's social capital (Arregle et al., 2007). The entrepreneur cannot use other people's social capital, however, unless they possess a relationship of trust and mutual obligation with the owners of the social capital because, like financial capital, other people's social capital can be used opportunistically or devalued if the venture fails. As a result, the social capital that entrepreneurs can most likely borrow is that of their own families.[4] Aside from the greater likelihood that trusting relationships exist among family members, we focus on borrowed family social capital because family involvement has been shown to positively influence the terms of borrowing by large firms (Anderson et al., 2003) and is strongly associated with new venture activity (Aldrich and Cliff, 2003; Chang et al., 2008).

This study proposes that family involvement enables the borrowing of family social capital to help the new venture resolve agency issues with lenders and obtain debt financing. By integrating observations from the agency theory of debt financing, social capital, and family business literatures, it makes contributions to all three. It also makes an important and separate theoretical contribution to the social capital literature by noting that access to other people's social capital requires the resolution of its own set of agency problems.

Our empirical results support the hypotheses that the ability to borrow social capital through family involvement can directly and indirectly improve a venture's access to debt financing. The findings are shown to be robust using the Tobit analysis for truncation of the dependent variable, the Heckman test for self-selection bias, Hausman specification tests for endogeneity, and alternative specifications of the dependent and independent variables.

3. Agency theory of debt and social capital

The current theory of debt financing, its availability, terms, and structure, is based on the agency problems that flow from asymmetric information and conflicts of interest between the borrower and the lender (Leland and Pyle, 1977; Myers, 1977; Ross, 1973; Smith and Warner, 1979). These issues between borrowers and lenders are different from those between owners and managers or those between majority and minority owners (Chrisman et al., 2004).

Application of agency theory to the borrower–lender situation shows that charging higher risk borrowers higher interest rates exacerbates adverse selection and moral hazard problems (Myers, 1977; Smith and Warner, 1979; Stiglitz and Weiss, 1981). Consequently, as predicted by agency theory and observed in practice, lenders manage risk by credit rationing through the accept/reject decision and the amount of loan approved (Stiglitz and Weiss, 1981). In this study we focus on factors that influence the latter.

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[4] For want of a better term, we use the term "borrowing" here to indicate the temporary use of other people's social capital until the venture develops its own organizational social capital. The term is not used in the financial sense where there is repayment of principal with interest, although the family's social capital can certainly be enhanced if the venture succeeds.

The agency theory of debt financing recommends dealing with adverse selection by disclosure of private information, credible signalling, and third party certification (Campbell and Kracaw, 1980; Leland and Pyle, 1977; Smith and Warner, 1979; Stiglitz and Weiss, 1981). If disclosure does not leak value-creating information to competition, it is the lowest cost way of solving the problem. Beyond disclosure, borrowers can try to credibly signal creditworthiness, ability, and trustworthiness by actions such as investing their own capital, pledging collateral, or agreeing to restrictive covenants (Smith and Warner, 1979; Wu et al., 2007). Borrowers can also reveal private information to a trusted third party, such as a credit or bond rating agency, and get that party to certify the creditworthiness of the borrower (Campbell and Kracaw, 1980; Leland and Pyle, 1977). To deal with moral hazard, researchers recommend hostage taking in the form of collateral (Smith and Warner, 1979) and monitoring by the board (Ferris et al., 2003) or financial intermediaries (Diamond, 1984).

However, finance researchers (Petersen and Rajan, 1994) observed that small firms have difficulty applying most of the proposed large company solutions to the agency problems of debt financing and that, therefore, small firms must rely more heavily on their relationships with lenders. The theoretical foundation for how relationships improve access to external financing is based on social capital—the mutually trusting individual and organizational relationships that provide access to resources (Arregle et al., 2007).

Social capital is a function of the ongoing interdependence and interactions among individuals and the mutual trust they develop in terms of their ability to predict behaviors, the perceived commonality of goals, and the potential for an equitable exchange of resources over time (Arregle et al., 2007; Pearson et al., 2008). Thus, there are two ways social capital could resolve the agency problems of external financing: information transfer and social obligation. Information transfer occurs when the lender is able to observe the behavior of the borrower over a long period of time and, as a result, develops trust in the other party's character and judgment. Social obligation occurs when a lender's decision is influenced by loyalty or a compulsion to reciprocate favourable treatment received in other transactions or venues. Uzzi (1999) shows that a borrower's access to external financing is improved by the sharing of private information through strong ties and the sharing of public information through weak ties while Saparito et al. (2004) show that the social capital between lenders and borrowers has a social obligation component. Since either process is sufficient for our purpose, we do not address the specific mechanism by which social capital affects debt financing in this study.

4. Family involvement and the agency costs of debt financing

The agency theory and family business literatures, together, are inconclusive about how family involvement, by its presence alone, affects the creditworthiness of a business because such involvement can potentially increase or decrease the agency costs of lending. We first discuss why family involvement might decrease agency costs to lenders and then why family involvement might increase such costs.

Agency theorists originally assumed that when ownership and management reside within a family, owner-manager agency costs would be minimized (e.g., Fama and Jensen, 1983: 306; Jensen and Meckling, 1976). In fact, family firms appear to have fewer monitoring systems (Daily and Dollinger, 1992) and, although non-negative, the agency costs of small privately-held family firms appear to be lower than those of small privately-held non-family firms (Chrisman et al., 2004). Lower owner-manager agency costs should, all else equal, increase the cash flow available to service debt and therefore reduce default risk.

Researchers also suggest that firms with family involvement are less aggressive in pursuing growth and risk-taking (McConaughy, 1999; Ward, 1997). Lower risk means that lenders are less exposed and this should make them more willing to lend to family firms. Increasing the riskiness of the business after the loan is made is an important source of moral hazard for lenders (Smith and Warner, 1979). If family ties make the owners or managers more risk averse, then such risk-increasing behavior is less likely to happen. Furthermore, when a family intends to maintain control of the business past the current generation—an intention considered a defining feature of family firms by Chua et al. (1999) and which Arregle et al. (2007) refer to as desire for "dynastic stability"—survival becomes a paramount objective. Since servicing the firm's debt is necessary for survival, this should align the interests of the lender and borrower and lower the perceived agency costs (Anderson et al., 2003).

The alignment of interests between a family firm and its lenders, however, is not as straightforward as the above discussion suggests. For example, whether an increase in cash flow improves a firm's ability to borrow depends on how the incremental cash flow is used. Family control of both ownership and management is characteristic of most new ventures with family involvement (cf., Chrisman et al., 2005a) and the power emanating from such control makes it easier to pursue policies contrary to the interests of the lenders such as the consumption of perks and the entrenchment of ineffective family leaders (Gómez-Mejía et al., 2001). When pursued, such policies may more than deplete the increased cash flows and exacerbate default risk.

Furthermore, Schulze et al. (2002) argue and present evidence that if altruism is asymmetric, firms with family involvement have a propensity to allow family members to shirk. Such behavior may even be rewarded because of a desire to treat all family members equally regardless of contributions. Such propensity could be detrimental to the operating efficiency of the firm and reduce its ability to service debt.

Family firms are also known to pursue non-economic goals such as family harmony or providing redundant employment for family members and relatives (Sharma et al., 1997). The pursuit of non-economic goals would constitute an agency problem for lenders if it increases risk or costs (Daily and Dollinger, 1992). For example, maintaining transgenerational family control to preserve non-economic, socioemotional wealth appears to be as likely to lead to decisions that increase the risk of failure as decisions that decrease it (Gómez-Mejía et al., 2007).

In summary, family involvement may reduce borrower–lender agency costs because of the lower probability of managerial opportunism, higher risk aversion, and long-term orientation. However, asymmetric altruism, entrenchment, and pursuit of non-

economic goals might just as easily increase borrower–lender agency costs. Given these equivocal signals, if family involvement affects new venture debt financing, it must be in ways not currently discussed in the agency theory of debt financing or family business literatures.

5. Borrowing family social capital and new venture debt financing

In Section 3, we discussed how social capital is the most important way that small firms resolve agency problems with lenders and suggest the same may be true for new ventures. In Section 4, we explained why family involvement, by its mere presence, is not sufficient to help new ventures secure external debt financing. In this section, we tie the two together by proposing that it is through enabling the entrepreneur to borrow the family's social capital that family involvement improves the new venture's access to debt financing.

5.1. Family social capital and the agency problems of borrowing social capital

It is generally accepted that social capital exists among family members because of the strong ties that family bonds engender (Coleman, 1988). Recently, Arregle et al. (2007) explain how family social capital may evolve into family firm social capital through isomorphic pressures, organizational identity and rationality, human resources practices, and overlapping social networks. Observing the existence of this source of social capital, researchers such as Sirmon and Hitt (2003), Carney (2005), and Arregle et al. (2007) suggest that family involvement helps the family firm secure external resources by exploiting previously established relationships between family members and resource-holders. Empirical support is provided by Anderson et al. (2003) who show that, even for large S&P 500 firms, the continuing involvement of the founding family leads to better borrowing terms.

Evidence that family involvement helps established family firms secure debt financing does not, however, lead automatically to the conclusion that this will hold for new ventures with family involvement because it takes time for the family's social capital to evolve into organizational social capital (Arregle et al., 2007; Nahapiet and Ghoshal, 1998). Lacking organizational social capital, the founders of a new venture must initially rely on their personal social capital (Granovetter, 1985) to address agency problems with lenders. Since personal social capital may be insufficient, entrepreneurs may need to borrow social capital from other individuals (such as family members) who possess social capital with external resource-holders.

When the entrepreneur borrows family social capital for the purpose of debt financing, family members who hold the social capital with lenders must transfer its benefits to the entrepreneur through mechanisms such as: providing introductions and references that vouch for the entrepreneur's integrity and ability; convincing lenders to extend to the entrepreneur their feelings of goodwill and loyalty for the family members, or simply allowing the family name to be used in the negotiation process (Steier, 2007). As suggested by Arregle et al. (2007) and illustrated by Steier (2007), such borrowing is possible and potentially effective. Indeed, borrowed social capital and networking in general have been shown to be important in a new venture's efforts to build credibility and obtain resources (Le and Nguyen, 2009; Podolny, 1994; Stuart et al., 1999).

The social capital lender, however, faces moral hazard and adverse selection problems, as would be the case in any cooperative situation between two or more parties (Jensen and Meckling, 1976). The moral hazard problem arises from the potential for opportunistic behavior on the part of the entrepreneur and the adverse selection problem is related to the risk of venture failure. We argue that these moral hazard and adverse selection concerns can be overcome with family involvement in the venture because such involvement both aligns the family's interests with that of the entrepreneur and reduces information asymmetry.

For example, family involvement tends to breed non-financial family-oriented objectives (Gómez-Mejía et al., 2007) and despite their unfavourable financial connotations, such objectives could serve as a vehicle to align the venture's interests with the more varied interests of the family. Altruism toward family members, whether asymmetric or reciprocal, should also facilitate the venture's ability to borrow family social capital when there is family involvement because, to a greater or lesser extent, actions that affect the well being of the entrepreneur or the venture will tend to increase the overall utility of the family (Becker, 1974). The probability of the entrepreneur engaging in opportunistic behavior with respect to the borrowed family social capital should also be lower because the entrepreneur's relationship with other family members is hostage to how borrowed family social capital is used. Because the linkage between family members' economic and personal relationships reduces information asymmetries, family members are efficient monitors who are able to reward and punish the entrepreneur in ways that are unavailable to other parties in a cooperative relationship (Pollak, 1985). In short, the characteristic relationships among members of a family give the entrepreneur an advantage in borrowing family social capital when there is family involvement.

However, even if family members have altruistic tendencies or reciprocity obligations toward the entrepreneur, they would be less inclined to let their social capital be borrowed when family involvement in the venture is absent because the involvement of non-family members would increase the perceived, if not actual, moral hazard of doing so. Thus, a team of unrelated entrepreneurs might each potentially borrow social capital from their respective families but venture team members from outside the family, with whom feelings of trust, reciprocity, and altruism may be weaker, would also have access to the borrowed social capital. A venture lacking the risk aversion typically attributed to family firms (Schulze et al., 2001) would also have a higher probability of failure. Thus, asymmetric information about the motives of the unrelated members of the venture team would tend to exacerbate both adverse selection and moral hazard problems and decrease the likelihood that the venture could borrow the family's social capital.[5]

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[5] Borrowing social capital from friends or business associates is also possible but would encounter the same, if not greater, obstacles.

5.2. Family involvement and borrowed family social capital hypotheses

The family may be involved in the venture at its outset through ownership, governance, or management. Furthermore, if the venture is launched with credible intentions for transgenerational succession, the family will hold an option for future benefits arising from the venture's success. Based on the above discussion we propose that each of these aspects of present and future family involvement is related to the venture's ability to borrow family social capital. Below, we present four sets of hypotheses based on the assumption that the family has social capital with lenders and that as long as the entrepreneur can borrow such social capital the new venture's agency problems with lenders can be resolved. In general, our hypotheses about how family involvement makes it easier for the entrepreneur to borrow family social capital for the purpose of debt financing are based on the interest alignment and/or opportunistic behavior reduction effects of family involvement.

Furthermore, since the entrepreneur may use the borrowed family social capital to enhance access to debt financing directly and indirectly, we present both types of hypotheses. Indirect effects occur when family social capital is borrowed to improve access to debt capital by enhancing the venture's ability to implement mechanisms that reduce borrower–lender agency costs. The specific indirect effects studied here are the ability of family involvement to improve a venture's relationship with lenders and increase the probability of obtaining a third party guarantee. Direct effects occur when borrowed family social capital is used directly to reduce the perceived agency costs of lenders and, consequently, improve access to debt financing over and above the access obtained through the implementation of traditional agency cost control mechanisms.[6]

Family involvement in ownership should make family members more willing to let the venture borrow the family's social capital because the family members will directly participate in the wealth created by the venture. Furthermore, the ability of the entrepreneur to invoke the altruistic tendencies of other family members to help the venture should increase with family ownership. Finally, the success of the venture will improve the overall non-economic utility of the family through familial altruism (Becker, 1974). Thus, family involvement in ownership aligns both the economic and personal interests of family members with the venture and should make them more willing to let the venture borrow the family's social capital. The greater ability to borrow family social capital should, in turn, augment the venture's ability to build relationships with lenders, obtain third party guarantees, and achieve higher levels of debt financing. Based on these arguments, we hypothesize that:[7]

H1a. Family ownership is positively related to a new venture's relationship with lenders.

H1b. Family ownership is positively related to the probability of a new venture obtaining a third party loan guarantee.

H1c. Family ownership is positively related to the amount of debt financing obtained by a new venture.

Family members, aside from the entrepreneur, can also be involved in the venture's governance, through participation on the board of directors, or management. Having other family members involved in either governance or management will reduce the information asymmetry between the entrepreneur and the family in terms of the strategic decisions made concerning the venture. Furthermore, involvement in governance or management also limits the entrepreneur's ability to pursue initiatives that put the family's social capital at risk. As a result, family involvement in either governance or management should be a strong factor in determining the family's willingness to let the venture borrow and use family social capital.

H2a. Family involvement in governance is positively related to a new venture's relationship with lenders.

H2b. Family involvement in governance is positively related to the probability of a new venture obtaining a third party loan guarantee.

H2c. Family involvement in governance is positively related to the amount of debt financing obtained by a new venture.

H3a. Family involvement in management is positively related to a new venture's relationship with lenders.

H3b. Family involvement in management is positively related to the probability of a new venture obtaining a third party loan guarantee.

H3c. Family involvement in management is positively related to the amount of debt financing obtained by a new venture.

Intention for transgenerational control through family succession implies the importance of survival, growth, and integrity in order to build a business that creates an economic and non-economic legacy for the family. As a result, if the intentions are credibly communicated to other family members, the family should perceive a lower moral hazard problem with letting the entrepreneur borrow the family's social capital. Furthermore, if the business remains under the control of a family member past the current

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[6] As explained later, we use a two-stage procedure to investigate the indirect and direct effects of family involvement on the amount of debt financing that a new venture is able to obtain. Since social capital does not necessarily dissipate with use (as opposed to misuse), we do not expect third party guarantees or relationships with lenders to mediate the relationship between family involvement and new venture debt financing.

[7] Note that, although the proposed rationale is based on borrowed family social capital, the hypotheses do not incorporate borrowed family social capital. They are stated in this manner because the data for measuring borrowed family social capital were unavailable. Thus, our contention that borrowed family social capital underlies family involvement's influence on new venture debt financing is based on the implications flowing from the arguments in support of the hypotheses, which is not unusual in management research. This deficiency is discussed more fully in the Section 8.1.

generation, then future generations of family members will hold an option to request and receive long-term benefits by exploiting successors' familial altruism. Thus, the intention for transgenerational control through family succession should align the interests of the family with that of the venture and reduce moral hazard and adverse selection concerns over the venture's use of the family's social capital. Conditional on transgenerational succession intentions being credibly communicated to the family, we hypothesize that:

H4a. The intention for transgenerational succession is positively related to a new venture's relationship with lenders.

H4b. The intention for transgenerational succession is positively related to the probability of a new venture obtaining a third party loan guarantee.

H4c. The intention for transgenerational succession is positively related to the amount of debt financing obtained by a new venture.

Our theoretical model depicting the hypotheses is shown in Fig. 1.

6. Methodology

Data used to test our hypotheses were obtained from a questionnaire sent by the U.S. Small Business Development Center (SBDC) program in 2002 to the population of 25,438 aspiring entrepreneurs who received five or more hours of SBDC assistance in 2000. All respondents obtained SBDC assistance immediately prior to the expected start of their ventures, which were in the early stages of development in 2002 (see Chrisman et al., 2005b). The questions used in this study are shown in the Appendix. After two mailings, a total of 3680 responses were received (14.4%). We eliminated clients who did not start a business (1818) and responses with missing data (595), leaving an effective sample of 1267 new ventures with varying levels of family involvement. These response and attrition rates are comparable to other studies that use data obtained from surveys of small and medium-sized firms (e.g., Schulze et al., 2001).

Our sample was divided into respondents to the first and second mailings. The responses of the two groups were tested for differences among the variables of interest in this study. There were no significant differences between these sets of responses. Since late respondents could be expected to be more similar to non-respondents (e.g., Kanuk and Berenson, 1975), these tests suggest no reason to suspect non-response bias along any of the variables analyzed. Common method bias does not appear to be a problem because our variables, although self-reported, are largely measured objectively. Nevertheless, a factor analysis indicated that common method bias does not seem to be a concern for this study (Podsakoff and Organ, 1986).

6.1. Debt financing variable

The dependent variable was measured by the amount of debt respondents indicated they obtained, typically from private banks, during start-up. The mean debt financing was approximately $73,850. This was the sum of the debt financing from SBA guaranteed loans ($31,225), which came entirely from banks, and other debt financing, which also came from banks and potentially a variety of alternative sources ($42,625). Unfortunately, we were unable to verify the specific source of financing for these other loans for the entire sample, although the context of the questionnaire and the magnitude of the loans obtained suggest that they were primarily third party business loans. Furthermore, an analysis of a sub-sample for which additional data were available indicated that over 90% of the amounts reported came from bank loans.
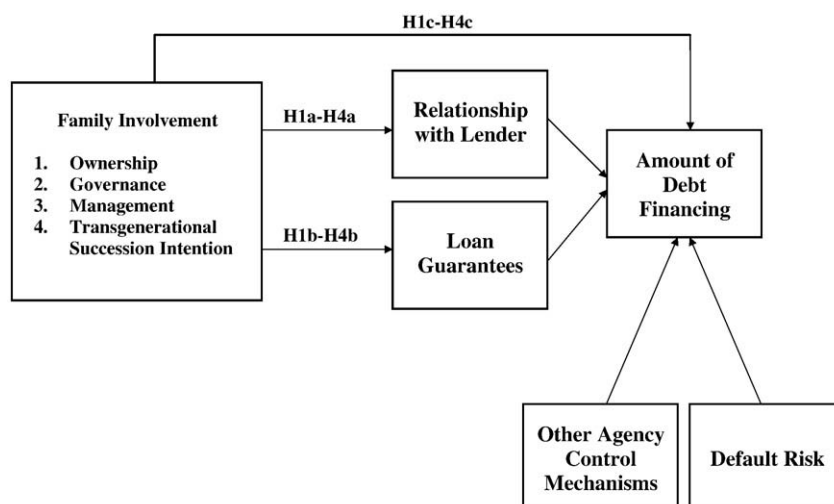

Fig. 1. Theoretical model.

The logarithm of the debt financing variable was used to reduce skewness. Since the logarithm of zero is undefined, the dependent variable actually used was the logarithm of the amount of debt plus one. This retains the zero value for ventures that received no debt financing without any significant change in the amount of loan obtained. To ensure that the results are not biased by the censorship of the variable, we confirmed the least-square model for access to debt financing using Tobit analysis. To analyze the robustness of our variable specification, debt financing was also measured as a categorical variable (1 = debt financing was obtained; 0 = debt financing was not obtained).

6.2. Family involvement variables

As noted above, we were unable to directly measure family social capital. Instead, we theorized that family involvement increases a venture's ability to borrow family social capital, which, in turn, increases its access to debt financing. The measures of family involvement are described below.

6.2.1. Family ownership
Ownership is measured by the percentage ownership held by members of the family.

6.2.2. Family governance
Family involvement in governance is measured by the number of family members on the board of directors/advisors of the venture.

6.2.3. Family management
This variable measures the number of family managers in the venture as reported by respondents.

Measuring involvement in governance and management by numbers rather than percentages is appropriate owing to the small size of the ventures and the suggestion in previous studies that at least two family managers are necessary for the firm to be consider a family business (e.g., Chang et al., 2008). As such, they capture the participation of family members in the firm's operations and therefore the potential for the family to lend its social capital to the venture.

6.2.4. Intention for transgenerational succession
To measure this categorical variable, respondents were asked whether they "intend the future successor as president of the business to be a family member" (1 = transgenerational succession intention; 0 = no intention).

6.3. Agency variables

Several agency cost control variables were included in the analysis to isolate the impact of family involvement on debt financing. Two (relationship with lenders and third party guarantee) were also used as dependent variables to determine the indirect effects of borrowed family social capital. These agency cost control variables are described in the following sections.

6.3.1. Relationship with lenders
Respondents were asked to rate the extent to which their banking relationship constituted a competitive advantage or disadvantage on a 5-point Likert scale (5 = strong advantage; 1 = strong disadvantage). Unfortunately, owing to limitations of the SBDC database and federal law prohibiting direct contact with respondents, it was necessary to rely on a single-item scale to measure this subjective variable.

6.3.2. Third party guarantee
Some respondents (22%) received part or all of their debt through bank loans that were guaranteed by the Small Business Administration (SBA). We derived the guarantee variable from this information. The guarantee, as opposed to the amount guaranteed, was measured as a categorical variable (1 = obtained guarantee; 0 = did not obtain guarantee).

6.3.3. Disclosure
Respondents were asked whether they received specific assistance from the SBDC in developing an application for financing, which is not to be confused with the more usual assistance in preparing a business plan. In our sample, 33% of the entrepreneurs received this assistance. Such assistance should improve the quality of the information provided to lenders and, therefore, disclosure. Thus, we consider a new venture that received SBDC assistance with respect to obtaining financing to have improved its disclosure. The variable was categorical (1 = improvement in disclosure; 0 = no improvement in disclosure).[8] As discussed

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[8] It is important to note that the consulting services were performed by the SBDC while the guarantee was given by the SBA, two different government agencies.

Table 1
Correlation matrix, means and standard deviations ($n = 1267$).

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Region 1	0.05	0.23	1.000											
2. Region 2	0.18	0.39	−0.114**	1.000										
3. Region 3	0.13	0.34	−0.094**	−0.187**	1.000									
4. Region 4	0.16	0.37	−0.104**	−0.207**	−0.171**	1.000								
5. Region 5	0.14	0.34	−0.096**	−0.190**	−0.157**	−0.173**	1.000							
6. Region 6	0.12	0.33	−0.090**	−0.178**	−0.148**	−0.163**	−0.150**	1.000						
7. Region 7	0.05	0.21	−0.054	−0.106**	−0.088**	−0.097**	−0.089**	−0.084**	1.000					
8. Region 8	0.05	0.21	−0.053	−0.105**	−0.087**	−0.096**	−0.088**	−0.083**	−0.049	1.000				
9. Region 9	0.08	0.28	−0.072*	−0.142**	−0.118**	−0.130**	−0.119**	−0.112**	−0.067*	−0.066*	1.000			
10. Region 10	0.03	0.18	−0.043	−0.086**	−0.071*	−0.078**	−0.072*	−0.068*	−0.040	−0.040	−0.054	1.000		
11. Retail	0.25	0.44	0.045	−0.089**	0.016	−0.024	0.006	0.059*	0.067*	0.035	−0.068*	0.020	1.000	
12. Service	0.24	0.43	−0.038	0.035	−0.023	0.017	0.010	−0.016	0.013	−0.020	−0.021	0.035	−0.329**	1.000
13. Wholesale	0.05	0.21	−0.019	−0.007	0.013	0.019	−0.033	−0.002	0.005	−0.013	0.045	−0.018	−0.127**	−0.124**
14. Manufacturing	0.07	0.25	0.021	−0.077**	0.046	−0.001	0.052	−0.060*	0.016	0.017	0.025	−0.011	−0.154**	−0.150**
15. Construction	0.04	0.21	0.016	0.016	0.062*	−0.051	0.003	−0.034	−0.012	0.025	−0.022	0.005	−0.125**	−0.122**
16. Size (employees)	2.90	6.38	0.024	−0.054	−0.038	0.041	0.051	0.048	0.008	−0.001	−0.054	−0.039	0.054	−0.073**
17. Age	1.54	0.50	−0.066*	0.232**	0.026	−0.139**	0.058*	−0.129**	−0.064*	0.007	−0.026	0.048	−0.028	0.012
18. Disclosure	0.33	0.47	0.045	−0.106**	0.047	−0.063*	0.021	0.078**	0.017	0.035	−0.009	−0.022	0.119**	−0.015
19. 3rd party guarantee	0.22	0.42	0.057*	−0.111**	0.047	−0.023	−0.003	0.038	0.025	0.027	−0.021	0.034	0.093**	−0.004
20. Relationship with lenders	3.52	1.03	−0.034	−0.073**	0.014	0.019	0.005	0.074**	0.075**	0.016	−0.090**	0.018	0.055*	−0.016
21. Family governance (# family board members)	0.84	1.12	−0.049	−0.078**	0.010	0.073**	0.001	−0.008	0.039	0.009	−0.023	0.059*	0.091**	−0.078**
22. Non-family board membership (#)	0.28	0.85	−0.011	−0.057*	0.078**	0.040	−0.039	0.024	−0.022	−0.034	0.028	−0.039	−0.075**	−0.072**
23. Outside board membership (#)	0.33	1.13	−0.017	−0.077**	0.036	0.037	−0.010	−0.079**	−0.025	0.069*	0.110**	−0.012	−0.064*	−0.035
24. Family ownership (%)	82.90	32.30	0.030	−0.015	−0.050	0.016	0.006	0.037	0.021	0.019	−0.061*	0.025	0.100**	−0.009
25. Family management	1.42	0.86	−0.016	−0.060*	−0.020	−0.001	−0.014	0.068*	0.021	0.005	0.014	0.043	0.168**	−0.086**
26. Transgenerational succession intention	0.58	0.49	−0.076**	−0.016	0.014	0.001	0.008	0.044	0.033	−0.023	0.006	−0.019	0.050	−0.074**
27. Equity	37845.93	432734.71	0.007	−0.018	0.079**	−0.021	−0.016	−0.016	0.004	0.004	−0.012	−0.008	−0.019	−0.023
28. Loan	73846.32	198566.95	−0.011	−0.091**	0.043	0.002	0.004	0.025	0.114**	−0.004	−0.031	−0.012	0.035	−0.028

* $p < 0.05$.
** $p < 0.01$.

13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1.000															
−0.058*	1.000														
−0.047	−0.057*	1.000													
−0.023	0.115**	−0.009	1.000												
−0.004	0.096**	0.028	−0.015	1.000											
−0.010	−0.003	−0.013	0.136**	−0.020	1.000										
−0.026	0.036	−0.022	0.134**	−0.038	0.514**	1.000									
−0.026	−0.029	−0.027	0.115**	−0.005	0.226**	0.179**	1.000								
−0.002	−0.042	0.045	0.105**	−0.034	0.100**	0.114**	0.063*	1.000							
0.002	0.080**	−0.027	0.168**	−0.022	−0.003	0.027	0.008	0.071*	1.000						
−0.020	0.104**	−0.008	0.157**	0.040	0.029	−0.041	−0.043	0.094**	0.242**	1.000					
0.003	−0.038	0.019	−0.023	0.000	0.059*	0.014	−0.019	0.156**	−0.257**	−0.126**	1.000				
−0.002	−0.052	0.051	0.080**	0.007	0.161**	0.102**	0.067*	0.453**	−0.085**	−0.031	0.285**	1.000			
0.058*	−0.018	0.076**	−0.019	−0.033	0.092**	0.064*	0.122**	0.187**	−0.113**	−0.127**	0.191**	0.282**	1.000		
−0.009	0.123**	−0.011	0.176**	0.033	0.004	0.011	0.055	0.039	0.050	0.080**	−0.034	0.020	0.010	1.000	
−0.005	0.047	0.013	0.325**	−0.050	0.209**	0.321**	0.170**	0.130**	0.103**	0.069*	−0.032	0.080**	−0.009	0.066*	1.000

below, to ensure that self-selection on the part of respondents who obtained this form of SBDC assistance did not bias our results, the Heckman two-stage procedure was used as a test of robustness.

6.3.4. Outside board members

This variable was used to measure the extent of monitoring by the board of directors/advisors. Respondents reported the number of outsiders (individuals who are neither family members nor firm employees) serving on the board during the start-up period. We used the number of outside board members as an agency control variable because this group tends to have the least economic interests in the firm but the same fiduciary responsibilities. Since these directors would have much to lose and little to gain from neglecting their monitoring responsibilities (Ferris et al., 2003; Weisbach, 1988) their credibility with lenders as monitors of firm behavior would be the greatest. The number of outsiders on the board can also be considered as a source of social capital to the venture separate from that of the family.

6.3.5. Equity

The amount of equity raised provides additional protection for the lender's investment as well as a credible signal of the owners' commitment. We used the log of the amount of equity that respondents reported they raised to measure this variable.

6.4. Control variables

Since the classical theory of debt financing specifies that ex ante default risk should affect the size of the loan a firm can obtain, we controlled for several measures of default risk and other variables that might influence debt financing.

6.4.1. Size

Research about bond ratings, which are mainly measures of default risk, finds firm size to be an important determinant (Kaplan and Urwitz, 1979). Size has also been shown to affect the amount of debt capital available to a firm (Hooks, 2003). We used the log of the number of employees in 2001 (full-time employees + [part-time employees/2]) to measure size.

6.4.2. Industry

The determinants of bond ratings vary by industry (Kaplan and Urwitz, 1979) and industry affects venture financing (Van Auken, 2005). Five categorical variables were used to classify the ventures by industry. These were: retail, service, wholesale, manufacturing, and construction. Ventures in other industries (mainly primary industries) were coded as zero.

6.4.3. Firm age

This variable measured the number of years the business had been in operation based on the start-up date reported by respondents. Although the firms in our sample were new ventures between one and two years old at the time of the study, we included age as a control variable for the effect of liability of newness (Stichcombe, 1965). Therefore, age may also be interpreted as a measure of default risk.

6.4.4. Region

Since banking policies and firm resources might vary across different geographic regions (Chrisman, 1999), we controlled for regional variations by using nine dummy variables to measure the 10 regions of the U.S. (Small Business Administration, 2007: 286).

6.4.5. Non-family manager board members

We used the number of members of the board of directors/advisors who were managers in the firm but not members of the family to control for the extent to which the firm had access to additional sources of social capital that might have contributed to its ability to obtain debt financing.

6.5. Models and estimation

Support for our hypotheses requires evidence that family involvement improves the venture's relationship with lenders, increases the probability of a venture receiving a third party guarantee, and directly enhances the amount of a venture's debt financing. We used a regression model to test whether family involvement influences a venture's relationship with lenders (H1a, H2a, H3a, and H4a) and a logit model to test whether family involvement affects the probability of a new venture receiving a third party guarantee (H1b, H2b, H3b, and H4b). To test the relationship between family involvement and new venture debt financing (H1c, H2c, H3c, and H4c) we used hierarchical regression. Model 1 includes only the control variables. Models 2 and 3 add the agency and family involvement variables, respectively.

It is important to note that imbedded in the raw third party guarantee and lender relationship variables is all the information regarding agency cost control mechanisms adopted by the venture, the borrowed social capital facilitated by family involvement, and the information transmitted by the guarantee and relationship themselves. Therefore, to test whether third party guarantee and relationship, by themselves, rather than as a function of their determinants, affect new venture debt financing, we used the

Table 2
Effects of family involvement on relationship with lenders and third party guarantee ($n = 1267$).

Variables	Relationship	Guarantee
	OLS	Logit
Constant	3.469 ***	− 2.248 ***
Control		
Region 1	− 0.293	− 0.102
Region 2	− 0.276	− 1.033 **
Region 3	− 0.123	− 0.188
Region 4	− 0.069	− 0.531
Region 5	− 0.156	− 0.713
Region 6	− 0.013	− 0.621
Region 7	0.170	− 0.759
Region 8	− 0.070	− 0.201
Region 9	− 0.429 **	− 0.531
Retail	− 0.040	0.285
Service	− 0.058	0.197
Wholesale	− 0.181	− 0.126
Manufacturing	− 0.196	0.633 *
Construction	− 0.188	− 0.113
Size	0.014 ***	0.028 **
Age	0.062	-0.162
Non-family board membership	− 0.004	0.117
Agency cost control mechanisms		
Disclosure	0.420 ***	2.632 ***
Outside board membership	− 0.050 *	− 0.293 ***
Ln(equity)	0.010	0.057 ***
Family involvement		
Family ownership	− 0.002 **	− 0.003
Family governance	0.010	0.163 **
Family management	0.001	− 0.009
Transgenerational succession intention	0.225 ***	0.167
Adjusted R^2	0.081	
Cox and Snell R^2		0.257
Nagelkerke R^2		0.407
Log likelihood		1051.38
F/Chi square	5.67	444.37
Significance	0.000	0.000
Number of observations	1267	1267
Overall classification		83.6%

  * $p < 0.05$.
  ** $p < 0.01$.
  *** $p < 0.001$.

residual of the logit model as a measure of third party guarantee and the residual from the regression model as a measure of relationships with lenders.

7. Results

The descriptive statistics and correlation matrix for the variables are shown in Table 1. Table 2 shows the regression results for relationship between the venture and lenders and the logit results for third party guarantee. Table 3 presents the hierarchical regression results for access to debt financing, the Tobit analysis, the Heckman two-stage test, and the regression results using the categorical debt financing variable.

7.1. Factors contributing to relationship between venture and lenders

The regression model for relationship with lenders shown in Table 2 has an adjusted R^2 of 0.081 ($p < 0.001$). Hypotheses 2a and 3a are rejected. Neither family governance nor family management has a significant impact on the relationship variable; furthermore, contrary to H1a, family ownership concentration had a significant negative association with that variable. However, in support of H4a, transgenerational succession intention has a significant and positive influence ($p < 0.001$). This suggests that, as hypothesized, intentions for transgenerational succession may help align the entrepreneur's and family's interests plus reduce moral hazards sufficiently to increase the entrepreneur's ability to borrow family social capital.

The significant negative coefficient for family ownership could be caused by ownership concentration. Unfortunately, we were unable to determine the distribution of ownership among family owners for the sample used in this study. An examination of

Table 3
Determinants of debt financing models ($n = 1267$).

Dependent variable	Logarithm of $(1 + \text{loan})$					Dummy (loan)
Variables	Hierarchical regressions			Tobit	Heckman two-stage	Logit
	Model 1	Model 2	Model 3			
Constant	5.351***	3.740***	3.048***	−2.199	7.386***	−0.901
Controls						
Geographic region 1	−0.411	−0.706	−0.373	−0.763	−0.373	−0.231
Geographic region 2	−1.642	−1.039	−0.770	−1.330	−0.769	−0.451
Geographic region 3	0.005	−0.020	0.199	0.313	0.199	0.092
Geographic region 4	−0.954	−0.504	−0.369	−0.512	−0.369	−0.232
Geographic region 5	−0.832	−0.708	−0.490	−0.753	−0.490	−0.328
Geographic region 6	−0.606	−0.763	−0.577	−0.941	−0.577	−0.402
Geographic region 7	1.328	1.136	1.277	2.124	1.277	0.572
Geographic region 8	0.378	0.243	0.459	0.913	0.459	0.300
Geographic region 9	−1.195	−1.142	−0.951	−1.683	−0.951	−0.480
Retail	1.902***	1.306***	1.170***	2.258***	1.170***	0.566**
Service	0.654	0.354	0.424	0.874	0.424	0.139
Wholesale	0.040	−0.061	−0.069	−0.251	−0.069	−0.220
Manufacturing	1.144	1.049	1.181*	2.111*	1.181*	0.468
Construction	0.468	0.575	0.394	1.056	0.394	0.160
Size	0.152***	0.096***	0.089***	0.132***	0.089***	0.038***
Age	−0.221	−0.285	−0.292	−0.507	−0.292	−0.113
Non-family board membership	−0.054	−0.084	−0.091	−0.216	−0.091	−0.075
Agency cost controls						
Relationship with lenders (residual)		0.427***	0.427***	0.813***	0.427***	0.186**
3rd party guarantee (residual)		6.335***	6.341***	9.471***	6.340***	5.375***
Disclosure		4.082***	3.956***	6.389***	–	2.803***
Outside board membership		0.001	−0.022	0.027	−0.022	−0.083
Ln(equity)		0.183***	0.175***	0.302***	0.175***	0.111***
Family involvement						
Family ownership			−0.002	−0.003	−0.002	−0.001
Family governance			0.329**	0.512*	0.328**	0.151*
Family management			0.379*	0.835*	0.379*	0.244*
Transgenerational succession intention			−0.075	−0.179	−0.075	−0.007
Selected variable: disclosure					1.880***	
Mills lambda					−5.437***	
R^2/Pseudo R^2	0.075	0.396	0.405	0.092		0.322
ΔR^2		0.321***	0.010***			
Adjusted R^2	0.063	0.385	0.393			
F-value/Chi square	5.984***	37.045***	32.514***	524.29***	442.51***	565.25***

  * $p < 0.05$.
  ** $p < 0.01$.
  *** $p < 0.001$.

similar samples of SBDC clients for other time periods suggests that, in the cases where family ownership is very high, the primary entrepreneur is the sole owner 75% of the time. If high family ownership actually means concentration in the entrepreneur's hand rather than family involvement, it would explain the significant negative coefficient because such ownership concentration might misalign interests, give the entrepreneur more power to make autocratic decisions, and, therefore, make the family less willing to let the entrepreneur borrow its social capital.

Relationship with lenders is also shown to be positively associated with lower default risk (size, $p < 0.001$) and disclosure ($p < 0.001$) but negatively associated with outside board membership ($p < 0.05$). The positive associations are consistent with the idea that good relationships are partially determined by information about the creditworthiness of the venture itself and that disclosure minimizes agency issues. The negative association between outside board members and lender relationships may be an indication that these members are perceived as weak monitors, reducing the lender's confidence in the creditworthiness of the venture.

7.2. Factors contributing to third party guarantee

As shown in Table 2, the fit for the logit model is good (Cox and Snell $R^2 = 0.257$; Nagelkerke $R^2 = 0.407$). In support of H2b, family governance is significantly related to third party guarantees ($p < 0.01$). However, family ownership (H1b), family management (H2b), and transgenerational succession intentions (H4b) are not associated with a new venture's ability to obtain a third party guarantee.

The results also show that some of our agency cost control measures are positively related to a new venture's ability to obtain a third party guarantee (disclosure, $p<0.001$; equity, $p<0.001$). Interestingly, the number of outside board members is negatively related to guarantee. This reinforces our earlier supposition regarding the weak monitoring capability of the outsiders on the board. In addition, size ($p<0.01$) and manufacturing ventures ($p<0.05$) are positively associated with loan guarantees. Again, size reduces default risk while manufacturers have facilities, equipment, and inventory that can be sold in case of failure.[9]

7.3. Determinants of debt capital obtained

The hierarchical regression results relating new venture debt financing to agency cost control mechanisms and family involvement are shown in Table 3. The F-statistics for all models are significant ($p<0.001$). The adjusted R^2 for Models 1, 2, 3 are 0.075, 0.396, and 0.405, respectively. The increase in R^2 from Model 1 to Model 2 is large and significant ($p<0.001$) while that from Model 2 to Model 3 is modest, although statistically significant ($p<0.001$).

In Model 1, retailing shows a significant positive influence on debt financing ($p<0.001$) and the relationship is stable as additional variables are entered. This likely reflects the potentially high levels of inventory that retailers could assign as collateral. Size is also significant and positive in all three models ($p<0.001$), confirming the results of other researchers (e.g., Hooks, 2003). However, geographic region, non-family managers, and age are not significant. The third finding may be caused by the narrow range of venture ages in the sample.

In Model 2, among the agency cost control variables, the outside board variable is insignificant but disclosure, third party guarantee, relationship with lenders, and equity all have positive and highly significant coefficients ($p<0.001$).[10] These results indicate that, as predicted by the prevailing theory of debt in the finance literature, ameliorating lenders' agency concerns increases a firm's, even a new venture's, access to debt financing. Furthermore, these results confirm the efficacy and indirect effects of family involvement by showing that the agency cost control mechanisms facilitated by family involvement have a significant impact on debt financing.

The four agency cost control variables that were significant in Model 2 remain significant in Model 3 and manufacturing becomes significant ($p<0.05$) as well, likely reflecting the availability of collateral. More importantly, in support of H2c and H3c the results in Model 3 suggest that family governance ($p<0.01$) and family management ($p<0.05$) have a direct influence on the amount of new venture debt financing obtained. However, H1c and H4c are not supported; neither family ownership nor transgenerational succession intentions were directly related to new venture debt financing.

7.4. Robustness tests

A series of robustness tests were conducted. First, the logarithm of the amount of debt financing was truncated at zero and could introduce a bias. Therefore, we re-estimated debt financing Model 3 using Tobit analysis. As shown in Table 3, there is no qualitative difference in the results; all of the significant relationships shown in Model 3 are confirmed. Second, we checked all three models (the regression model for relationship with lenders, the logit model for third party guarantee, and the regression model for debt financing) for endogeneity using the Hausman specification tests. The results suggest that endogeneity is not a significant concern with respect to reverse causality or excluded variables. Third, since the disclosure variable was derived by identifying SBDC clients who sought assistance in obtaining financing, self-selection may have influenced the results. We used the Heckman two-stage procedure to check for this possibility.[11] As seen in Table 3, the results after this correction remain stable, indicating that self-selection did not bias the results.

Fourth, we re-estimated Model 3 in a number of different ways. We measured access to debt financing by a categorical variable and found the results highly consistent. We then ran regressions using: (1) raw relationship and guarantee as independent variables; and (2) the amount of SBA guaranteed loans and the amount of loans from other sources as separate dependent variables. Although not reported, the results were consistent with those reported in Table 3. Thus, our findings appear to be robust with respect to all the usual concerns about cross-sectional regression models.

8. Discussion and conclusions

This study examines the relationship between family involvement and new venture debt financing. We review the agency cost and family business literatures to argue that family involvement, by its mere presence, cannot unequivocally improve a venture's

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[9] The significance of some regional variables in explaining variations in both third-party guarantees and relationship with lenders suggests, as expected, the existence of variations in lending climates across the U.S.

[10] The lack of significance for the outside board member variable is inconsistent with the borrower–lender agency theory developed for large firms. However, as noted above, new ventures may not be able to attract high calibre board members and owners may select outsiders they can control (Ford, 1988). If so, then the outsider board members would have minimal knowledge and independence, thus nullifying their value.

[11] In the first stage of the Heckman procedure the categorical variable Disclosure was used as the dependent variable and the probability of having Disclosure = 1 was estimated. In the second stage, the inverse Mills ratio, computed as the ratio of the probability density function to the cumulative distribution function in stage one, was included as an explanatory variable to correct for possible selection bias.

access to debt financing. However, by considering how family involvement increases the ability of a new venture to borrow family social capital, we provide a strong and consistent theoretical rationale for positive direct and indirect effects.

In the empirical tests, we used family ownership, family governance through board membership, family management, and the family's intention for transgenerational succession as measures of family involvement. We found that transgenerational succession intention improves relationships between entrepreneurs and lenders (H4a) while family governance helps the venture acquire third party guarantees (H2b). We also found that family governance (H2c) and family management (H3c) directly increase the amount of debt financing obtained by the new ventures in our sample. The findings with regard to H4a and H2b, plus the positive and significant impacts of both relationship with lenders and third party guarantee on the amount of venture debt financing, constitute evidence of the indirect effects of family involvement. The result in support of H2c and H3c, on the other hand, suggests that family involvement directly lowers the agency concerns of lenders, leading to higher levels of new venture debt financing.

While not all hypotheses were supported, the results show that all three hypothesized ways by which a new venture might improve its access to debt financing, directly or indirectly, are enhanced by at least one form of family involvement. Therefore, as a whole, the evidence presented shows support for a positive influence of family involvement on new venture debt financing. The failure to support all the hypotheses simply means that the various forms of family involvement are not equally effective in helping the new venture implement particular mechanisms for resolving agency issues with lenders. Future research is needed to explain why this is the case.

Our study adds the following insights to the literature. First, we show that traditional agency cost mechanisms recommended in the literature for established firms also work for new ventures. Second, as opposed to simply connecting family involvement with debt financing (e.g., Anderson et al., 2003) we specifically identify how and why family involvement, through the ability to borrow family social capital, influences debt financing. Third, we show that the ability to directly and indirectly address borrower–lender agency problems appears to involve different dimensions of family involvement. This suggests that research about the influence of family involvement on firm behavior should examine separately the dimensions of family involvement.

In summary, this study contributes to the new venture, family business, and agency cost literatures by providing a strong and consistent theoretical rationale for how family involvement facilitates debt financing of new ventures started by a family member and by presenting empirical results that are supportive of the rationale. With the conceptual development and empirical findings, we provide a new explanation for the association between the level of new venture activities and family involvement. We also add to knowledge about the importance and transferability of social capital in general (Arregle et al., 2007; Pearson et al., 2008; Sirmon and Hitt, 2003), especially by pointing out that agency problems must be resolved before one can use other people's social capital. Finally, the results are consistent with prior observations that the indirect effects of family involvement on firm level outcomes may be as important as the direct effects (Wu et al., 2007).

8.1. Limitations

Although we make a contribution to understanding the determinants of debt financing for new ventures, the study has several limitations. First, we did not have a construct for borrowed family capital, did not measure it, and did not tie it directly to debt financing. As a result, our interpretation of the results is based on the implications flowing from the arguments in support of the hypotheses. This is not unusual in management research or in studies using agency theory but it leaves ample room for alternative interpretations about how family involvement affects new venture debt financing. In other words, that family involvement has multiple positive effects on new venture debt financing appears to be strongly supported by the evidence. Our interpretation that this is due to enabling the borrowing of family social capital must be supported, however, by future research using actual measurements of borrowed family social capital.

We believe, however, that our interpretation is valid for several reasons. The agency theory and family business literatures are currently inconclusive about the net effect of family involvement, by its presence alone, on the creditworthiness of a business. Thus, family involvement can theoretically have a net positive effect only if it produces the means by which the agency issues with lenders are resolved. Furthermore, the empirical evidence shows that transgenerational succession intention is a significant factor in securing new venture debt financing. This intention at the early stage of a new venture can be credible only to the family; therefore, it cannot trigger the release of funds from the lenders without first influencing the family's decision to release resources that help resolve agency issues. Since the intention does not release any financial or human capital, the resource released by the family must be social capital.

Second, as in previous studies of family business (e.g., Chrisman et al., 2004; Schulze et al., 2001), we relied on cross-sectional data from a unique sample. Thus, the results may not be representative of new ventures in general and the lack of longitudinal data means that causality can only be inferred, not established.

Third, our logit analysis was based on ventures that applied for and received third party guarantees. Therefore, the probability of obtaining a third party guarantee is conditional on the venture applying for the guarantee. We were unable to separate applicants from non-applicants in this analysis and this could have biased the results. However, since our data contained a mix of firms that obtained guaranteed and unguaranteed loans, as well as those that were unable to obtain either, we have no reason to believe that any serious systematic bias occurred.

Fourth, our interpretation of the results is conditional on the assumption that new ventures will obtain all the debt financing available to them (i.e., ability or supply rather than willingness or demand constrained). But Mishra (1999) observes

that family firms may borrow less than non-family firms. Family members may have most of their personal wealth and human capital invested in the firm and because their risk exposures will be higher, they may be more reluctant to finance with debt. However, these arguments and evidence have all been about established family firms where the decision makers have alternatives. In the new venture situation, entrepreneurs typically face a paucity of financing choices. Furthermore, they have already decided to risk their financial, human, and social capital. Therefore, because of the advantages of debt financing in terms of keeping control and protecting intellectual capital, we assume that they will be willing to avail themselves of all the external debt financing accessible. Furthermore, since we used the amount of debt financing as our dependent variable, any downward bias in the amount borrowed by ventures with family involvement that might have occurred would have reduced our ability to support the hypotheses. The robustness of our findings provides further assurance that our findings were not biased in this regard.

Finally, there is also the possibility of survivor bias. However, we believe that it is not a serious problem for two reasons. First, the issue studied here is debt financing. Although our sample excluded firms that did not start and, thus, had no financing information, the sample includes both firms that received and did not receive external debt financing. In fact, more than half of the firms in our sample (50.3%) did not receive any debt financing. Therefore, in terms of access to debt financing, our sample includes both successful and unsuccessful ventures. Second, the survey was conducted only two years after the ventures' contact with the SBDC. The maximum age for the ventures was 2.0 years and the average was 1.54 years. Therefore, the time for venture failure was short, minimizing any potential bias. Nevertheless, the generality of our findings are limited by the extent to which the exclusion of ventures that were not launched for lack of debt financing or failed within the two year time window might have biased our results.

8.2. Conclusions and implications

Debt is an important source of new venture financing. Observing that social capital can improve access to external resources but that new ventures may lack a sufficient history of performance and relationships with lenders, we argue that they will need to resolve the borrower–lender agency problems by borrowing other people's social capital. We then propose that the most likely source of this borrowed social capital is the family, that family involvement in the venture will facilitate access to this social capital, and this will, in turn, lead to improved access to debt financing. In comparison, new ventures without or with lower levels of family involvement should be less able to borrow social capital, even from their respective families, because the strong trusting and mutually obligatory relationship among family members will not exist between the family of one entrepreneur and the other unrelated team members. Our empirical results support our inferences—family involvement is positively and significantly associated with the amount of new venture debt financing.

Our results also show that agency problems between lenders and new ventures can be resolved through disclosure, equity investment, third party guarantees, and relationships with lenders. In fact, an important benefit of family involvement appears to be the ability to help implement debt-related agency cost control mechanisms that might otherwise be unavailable to new ventures. Furthermore, the significance of disclosure, third party guarantee, and transgenerational succession intentions in our indirect and direct analyses suggest the importance of outside assistance and support, whether it is from counsellors who help prepare the loan package, guarantors who back the loan, or family members who put their reputations on the line. These findings suggest that relationships with lenders and access to greater amounts of financing can be improved by alleviating agency concerns regarding the venture through better preparations and other assurances about the creditworthiness of the entrepreneur and the venture. These informational aspects of social capital require further study. Future research is also needed on how other aspects of the relationships between entrepreneurs and suppliers of capital, both financial and non-financial, should be managed.

Much more research is also needed to understand how, to what extent, and under what conditions social capital is both borrowed and transferred (e.g., Arregle et al., 2007) from a family to a firm at various stages in its development. As pointed out before, we did not test our hypotheses with a measure of borrowed family social capital. The design of a construct for borrowed family social capital and a direct test of its direct and indirect influences should be a priority in future research on new venture debt financing. In addition, future research is needed to investigate whether and how family involvement might facilitate the borrowing of family social capital to help new ventures acquire non-financial resources. We also encourage research to help understand how new ventures without the benefits of family involvement might overcome difficulties in borrowing social capital (Arregle et al., 2007). Finally, studies that can help new ventures secure debt financing by providing insights on the proper way to structure their governance systems and communicate with lenders are needed (cf., Steier, 2003).

In conclusion, our findings suggest that family involvement can provide new ventures with access to family social capital and that this access will provide them an advantage in securing debt financing. However, the opportunities for additional research to verify our findings, rectify the limitations of this study, and extend its insights into other venues are many. We hope this study will inspire such efforts.

Acknowledgements

Appendix. Questions used in study

1. When was your business started? Year started _____ Never started ❒
2. What was the major activity of your business or proposed business in 2000? *Please check one.*
❒ Retailing ❒ Services ❒ Wholesale ❒ Manufacturing ❒ Construction ❒ Other
3. Not counting yourself, how many *full-time employees* (35 hours or more per week) and *part-time employees* (less than 35 hours per week) did you have at the end of each of the following years that you were in business? *If you were not in business just write N/A in the appropriate blank(s).*
2000 _____ full-time employees   2001 _____ full-time employees
2000 _____ part-time employees   2001 _____ part-time employees
4. Did the SBDC assist you in obtaining financing? ❒ Yes ❒ No
Please estimate the amount of debt and equity capital raised by your business in 2000-2001.
SBA loans $_____
Other loans $_____
Equity raised $_____
5. What is the breakdown of the membership of your board of directors/advisors?
# of family members _____ # of non-family managers _____ # of non-family outsiders _____
Have no board of directors/advisors ❒
6. How many members of your family (including yourself) are involved in the management of your business?
# of family managers _____
7. What percentage of your business is owned by members of your family (including yourself?)
% owned by my family _____
8. Do you wish/expect that the future successor as president of your business will be a family member? ❒ Yes ❒ No
9. Please rate the extent you believe your firm has a competitive advantage or disadvantage in the following areas.

	Large advantage	Some advantage	No advantage or disadvantage	Some disadvantage	Large disadvantage
Banking relationships	❒	❒	❒	❒	❒

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