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An Exploratory Study of How Potential "Family and Household Capital" Impacts New Venture Start-Up Rates

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Abstract
Drawing from social capital theory, the authors examine the relationship between family capital characteristics and new venture start-up rates in the United States. The results of this study improve the understanding of (a) how families matter in an entrepreneur's decision to start a business, (b) how wealth and health care considerations affect the start-up decision, and (c) whether and how these effects differ among the largest ethnic groups in the United States.

Keywords: social capital; entrepreneurship; health; ethnic; race; new ventures

Introduction

The relationship between the social capital present in a household and the likelihood that a member of the household will start a new venture is critical, both to our understanding of entrepreneurship and to important public policies on issues from health care to immigration. Yet, relatively few studies have focused on the impact of various forms of social capital and key dimensions of households and families, such as health and financial status. This article examines these relationships using social capital as a theoretical foundation.

Social capital theory (Burt, 1992; Coleman, 1988) views the social structure within which an individual is embedded as the critical determinant of an individual's propensity to engage in value-creating activities. Embeddedness enables individuals to extract otherwise unavailable resources (Flap, 1991) from their social structures, networks, and memberships (Lin, Ensel, & Vaughn, 1981; Portes, 1998). Social capital is theorized to supplement the effects of education, experience, and financial capital

within the social structure (Bourdieu, 1983; Coleman, 1988; Davidsson & Honig, 2003). Like other forms of capital, social capital is productive, enabling the achievement of otherwise unattainable outcomes (Coleman, 1988).

Social capital facilitates entrepreneurship (Baron, 2005; Chong & Gibbons, 1997), particularly the formation of start-up organizations (Walker, Kogut, & Shan, 1997; Westlund & Bolton, 2003). Among other benefits, social capital aids entrepreneurs by providing them with information, technological knowledge, access to markets, and access to complementary resources (Hitt, Ireland, Camp, & Sexton, 2001, 2002). Together with managerial capability, access to these resources predicts a venture's performance (Lee, Lee, & Pennings, 2001).

In the entrepreneurship literature, social capital theory has been used to (a) illuminate the formation of industry networks (Walker et al., 1997), (b) examine knowledge acquisition among technology-based firms (Yli-Renko, Autio, & Sapienza, 2001), (c) investigate the relationship between social capital and performance (Bosma, van

Praag, Thurik, & de Wit, 2004), (d) explore the relationship between social capital and entrepreneurs' access to resources (Greve & Salaff, 2003), and (e) improve our understanding of the growth dynamics of high-potential ventures (Florin, Lubatkin, & Schulze, 2003). However, scholars appear to have largely overlooked the relationship between the social capital present in a family and/or household (i.e., *family capital*) and entrepreneurship. This is surprising because along with a sense of trust, family relationships and behaviors help establish the principles of reciprocity and exchange: social skills that are essential for the success of entrepreneurs.

Access to individual and jointly created resources occurs most often within a family and among those individuals living within a household. But such access need not and frequently is not constrained either to close "blood" relatives or those living in a household. The sharing and creation of the resources that can promote a new business occurs across a set of individuals that may include genetic relatives and unrelated individuals whether or not they share a household. Although the term *family* is the most common construct used to define the groups that create and share such resources, defining a family can be complex. For this study, we prefer the definition of family offered in Distelberg and Sorenson (2009): "All individuals related by blood, marriage, or adoption are typically considered family. But individuals not related through blood, marriage, or adoption but who share goals, resources, and a commitment to the whole may also be considered family" (p. 68). Thus, both related and not related individuals living within a household may function as a family, as Distelberg and Sorenson suggested. However, those sharing a household may not function as family members when they do not share the long-term goals and commitments of the family (Distelberg & Sorenson, 2009). Although this study cannot fully address when any definition of a family furthers new ventures via shared and jointly created resources, it does illuminate how household characteristics may do so. In as much as household characteristics also correlate to what may define a family, this study also furthers the understanding of how various definitions of a family relate to the formation of new businesses.

Bubolz (2001) described family capital as a form of social capital that is both available to and created by members of the family unit. Thus, family capital might be viewed as resources available and obligations due within a family as a result of family relationships. Within family capital, different types of resources are available: family financial capital (e.g., Harvey & Evans, 1995a), family social capital (e.g., Hoffman, Hoelscher, & Sorenson, 2006), and family human capital (e.g., Sirmon & Hitt, 2003).

Beyond these beneficial resources, and receiving much less attention in the literature, are potential obligations of the family such as educational and health care expenses. As described earlier, this study in part examines the potential presence of *household capital*, which may relate closely to family capital. Family and household capital certainly may overlap, but exploring potential distinctions between the two offers insights into whether and when households provide positive resources toward business formation in addition to those provided by blood relatives or the nuclear family.

In subsequent sections, we articulate specific family resources and obligations and suggest why household capital, which we consider quite close to family capital, explains substantial variation in the decision to start a new venture. Just as family capital is a component of social capital, household capital is a further specified part of family capital that may include individuals not related to the family. This study may determine whether these nonrelated individuals contribute to new ventures in a manner similar to family members. Our argument proceeds from the belief that parent–child and sibling relationships are especially important in providing economic resources, assistance with household tasks, health care, and companionship for older adults (Bubolz, 2001). Stability within a family enhances individual family member's understanding of the values, behavioral norms, and cognitive schemes used by the other family members. Over time, interdependencies and interactions grow within the family, which affect the shared sense of trust (based on shared norms and values), principles of reciprocity (obligations), and exchanges among family members (Arregle, Hitt, Sirmon, & Very, 2007). In sum, growth in the family's internal social capital increases the probability of the family's survival and helps its members prosper (Arregle et al., 2007). Because unrelated individuals often do not share in the benefits of extended interaction with the family, they may not share in family social capital.

Although more and more research on entrepreneurship is rooted in social capital theory, little attention has been allocated to how one dimension of social capital—family capital—affects entrepreneurial start-up processes. This inattention persists despite facts that strongly support a focus on family capital, namely: (a) The vast majority of businesses are family owned, (b) research has established a strong interrelationship between family and business dynamics (Aldrich & Cliff, 2003), and (c) recent research suggests that the families are useful in catalyzing (or neutralizing) the entrepreneurial intentions of a family member (McFadyen & Cannella, 2004). As a fundamental economic and social

unit, family/households hold the potential to illuminate complex social relationships and beliefs that contribute to an individual's actions. Understanding what motivates an individual to launch a new venture is an important issue in the domain of entrepreneurship research (Shane & Venkataraman, 2000; Venkataraman, 1997). Researchers such as Aldrich and Cliff (2003) and Dyer (1992) made a strong case for the inclusion of family considerations in entrepreneurship research. Yet, our review of the literature reveals no previous study examining the new venture start-up while accounting for broader family capital considerations.

To address this gap in the entrepreneurship literature, this study draws from social capital theory and the Panel Study on Income Dynamics (PSID) data set to examine the relationship between household capital and the probability of launching a new venture. Following the recommendations of Aldrich and Waldinger (1990), we stratify our dependent variable—the probability of new venture start-up by a head of household—based on ethnicity. This study examines the three largest ethnic groups in the United States—African Americans, Latinos, and Caucasians—due to their social and economic importance. Our results offer a partial explanation for the observed differences in rates of entrepreneurship among these three ethnic groups. We suggest that household, family, and individual characteristics are vital components of the associations among individuals, their identities within and among ethnic groups, and venture creation. Specifically, we argue that the variance in the propensity to launch a new venture, commonly attributed to an individual's ethnicity, is partly explained by family/household characteristics, such as human and financial capital, that are unequally distributed across ethnic groups. Moreover, we address new venture start-up decisions that have roots in both individual and family/household characteristics. Intuitively, if parents, children, and other family members are densely linked, many of their decisions, including those related to new venture creation, are likely to be influenced by collective and individual resources and liabilities.

This article uses the terms *self-employment*, *new venture start-up*, and *entrepreneurship* synonymously. Similarly, our study uses household-level data and can speak only to household characteristics, though we theorize and discuss family characteristics. Households and families are often, but certainly not always, one in the same, and so our results must be interpreted in light of our data limitations. Our use and discussion of the term *families* and use of household data must be understood for the proper interpretation of our results. We examine the influence of family/household characteristics that are likely to affect entrepreneurial activity, namely, family/household wealth, family/household resources and obligations, and family/household health. Family/household obligations include the number of family members who currently draw on the family's resources and the actual or anticipated family resources needed to meet current or anticipated health concern(s) within the household. As suggested by Aldrich and Cliff (2003), we operationalize family by focusing on households, regardless of size, and not simply on multiperson units in which two or more people are related.

The remainder of this article proceeds as follows. First, we introduce the model and develop hypotheses by drawing from the literature. Second, we describe the data and research method. Third, we present the results. Finally, we discuss the results and offer concluding remarks.

Model and Hypotheses: Family Capital and the Probability of New Venture Launch

Our model, illustrated in Figure 1, depicts the relationship between three dimensions of family/household capital (financial resources, human resources, and health obligations) and the probability of a head of household engaging in the entrepreneurial act of launching a new venture. This model allows us to address the research question "How do family and additional household occupants impact available capital and the probability of a new venture start-up?" In the following subsections we elaborate each dimension of our family/household capital construct and draw from the literature to discuss the underlying rationale for stratifying the dependent variable by ethnic groups.

Dimensions of the Family/Household Capital Construct: Financial and Human Capital

Securing start-up financing is a necessary but not sufficient condition for starting a new venture. In addition to securing financing, an entrepreneur must be both sufficiently healthy and not so hindered by the health concerns of other family members to go through the arduous start-up journey. Similarly, an entrepreneur must often rely upon the support of family members while making this journey. As noted in the introduction, family capital is a form of social capital that is both available to and created by members of the family unit (Bubolz, 2001); it involves financial and human components. In the following we explore the context of each dimension
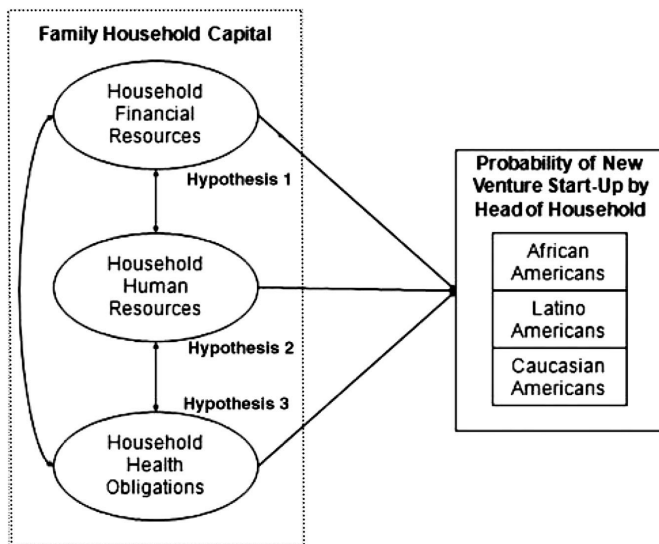
Family Household Capital

Figure 1. Research Model

of family/household capital and develop hypotheses regarding the relationship between each dimension and the likelihood of establishing a new venture.

Potential family and household financial capital. Household financial capital is characterized by the amount of money, which is both held within the family and household unit and available for funding the launch of a new venture. Personal and family assets typically provide the initial capital to fund a new venture (Bhide, 1992; Dalton & Holdaway, 1989; De Clerq, Fried, Lehtonen, & Sapienza, 2006; Winborg & Landstrom, 2001). Thus, family wealth (or net worth), the sum of the family's assets less its debts, should increase the probability of new venture start-up because a family member has a greater likelihood of accessing and deploying these assets to fund a start-up (Blanchflower & Oswald, 1998). Family/household wealth loosens capital constraints and serves as a buffer-stock of savings to be used like insurance in the event of unforeseen needs. Wealth facilitates the assumption of entrepreneurial risk (Blanchflower & Oswald, 1998; Evans & Jovanovic, 1989). Financing secured from family members is typically lent on favorable terms and with a longer term view than financing provided by third-party, commercial financing sources (Dreaux, 1990). Accordingly, family start-up financing is commonly considered to be "patient" capital (Sirmon & Hitt, 2003; Teece, 1992).

We posit that family/household wealth has a significant effect on a family member's decision to create a new firm—namely, to engage in entrepreneurship.

> *Hypothesis 1:* Household wealth will be positively associated with an increase in the probability of head of household (HoH) engaging in new venture start-up.

Family and household human resources. Family relationships appear to play a key role in the decision to launch a new venture: People related by marriage or kinship jointly initiated one third of the start-ups in the well-known Reynolds and White's (1997) studies. During the start-up process, family plays an important role in the mobilization of financial resources (Aldrich & Waldinger, 1990; Steier & Greenwood, 2000), provision of human resources (Aldrich & Langton, 1998), and physical resources in the form of space in the family/household (Aldrich & Cliff, 2003). In this study, family/household human resources are characterized by the composition and size of the family/household unit. Composition refers to whether the head of household is married or single. Family size is the number of family members living within the household.

Family/household members influence new venture start-up through access to network ties and through family socialization, an affinity for autonomy (Aldrich, Renzulli, & Langton, 1998) that comes with self-employment. Strong ties within a nascent venture, such as those among family members, may also yield increased productivity and efficiency in resource utilization (Davidsson & Honig, 2003; Dollahite & Rommel, 1993). Family bonds may also promote a more stable financial profile to outside lenders through the timely provision of money during the capital-scarce periods of start-up (Harvey & Evans, 1995b). Often, an entrepreneur's family provides not only financial capital but also access to new markets, sources of supply, and technological knowhow. Because on average marriage results in a doubling of one's extended family network, we believe that a married head of household is more likely to engage in the launch of a new venture. Sanders and Nee (1996) also posited that household composition affects the stock of family-based human and financial capital. Similarly, we expect that being married has a significant effect on the head of household's decision to create and run his or her own firm—namely, to engage in entrepreneurship.

> *Hypothesis 2a:* Married heads of household will be associated with an increased probability of HoH new venture start-up.

For new venture creation, extant research suggests that shrinking family size impedes the formation of new ventures. That is, smaller families make the mobilization of financial and human resources more difficult. Although Aldrich et al.'s (1998) empirical findings dispute the common assumption that family members represent a frequently used source of start-up funding, other studies indicate that within some ethnic communities, kin provide a great deal of financial capital (Aldrich & Waldinger, 1990). Aldrich and Cliff's (2003) review suggests that shrinking family size might hamper the ability of organizational founders to secure financial capital. In addition to reduced availability of financing, smaller family size by definition reduces the availability of family labor. Heck and Trent (1999) found that approximately 73% of the business-owning households in their sample had at least two residential household members working in the business, approximately 24% had one or more employed relatives working for pay who did not live in the household, and 27% had nonhousehold relatives who were unpaid workers. Given the extent to which business owners rely on family members as a source of employees, shrinking family size would seem to significantly complicate the human resource mobilization process for many organizational founders (Aldrich & Cliff, 2003). Consequently, we posit that a larger family size has a significant effect on head of household's decision to create and run his or her own firm—namely, to engage in entrepreneurship.

> *Hypothesis 2b:* Larger household family size will be associated with an increase in the probability of HoH new venture start-up.

Family and Household Health Obligations

The health status of an entrepreneur and his or her spouse seems likely to have an influence on the decision to embark upon the resource-intensive process of launching a new venture. Health insurance has increasingly become a necessary and more critical benefit of employment (Wellington, 2001). Health care expenditures are primarily composed of health insurance premiums and the health costs borne by the patient in excess of insurance. Because health expenditures encumber aggregate family resources, family- and household-level health care obligations should reduce the probability of new venture start-up. An alternative consideration, which is difficult to address with existing data, is that elder dependents may require a schedule of personal care that is easier to provide when the household head is self-employed and thereby can exercise greater influence over his or her work schedule. This alternative requires that the benefits of timely, nonprofessional care during most working hours outweigh the benefits of employer-provided health insurance coverage. We regard this relationship as unlikely given the high costs of health care for older adults. Consequently, we posit that new venture start-up and health care obligations are negatively related.

> *Hypothesis 3:* Greater health care obligations within the family and the household decrease the probability of new venture start-up.

Dependent Variable: New Venture Start-Up Probability Across Ethnic Groups

We stratify our dependent variable along ethnic lines to examine the entrepreneurial behaviors of individuals sharing common nationalities or migration experiences, connections, and interactions (Greene, 2005; Waldinger, Aldrich, & Ward, 1990). The decision to stratify is an implicit hypothesis that we make explicit for each of the dimensions of family and household capital in the following subsections.

Ethnicity and family and household financial capital. Ethnic differences in family background are potentially important for many reasons, including disparities in wealth created through entrepreneurship. However, research on wealth seldom considers family processes or structure in its efforts to explain differences in wealth accumulation across ethnicities (Keister, 2004). This is surprising as clear differences exist in the family structures of different ethnicities. Notably, birth rates, family size, and marital disruptions are significantly greater among ethnic minorities in the United States than they are among Caucasians (Horton & Thomas, 1998; Keister, 2004; Ruggles, 1994; Wilson, 1987).

As noted earlier, prior research finds that ethnic wealth disparities are large. The wealth disparities across ethnicities are due in part to (a) vastly different cultural and social histories and (b) different periods of immigration to the United States. Moreover, the propensity to live in a household where one may gain direct business experience through a family member's business is notably lower in some ethnic groups (Fairlie & Robb, 2007). As a result, members of some ethnic groups are far more likely to have had exposure to business concepts through their family than are members of other ethnicities. Notwithstanding these substantial influences, wealth disparities are also created and perpetuated through the lower

income and poorer health characteristics of certain ethnic groups (Smith, 1995). Such disparities in wealth have been found to account for significant differences in the levels of success of new ventures across ethnic groups in the United States (Robb & Fairlie, in press). Inequality of net worth usually far exceeds education and income or wage disparities (Smith, 1995). Although the precise reasons for wealth differences are important, some of the differences may derive from heath and family differences across different groups. Differences in health risks across ethnicities could have a significant impact on the behaviors of would-be entrepreneurs and thus on new venture creation. Moreover, these risks may in turn affect savings rates, risk propensities, and income potentials.

Ethnicity and family and household human resources. Sanders and Nee (1996) found that interethnic variation in human capital and family and household composition accounts for a substantial portion of the observed interethnic variation in self-employment. Members of a family engage in social exchanges that give rise to mutual dependence and expectations based on the past performance of routine tasks and duties encompassing social, child-rearing, and productive activities. Cooperation within the family stems from more than individual member's self-interest. In addition, a moral order in which the accumulation of obligations among members builds a degree of solidarity (Knight, 1921; Sanders & Nee, 1996), and membership entitles family members to the collective goods produced by the group. Free-riding is constrained by a dense web of mutual expectations and obligations. In essence, the family "network" provides its own market to resources, which enables entrepreneurial members to minimize costs of production and transaction costs.

Ethnicity and family and household health obligations. The health problems that have acutely affected minority populations in the United States, even after accounting for wealth and earnings differentials, are AIDS, some forms of cancer, diabetes, and cardiovascular disease (Wagner, 2001). Despite improvements in the health of the U.S. population as a whole over the past two decades, striking disparities exist across ethnic groups in the burden of illness and death, with higher burdens experienced by African Americans, Latinos, Native Americans, Alaska Natives, Asians, and Pacific Islanders (Wagner, 2001). Neither wealth nor health is distributed evenly across ethnicities. In the United States, higher proportions of poverty and illness exist among the African American and Latino populations than among the non–Latino Caucasian population (U.S. Bureau of the Census). Thus, ethnicity is an important consideration when examining the relationship between health and entrepreneurship.

We argue that the differences in family and household financial and human resources, as well as health disparities among ethnicities, influence ethnicity's respective rates of new venture start-up. Therefore, differences in the observed rates of new venture start-up by ethnicity in the United States are at least partly explained by differences in the incidence of family and household characteristics across these groups (i.e., the effects of family and household characteristics on the probability of new venture start-up are the same across ethnic groups). We propose that the probability of new venture start-up by a household head of one ethnic group would be the same as the average probability of those of other ethnic groups if he or she were given the average family and household characteristics of those other groups. Thus, we intend to identify the difference in the probability of new venture start-up due to ethnicity and those due to the differential incidence of family and household characteristics by ethnicity.

> *Hypothesis 4:* The incidence of family and household characteristics (i.e., financial resources, human resources, and health obligations) across ethnic groups partially explains the gaps in the probability of new venture start-up across ethnic groups.

Data and Method

Data Set: Panel Study of Income Dynamics

We use data from the Panel Study of Income Dynamics to examine the influence of personal and family characteristics on the probability of new venture start-up by the head of household. The Core Content Survey within the PSID collects data on heads of household and their family members, including a host of economic and personal characteristics. The PSID offers basic economic data on families from 1968 through the present as well as supplemental information on a variety of issues that have been matched to the families within the PSID for certain years of the core survey. Despite the utility of the PSID for longitudinal examinations of transitions in to and out of new venture start-up, the breadth of the data is limited for some ethnic groups. Originally designed to study the Johnson administration's War on Poverty, the PSID includes a sample of Caucasian and African American families from various income groups. The survey was administered to Latino families only for the years

1990 to 1994 and intermittently for Asian families since the early 1990s. Thus, to address new venture start-up decisions for a broad set of the largest ethnic groups in the United States, which is rarely done, we must focus on a specific set of years within the PSID. This necessitates a cross-sectional approach.

We examine cross-sectional data for the endpoint of the Latino sample to be able to accommodate comparisons across ethnic groups. The use of cross-sectional data to examine employment decisions does not allow us to examine an individual's path to or away from the decision to start a new venture but can speak to the variation across ethnic groups. As Wellington (2001) argued, a cross-sectional approach does offer some advantages over time-series approaches. First, cross-sectional approaches include all persons in the labor market in a given sample. This avoids biasing the sample by excluding those already self-employed at the starting point. Moreover, cross-sectional data typically allow for larger data sets, which is sometimes critical given the relatively small proportion of the working population that is self-employed.

Our sample includes data on 9,781 heads of household in 1994. Nonresponses for some variables and necessary exclusions noted in the following reduce total observations to just fewer than 6,000. Table 1 presents summary statistics for our variables by ethnic group. The definition of the variables listed in Table 1 is described more fully in the following subsections.

Household and Family Variables

Controls (head of household characteristics). We make use of controls for the personal characteristics of heads of household. The control variables include age, gender (female), formal education (high school and college), and ethnicity (African American and Latino). Age is simply the age of the head of household. Gender is reflected through the dichotomous variable female, which equals 1 for female heads of household. The same approach is used to construct variables for African American and Latino heads of household. We use a dichotomous variable to indicate whether the head of household graduated from high school. A categorical variable is used that ranges from 1 to 4 for postsecondary education, with higher numbers reflecting more years of college and/or graduate school. The construction of the variables relating to personal characteristics of the spouse to the head of household, which form part of the family and household social capital, described in the following, are parallel to those described earlier for the head of household.

Potential family and financial capital. The single variable wealth represents total household wealth, including equity in the main home, and is measured in thousands of 1993 U.S. dollars.

Household and family social capital. We use six variables to capture family social capital. A dichotomous variable measures the marital status of the head of household (married). We use a dichotomous variable to indicate whether the spouse graduated from high school (spouse HS). A categorical variable is used that ranges from 1 to 4 for postsecondary education, with higher numbers reflecting more years of college and or graduate school (spouse college). The number of children younger than 16 and living in the home is measured using a simple count (children). Family unit size is measured as the number of adult relatives living together in the household (family size). The number of nonfamily members living in the household is measured using a simple count (nonfamily).

Potential family and health capital. We use four variables to render family and household health capital. Whether the head is currently covered by medical insurance is a dichotomous variable (medical insurance). The health status of the head of household is the household head's self-assessment of his or her health (health of head). It is reflected in a categorical variable ranging from 1 to 5, where 1 indicates *excellent health* and 5 indicates *very poor health*. The health of the spouse is captured using a similar 5-point scale (health of spouse). The presence of a family member with a serious illness is a categorical variable ranging from 0 to 2, where 0 corresponds to *no serious illness among family members outside the head and spouse*, 1 corresponds to *one seriously ill family member*, and 2 corresponds to *two or more seriously ill family members* (illness in family).

Probability of new venture start-up (dependent variable). The dependent variable is defined according to whether the primary work of the head of household is new venture start-up conditional on being in the labor force. Heads of household who are retired, permanently disabled, full-time students, or are not currently seeking work are excluded from our sample.

The variables defined previously allow for the estimation of the relative influences on new venture start-up of three dimensions of family capital. In addition, we assess whether belonging to a given ethnic group affects the probability of new venture start-up after accounting for a broad set of characteristics. Finally, postestimation, we can assess how the incidence of personal and family characteristics relates to the distribution of new venture start-up across ethnic groups.

Table 1. Summary Statistics by Ethnicity

	Minimum	Maximum	Mean	Median	Standard Deviation
Dependent variable					
Self-employment					
African American	0	1	0.05	0.00	0.21
Latino	0	1	0.10	0.00	0.30
Caucasian	0	1	0.13	0.00	0.34
Controls (head of household characteristics)					
Age					
African American	16	90	37.33	33.00	16.46
Latino	18	99	36.61	36.00	11.91
Caucasian	16	99	45.41	42.00	16.49
Female					
African American	0	1	0.42	1.00	0.46
Latino	0	1	0.38	0.00	0.49
Caucasian	0	1	0.30	0.00	0.46
High school					
African American	0	1	0.71	0.00	0.25
Latino	0	1	0.55	1.00	0.50
Caucasian	0	1	0.07	0.00	0.25
College					
African American	0	4	0.25	0.00	0.67
Latino	0	4	0.18	0.00	0.58
Caucasian	0	4	0.05	0.00	0.33
Hypothesis 1: Family wealth context Wealth					
African American	−165,000	1,030,000	16,163.29	1,210.00	63,969.70
Latino	−47,500	510,000	36,165.32	5,800.00	89,020.29
Caucasian	−694,000	1.03×10^7	79,922.28	9,250.00	312,665.20
Hypothesis 2a: Family capital (married vs. single)					
Married					
African American	0	1	0.30	0.00	0.46
Latino	0	1	0.36	1.00	0.48
Caucasian	0	1	0.53	1.00	0.50
Spouse high school					
African American	0	1	0.25	0.00	0.44
Latino	0	1	0.22	0.00	0.42
Caucasian	0	1	0.05	0.00	0.22
Spouse college					
African American	0	4	0.10	0.00	0.45
Latino	0	4	0.09	0.00	0.44
Caucasian	0	4	0.03	0.00	0.26
Spouse					
African American	0	1	0.31	0.00	0.46
Latino	0	1	0.01	0.00	0.08
Caucasian	0	1	0.01	0.00	0.07
Spouse Latino					
African American	0	1	0.00	0.00	0.06
Latino	0	1	0.35	0.00	0.48
Caucasian	0	1	0.01	0.00	0.08

Table 1. Summary Statistics by Ethnicity (continued)

	Minimum	Maximum	Mean	Median	Standard Deviation
Hypothesis 2b: Family capital (size of family)					
Children					
African American	0	7	1.08	1.00	1.28
Latino	0	7	1.02	1.00	1.25
Caucasian	0	9	0.94	0.00	1.22
Number in family unit					
African American 1	11	2.77	3.00	1.55	
Latino	1	10	2.76	3.00	1.60
Caucasian	1	13	2.81	3.00	1.55
Nonfamily					
African American	0	4	0.11	0.00	0.49
Latino	0	8	0.32	0.00	1.03
Caucasian	0	10	0.12	0.00	0.58
Hypothesis 3: Family health					
Medical insurance					
African American	0	1	0.14	0.00	0.35
Latino	0	1	0.13	0.00	0.33
Caucasian	0	1	0.11	0.00	0.31
Health					
African American	1	5	2.54	3.00	1.10
Latino	1	5	2.74	3.00	1.25
Caucasian	1	5	2.60	3.00	1.20
Spouse health					
African American	1	5	1.37	1.00	1.46
Latino	1	5	1.97	1.00	1.36
Caucasian	1	5	1.37	1.00	1.46
Illness in family					
African American	0	1	0.12	0.00	0.33
Latino	0	1	0.12	0.00	0.32
Caucasian	0	2	0.11	0.00	0.32

In the next subsection, we discuss the descriptive statistics for the variables. Then, in the following section, we present the results of the logistical regression analysis.

Summary Statistics

An examination of Table 1 reveals some of the differences among ethnic groups in our sample. The most significant differences across ethnic groups are found in five variables: age, female (heads of household), married, wealth, and nonfamily (members living in the household). On average, Latinos and African American heads of household are younger than their Caucasian counterparts by approximately 8 years. Median wealth is highest for Caucasian households, $9,250, compared to $5,800 for Latino households and $1,210 for African American households. The proportion of married heads of households is highest among Caucasians, .53, and lowest among African

Americans, .30. Although family unit sizes are similar across groups, the number of nonfamily members living in the household is substantially higher for Latinos than for Caucasians or African Americans.

Method

We estimate the probability that a head of household is self-employed through three logistical regressions presented in Table 2 in the Results section. We begin with the simplest model, including only personal characteristics of the head of household. We add family characteristics in the second regression and health characteristics in the third regression. These models are depicted in Figure 2.

This basic model resembles a modified version of the (Mincer, 1974) earnings function. Regression coefficients are presented as marginal effects to facilitate interpretation and the assessment of relative impact across
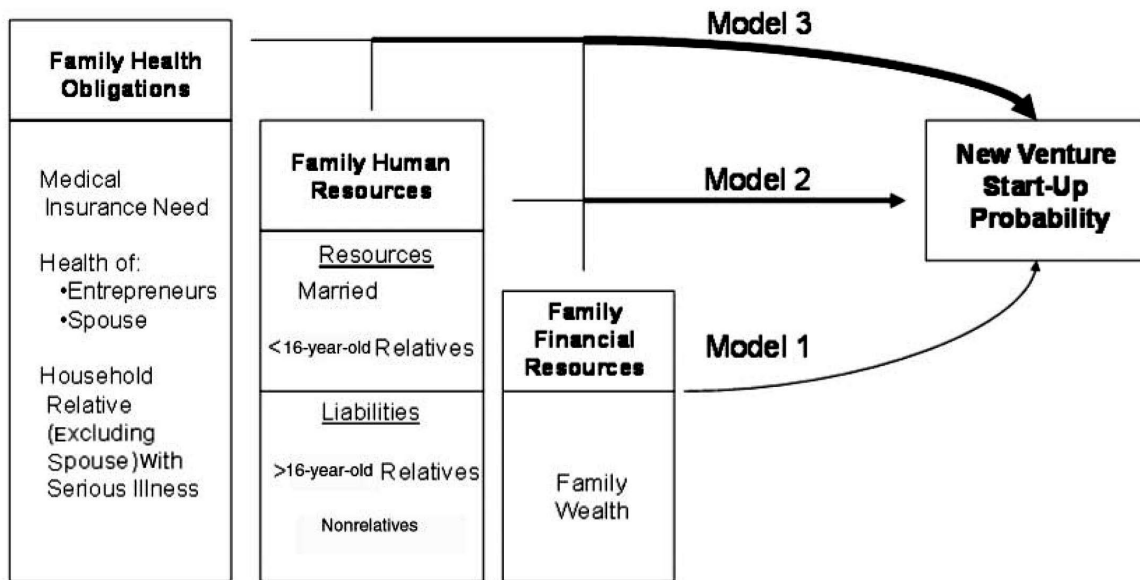
Figure 2. Estimation Models

variables. Marginal effects are calculated at the means of the independent variables for the entire sample. Coefficients for dichotomous or dummy variables are presented for a discrete change in the independent variable from 0 to 1.

Results

Evaluated at the sample means, the three models predict the overall probabilities for new venture start-up of .117, .116, and .114, respectively, all of which lie between the mean probability for Caucasian and Latino heads of household reported in Table 2.

Model 1

Model 1 includes independent variables representing the personal characteristics of the heads of household including household wealth. Similar to related studies of the determinants of new venture start-up we find that age and wealth have sizable, statistically significant effects on the probability of being self-employed. Holding other variables constant, these two variables alone account for a large fraction of the difference in rates of new venture start-up between Caucasians, Latinos, and African Americans. Two other variables in Model 1, female and African American, are highly statistically significant. Taken together, these two variables reduce the probability of new venture start-up by 13.7%. A negative

Table 2. Results of Logit Regressions on Probability of New Venture Start-Up

	1	2	3
Age	.003****	.003****	.003****
Female[a]	−.064****	−.066****	−.073****
High school[a]	.016	.022	.018
College	−.002	−.001	−.014
African American[a]	−.073****	−.072****	−.074****
Latino[a]	−.014	−.014	−.016
Wealth	.001****	.001****	.001****
Married[a]		.011*	.030**
Spouse high school[a]		−.012	−.009
Spouse college		−.001	−.001
Children		.020**	.016**
Family size		−.016**	−.010
Nonfamily		−.008	−.008
Medical insurance[a]			.116***
Health of head			−.004
Health of spouse			−.015***
Illness in family[a]			−.028**
Probability (*SE*)			
at sample means	.117	.116	.114
Observations	5,949	5,949	5,498
Pseudo R^2	.075	.077	.084
Likelihood ratio	347.47	354.33	385.01

a. dy/dx is for a discrete change in a dichotomous variable from 0 to 1.
* $p < .10$
** $p < .05$
*** $p < .01$
**** $p < .001$

but small coefficient is estimated for Latino, but it is not statistically significant. It is somewhat surprising that neither measure of formal educational attainment is statistically significant, though the coarse nature of our dependent variable likely confounds a clear relationship between this form of human capital and new venture start-up. We make no distinction in our dependent variable between education-intense categories of new venture start-up and those that may favor persons without a formal education.

Model 2

Model 2 adds six family- and household-related variables to the set of independent variables in Model 1. Marriage raises the probability of new venture start-up by 1.1%. As with the head of household, the coefficients estimated for measures of a spouse's formal education are small and not statistically significant. Two variables reflecting the composition of relatives living within the household are statistically significant but have opposite effects on the probability of new venture start-up. Children younger than 16 living in the household raise the probability of new venture start-up. However, family size, which reflects the number of adult children and other relatives in the household, reduces the probability of new venture start-up. Nonfamily members living in the household also reduce the probability of new venture start-up, but the coefficient is not statistically significant.

Model 3

Model 3 adds health-related characteristics of the family to the personal and family characteristics included in Models 1 and 2. As predicted, health considerations significantly affect the probability that a head of household is self-employed. The largest and most significant influence among the four health-related independent variables results from the head's possession of medical insurance. Medical insurance coverage of the head of household raises the probability of new venture start-up by 11.6%—more so than any other dichotomous variable and by nearly 4 times as much as being married. And though the health of the head of household appears not to significantly influence the probability of new venture start-up, a spouse's health does. A reduction in the spouse's health status from the sample mean to very poor health reduces the probability of new venture start-up by about as much as being married increases it. Similarly, a serious illness among one or more family members, not including the spouse, reduces the head's probability of new venture start-up by

2.8%. Interestingly, these results resonate with Hughes's (2004) treatment of family capital.

The inclusion of health-related variables in addition to traditionally examined characteristics reveals significant family-related influences that may promote or deter new venture start-up by the head of household. A final model that includes interactions among health and family variables and ethnic groups was estimated but resulted in no additional large or statistically significant determinants of new venture start-up. The results of this fourth model, which are not presented here, suggest that the influence of personal and family characteristics is uniform across ethnic groups in our sample. In a closely related study, Sanders and Nee (1996) also found no statistically significant relationship between new venture start-up and interactions of human capital measures and ethnicity. Regression results presented in Table 2 are not significantly different than those estimated via a sample selection model (Heckman, 1976), the results of which are not presented here.

Discussion and Conclusions

Summary of Results of Hypotheses Testing

Using a large cross-section of Caucasian, African American, and Latino households, we reveal novel influences of families and household occupants on the probability of a head of household being self-employed. Within the context of established drivers of new venture start-up such as age, education, and wealth, family and household characteristics may increase or decrease the probability that the head of household will be self-employed. Indeed, an important contribution of the study is the exploration of the similarities and differences between families and households.

Our estimations confirm the established positive and strong relationship between wealth and new venture start-up and support our first hypothesis. Whether through the reduction of borrowing constraints or from the intergenerational momentum that passes through economically successful families, wealth remains a highly statistically significant variable in predicting the probability of being self-employed. The wide gaps in average wealth among ethnic groups partly explain the wide gaps in the observed proportions of self-employed heads of household in these groups.

Consistent with our second hypothesis, we find that marriage and the composition of the family and household among relatives and nonrelatives significantly influence new venture start-up for the head of household. This result illuminates the somewhat loosely understood

boundaries between households and families. Marriage and the presence of children in the household increase this probability. However, the number of adult children and other relatives living in the same household reduce it.

Consistent with our third hypothesis, the health status of family members significantly influences new venture start-up for the head of household. However, poor health within the family reduces it. Along with our finding regarding the positive influence of medical insurance on the probability of being self-employed, these results support our third hypothesis.

Limitations

Our study is limited in several ways. First, because we used a subset of the PSID data set, we were limited in our ability to construct variables. In particular, the gain in sample size was a trade-off that came at the expense of using a dependent variable measurement of new venture launch that was decidedly fuzzy. Also, we were unable to examine variations in the managerial capabilities of the heads of household across our sample. Second, because the PSID data collectors recorded Latino ethnicity only relatively recently, we were forced to rely upon cross-sectional data-analytic techniques that provided a clear snapshot of one discrete period of time. Although we believe that this snapshot carries to the present, it is also fair to say that changes in the U.S. economy have come quite rapidly in the time that the data were collected. Another limitation of using cross-sectional data is the inability to specify causality. However, in an exploratory study such as this one, simply identifying relationships is an important contribution. Third, owing to data limitations, we used household data to infer relationships about theories based on families though these are not identical groups. Fourth, due to the exploratory nature of this research and our reliance upon an existing data set, we could not perform confirmatory factor-analytic techniques that would reveal whether the dimensions we have articulated are in fact all part of the same novel construct that we have called family capital.

Implications for Theory

By examining the relationship between family capital and the likelihood of new venture start-up, we have extended the breadth and scope of social capital theory by illuminating those factors within family capital that enable an entrepreneur to extract otherwise unavailable resources, thereby increasing the likelihood of new venture start-up.

Implications for Policy Makers

Policy makers generally agree that entrepreneurship and the formation of new ventures are the engines of growth in modern economies. Our findings suggest that policy makers would be well advised to take into account changing family demographics and the critical need for access to affordable health insurance coverage if they want to promote entrepreneurship and to improve the economic wellbeing particularly of African American and Latino families. Although it is beyond the scope of this article to offer concrete policy prescriptions, it seems clear that if policy makers seeking to promote entrepreneurship enact policies that only affect the macroeconomic environment without addressing micro-level variables including those involving family capital, then the result may be a notable loss of valuable opportunities for new business formation. For example, policies that break up family units or that lead to unrelated individuals living in the same household may limit new business creation. Losses of business opportunities may be acute among some ethnic groups and in particular among those heads of household who are responsible for a family member without health insurance. Health insurance available universally or to a far wider group than is now covered in the United States could have a significant impact on the willingness of many heads of household to accept some of the risks inherent to starting a business.

Contributions

This study has addressed the largely overlooked relationship between a family's internal social capital and entrepreneurship. Our regression results, along with data presented in Table 1, support the view that family capital characteristics matter similarly but vary appreciably across ethnic groups vis-à-vis the probability of new venture start-up.

The roles and relationships among family have undergone substantial changes in North America in recent decades. As detailed previously, the results of this study suggest that such transformations in the institution of the family have implications for the emergence of new business opportunities, opportunity recognition, business start-up decisions, and the resource mobilization process (see also Aldrich & Cliff, 2003).

With this study we hope to have begun a fuller understanding of less appreciated determinants of new venture start-up within and across ethnic groups, particularly the role of health-related considerations, which we believe should be added to the standard set of determinants of new venture start-up. Moreover, we have

contributed in a concrete way to an understanding of the boundaries of family capital. Our study suggests that nonrelated household members do not contribute to venture start-up whereas relatives living in the household can. Nonrelated household members may not share the same incentives and goals as related family members and so may not act as part of a family in the way described by Distelberg and Sorenson (2009).

Future Research

Families are both social and economic units whose members share responsibilities and resources for the advancement of their joint welfare. Naturally, their conditions may constrain or expand the employment decision set of the head of household. It is not surprising that younger, unmarried heads of household with unhealthy family members and little wealth are far less likely to be self-employed than married, healthier, and wealthier counterparts. What remains unsatisfactorily explained, in our study and in others, is the enduring negative effect on the likelihood of new venture start-up for women and African Americans. Our work joins many other works that suggest substantial social and economic challenges that disproportionately face woman and African Americans. Even while controlling for numerous individual and family characteristics, these two characteristics remain sizable, negative, and statistically significant correlates of new venture start-up. That the influence of these characteristics is largely unchanged throughout the addition of other significant variables poses a challenge to scholars who seek a rich understanding of the mechanisms through which individuals select in to and succeed in new venture start-up.

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