

THE ENTREPRENEUR NEXT DOOR

Characteristics of Individuals Starting Companies in America

AN EXECUTIVE SUMMARY OF
THE PANEL STUDY OF ENTREPRENEURIAL DYNAMICS

2002

Who is involved in starting businesses
in the United States?



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How do they go about the process of
starting companies?

Which of these business start-up efforts
are likely to result in new firms?



Why are some of these business
start-up efforts successful in creating
high-growth businesses?

How can we increase the level of
start-up activity in the United States —
particularly in under-represented areas?



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**E W I N G M A R I O N
KAUFFMAN FOUNDATION**

10 YEARS OF ACCELERATING ENTREPRENEURSHIP

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EXECUTIVE SUMMARY

New business formation is one of the most important economic and social activities for any society expecting economic growth and innovation. Yet, little systematic evidence exists about the fundamental nature of the business start-up or entrepreneurial process. The Panel Study of Entrepreneurial Dynamics (PSED) was designed to fill that void and substantially enhance our understanding of this important phenomenon. The PSED is a national longitudinal sample of 64,622 U.S. households that were contacted to find individuals actively engaged in starting new businesses. The survey identified a panel of 830 nascent entrepreneurs willing to provide information about their business start-up activities. The efforts of these people were then followed over a two-year period. More than 120 scholars participated in the development of the PSED. Since this project was initially conceived in 1996, 33 universities, private foundations and for-profit institutions, as well as the National Science Foundation, and the Ewing Marion Kauffman Foundation have provided more than \$2 million in financial support for the effort.

THE PSED IS THE FIRST *national database to offer systematic, reliable and generalizable data on the process of business formation.*

The PSED is the first national database to offer systematic, reliable and generalizable data on the process of business formation. It includes information on the proportion and characteristics of the adult population attempting to start new businesses, the kinds of activities nascent entrepreneurs undertake during the business start-up process, and the proportion and characteristics of the start-up efforts that become infant firms.

The study focuses on four fundamental questions:

- Who is involved in starting businesses in the United States?
- How do they go about the process of starting companies?
- Which of these business start-up efforts are likely to result in new firms?
- Why are some of these business start-up efforts successful in creating high-growth businesses?

Data for the PSED were collected in three stages. The first stage involved a telephone survey of 64,622 households to create two samples (nascent entrepreneurs and a comparison group) that are representative of the national population of adults 18 years old and older. In the second stage of the process individuals in the two samples responded to a detailed phone interview followed by the completion of a mailed questionnaire. The third stage involved follow-up interviews (phone and mail questionnaires) with the nascent entrepreneurs. This was done twice, at 12 and 24 months after the first interview. This report includes results only from the first stage of the initial sample of 64,622 households and the screening interviews.

The key findings of this study include:

- Entrepreneurship is a widespread activity in the United States. Participation is as common as getting married or the birth of a baby. About 6.2 in every 100 U.S. adults 18 years and older are engaged in trying to start new firms. That means that approximately 10.1 million adults in the United States are attempting to create a new business at any time.
- About one-half of all new ventures are started by teams of people. The 10.1 million involved in start-up activities represents about 5.6 million potential new businesses.
- Men are twice as likely to be starting new businesses as women. The prevalence rate for men 18 years and older is 8.1 per 100 compared to 4.5 per 100 for women.
- Entrepreneurship substantially involves adults at all ages, except people older than 65 years of age. Among the most active are young men ages 25-34.

ENTREPRENEURSHIP IS a widespread activity in the United States. Participation is as common as getting married or the birth of a baby.

APPROXIMATELY 26 OF EVERY 100 black men and 20 of every 100 Hispanic men with graduate education experience report efforts to start a new business.

- Blacks are about 50 percent more likely to engage in start-up activities than whites. Hispanic men are slightly more likely than white men to be involved with start-up, but the difference isn't statistically significant. Hispanic women are about equally as likely to attempt to start a business as white women, but they are less likely to be participating in start-up activities than black women.
- Education significantly predicts nascent entrepreneurship, particularly for blacks and Hispanics. Approximately 26 of every 100 black men and 20 of every 100 Hispanic men with graduate education experience report efforts to start a new business. This compares to 10 of every 100 white men with graduate education experience.
- The effect of household income on entrepreneurial activity is similar to the effect of education. Those with higher incomes are more likely to be involved in starting a business.

- Where people live affects entrepreneurial activity. Urban context, a county-level measure of certain economic, demographic and educational factors, is associated with prevalence rates of nascent entrepreneurs. Prevalence rates are higher in more urban areas.
- The impact of urban context varies for whites, blacks and Hispanics. For white and black men and women, the tendency to initiate start-up efforts is greatest among those living in more urban contexts. But for Hispanic men and women, the highest levels of activity are among those in the least urban contexts.

Clearly, entrepreneurship is a pervasive social and economic activity in the United States. While the rate of activity varies by group, there is no one group or type of individual not engaged in new business formation. The results from the first stage of the PSED reported in the following commentary show that socio-demographic characteristics have an important impact on entrepreneurial activity and, consequently, implications for public policy. Detailed policy recommendations must await more in-depth assessments of the longitudinal surveys of the 830 nascent entrepreneurs and the outcomes of their efforts. Summaries of these insights will be developed as the results become available.

WHY STUDY NASCENT ENTREPRENEURS?

New business creation is a fundamental indicator of entrepreneurial activity in the U.S. economy. The self-sufficiency and independence that lead individuals to create new businesses significantly affects economic growth, innovation and job creation. According to the Global Entrepreneurship Monitor (GEM), a multi-year comparison of entrepreneurial activity across countries, new business creation is highly associated with economic growth around the world.¹

The history of today's leading companies in the United States testifies to the disproportionate impact of entrepreneurs and the companies they start. The National Commission on Entrepreneurship documented the entrepreneurial beginnings of 197 (97.5 percent) of the Fortune 200 corporations and found the formation of new industries and the development of most new technologies highly dependent on the creation of new firms.² For example, in the personal computer industry most firms didn't even exist, or were small fledgling companies, less than 25 years ago. Apple Computer, founded in 1978, achieved sales of more than \$8 billion by 2000 and employed approximately 95,000 by the second half of 2002. Microsoft Corporation, launched in 1976, is today the world's largest software company with more than \$23 billion in sales employing more than 47,000 worldwide. And Intel Corporation, founded less than 35 years ago in 1969, achieved record revenues of more than \$33 billion by 2000 employing more than 83,000 by 2002. This is convincing evidence that industries result from the formation, development, and growth of new firms.

Other industries and new technologies have similar histories, such as the Internet, biotechnology, fast food restaurants, discount retailing, and specialty fashion retailing. The development of each can be traced to the creation and formation of new businesses. Fred Smith revolutionized the small package delivery system when he established Federal Express, the nationwide next day delivery service. Walmart, founded by Sam Walton, transformed retailing in the discount department store industry as Home Depot, co-founded by Arthur Blank and Bernie Marcus, revolutionized the hardware/building supply industry. And just seven years ago Jeff Bezos pioneered a new distribution channel that radically changed the way books and other products are sold when he launched Amazon.com on the Internet. These examples illustrate how nascent entrepreneurs, individuals who undertake the efforts necessary to initiate and start new businesses, create new industries or change and restructure how businesses in established industries compete.³

NEW FIRMS ARE THE DOMINANT *source of net job growth.*

The history of these entrepreneurs and their companies corroborates studies showing that the source of innovation⁴ and job growth in most U.S. industries comes not from larger, well-established companies, but from new businesses. David Birch's 1979 study of the impact of new and small firms on job creation fostered considerable support for his conclusion that small firms are the major source of employment growth in the United States.⁵ More recent assessments however, indicate that his original focus was misplaced. New firms are the dominant source of net job growth; there is a net job loss among older firms, whether small or large.⁶ The social and economic benefits of this job growth are especially obvious in new sectors such as information technology as compared to service-producing or goods-producing industries.⁷ The lesson of history is clear: businesses likely to drive the U.S. economy 25 years from now will come not from large established companies, but from the efforts of nascent entrepreneurs starting companies today.

Despite the significance of this lesson we know surprisingly little about the entrepreneurial phenomenon. We see the results of entrepreneurial activity in the formation of new businesses and the exploitation of new innovations, but know little about how these new businesses came into existence. Did they follow the sequence of start-up activities prescribed in textbooks and training programs, or are other patterns responsible for a successful launch? We celebrate the successes of entrepreneurial activity, yet have few insights about

why some entrepreneurial efforts succeeded while other efforts get abandoned. Indeed, we know little about the entrepreneurs who contribute so much to our society, their number or whether they possess unique and distinguishing characteristics.

The primary problem in studying this early stage of firm development has been that it is both difficult and expensive to find individuals when they are actually involved in business start-up activities. The Panel Study of Entrepreneurial Dynamics solves this by locating and systematically tracking a cohort of *nascent* entrepreneurs *as they progress* through the start-up process. It is the first attempt to develop a comprehensive representative portrait of entrepreneurial activity in the United States by studying the critical phenomenon and the people who are central to it — in real time — rather than after the fact.⁸

THE PANEL STUDY OF *Entrepreneurial Dynamics* (PSED) is the first attempt to develop a comprehensive representative portrait of entrepreneurial activity in the United States.

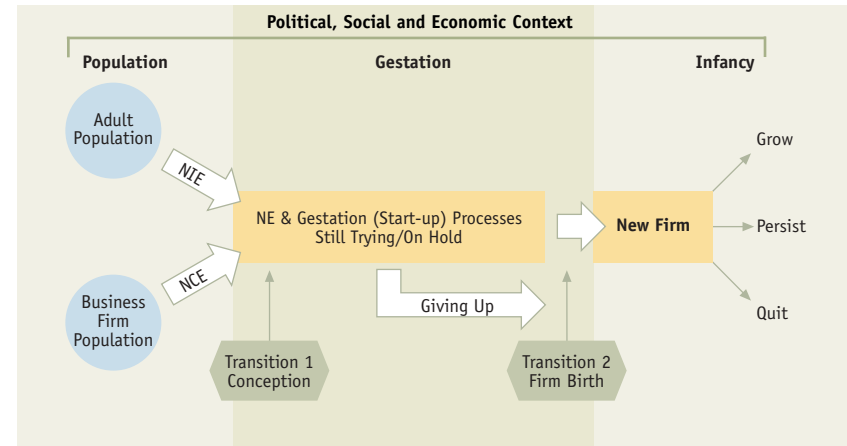
The insights and knowledge contained in the PSED have widespread implications for public policy, education and economic development as well as individual wealth creation. More than 120 scholars, private foundations, for-profit businesses and government agencies participated in designing and implementing the research program and more than \$2 million has already been invested. In the balance of this report we describe this path-breaking longitudinal project, the research design and data collection procedures, and provide key findings from the first phase of the program. We conclude by issuing an invitation that shows others interested in the entrepreneurial start-up process how they can become involved in understanding this fascinating phenomenon through the PSED.

HOW TO STUDY NASCENT ENTREPRENEURS:
THE PSED MODEL AND RESEARCH DESIGN⁹

The PSED research program provides systematic, reliable and generalizable data on important features of the entrepreneurial start-up process. This includes information on the proportion and characteristics of the adult population involved in starting businesses, the activities that comprise the start-up process, and the proportion and characteristics of start-up efforts that become infant firms. A number of factors likely influence a person's decision to engage in entrepreneurial activity and subsequently persist in efforts to start a new business. Figure 1 presents a conceptual model of the start-up process that guided development of the PSED. The model accounts for the influence of political, social and economic factors that influence the entrepreneurial process and depicts three stages with two transition points.

THE ISSUES UNDERLYING *CONCEPTION* question whether entrepreneurs are different from other individuals in the general population.

Figure 1
Conceptualization of the Entrepreneurial Process



As illustrated on the left side of the model, the first stage of the start-up process includes the POPULATION of all individuals, some of whom might decide to start a business. These individuals come from two potential sources, the adult population at large and existing businesses. The first transition point in the model, CONCEPTION, signifies when individuals from either of these two sources choose to start a new business. If individuals in the start-up effort intend an independent start-up, we consider them nascent independent entrepreneurs (NIE). If they are sponsored by an existing business, we consider the individuals nascent corporate entrepreneurs (NCE). We refer to both groups as nascent entrepreneurs (NE). The primary concerns at

CONCEPTION include: (1) *Determining the tendency of individuals to begin the business start-up process; and (2) Determining the uniqueness of the individuals or their situation that leads some to enter the entrepreneurial process.* The issues underlying CONCEPTION question whether nascent entrepreneurs are different from other individuals in the general population.

The second stage of the entrepreneurial process, GESTATION, encompasses factors that affect bringing the businesses into existence. The detailed emphasis the PSED puts on this stage distinguishes the research program from other efforts. In GESTATION the focus is on activities that nascent entrepreneurs undertake to get the start-up launched, as well as the length of time involved in the start-up effort. The amounts and types of resources invested during start-up are of interest, as are questions regarding the composition and characteristics of the individuals involved. The model recognizes four pathways through GESTATION: (1) The nascent entrepreneur creating an infant firm; (2) The nascent entrepreneur “still trying” to start the business; (3) The nascent entrepreneur putting the start-up effort “on hold” with expectations of continuing to pursue the start-up process later; and (4) The nascent entrepreneur “giving up” and abandoning the start-up effort. In essence, the GESTATION stage encompasses issues about: *How nascent entrepreneurs go about the process of starting firms.*

THE SECOND TRANSITION *point in the entrepreneurial process model represents the outcome of GESTATION, which is a FIRM BIRTH: when entrepreneurial activities lead to an infant business.*

The second transition point in the entrepreneurial process model represents the outcome of GESTATION, which is a FIRM BIRTH: when entrepreneurial activities lead to an infant business. Relative to this transition point, the model questions: *Why do some business start-up efforts succeed in creating new firms while others fail?* When a firm birth occurs, the new business transitions into INFANCY where many struggle through a “liability of newness”, a time when the firm’s very survival may be at risk. During INFANCY three types of trajectories are possible: growth; persistent but stable survival; or termination. PSED data make possible the study of the GESTATION, BIRTH, and INFANCY process, over time, to determine how the nature of the individuals, their gestation strategies, and the context of the start-up affect future development of the new firm.

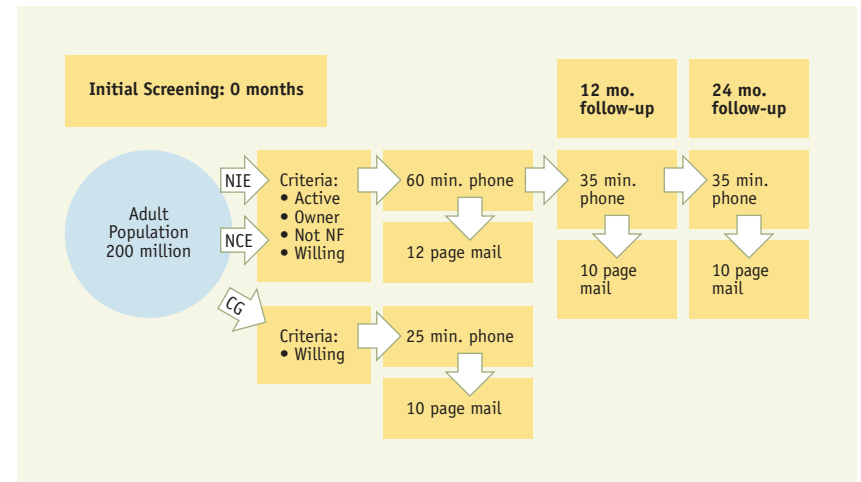
To collect data appropriate for testing the conceptual model depicted in Figure 2 a methodology was developed giving prominence to: (1) a procedure for identifying and interviewing nascent entrepreneurs and a comparison group; and (2) the content of interviews. The first stage in identifying and interviewing nascent entrepreneurs involved large-scale screening of households to create two samples representative of the national population

IN GESTATION THE FOCUS *is on activities that nascent entrepreneurs undertake to get the start-up launched, as well as the length of time involved in the start-up effort.*

of adults, those 18 years and older. First, a sample of individuals attempting to start a new business was identified; either nascent independent entrepreneurs (NIE) or nascent corporate entrepreneurs (NCE). Second, a representative sample of typical adults not involved with a business start up was selected as a comparison group (CG). The comparison group is critical for comparing the tendencies and characteristics of the nascent entrepreneurs and generalizing the findings to a representative group of typical adults in the U.S. population. Once the screening procedures identified individuals for the two samples, detailed phone interviews were administered followed by completion of self-administered questionnaires mailed to respondents. The third stage involved follow-up interviews with the nascent entrepreneurs 12 and 24 months after their first interview.

In the screening phase of the data collection, a total of 64,622 individuals were contacted by telephone using a random digit dialing process to locate households with listed and unlisted numbers.¹⁰ All screening interviews were completed between July 1998 and January 2000.¹¹ The subsequent detailed interviews with individuals in the two samples covered a wide range of topics. Nascent entrepreneurs completed a phone interview that averaged 60 minutes in length, with a range of 35 to 90 minutes. A similar procedure was followed with the comparison group, except that only a randomly selected subset of respondents was taken from those who volunteered during the national screening. The phone interview with respondents in the comparison group took about 25 minutes to complete.

Figure 2
Research Design Overview



(NIE=Nascent Independent Entrepreneurs; NCE=Nascent Corporate Entrepreneurs;
CG=Comparison Group; NF=New Firm)

At the completion of the phone interview, all respondents — the nascent entrepreneurs and the comparison group — were asked if they would be willing to complete a brief (12 page or 10 page) self-administered mail questionnaire. Ninety-eight percent agreed, and after repeated postcard reminders, mailings, and phone calls, 68 percent of the nascent entrepreneurs and 77 percent of the comparison group respondents returned the mail questionnaire.¹²

The data collection design makes the PSED a valuable database to scholars, public policy makers, and practitioners for a number of reasons. First, the PSED is a sample of nascent entrepreneurs assembled while they are in the process of getting into business. By collecting “real time” information about nascent entrepreneurs, we have knowledge of their current expectations and thought processes while in the act of starting firms, rather than the reminiscences of entrepreneurs after the fact. Second, the PSED is a sample of nascent entrepreneurs that reflects a variety of attempts to get into business, not just a sample of those individuals who were successful at starting firms. By collecting information about a variety of start up efforts and following the efforts over time, the PSED sample can be used to differentiate characteristics of successful and failed efforts to create new businesses. Finally, the PSED is a sample of nascent entrepreneurs and a comparison group. The PSED can be used to compare nascent entrepreneurs to the population of working age adults across a wide variety of demographic, economic, social, and psychological factors.

THE PSED IS A SAMPLE of nascent entrepreneurs assembled while they are in the process of getting into business.

THE PSED DATASETS ¹³

There are two major PSED datasets available for scholars to analyze and study. The first data set is known as the SCREENER. The SCREENER contains information on all 64,622 individuals that were contacted by telephone. The interviews provided information on 14 socio-demographic variables relative to the individual and their household, including the county and state where it is located. Having information on these variables allowed 167 county related variables to be added to the records from other data sources (e.g., census data), 60 of which have been used in this report. See Table 1 for examples of the kinds of information that are available in the SCREENER. The SCREENER is useful for providing information on broad demographic variables for both the nascent entrepreneurs and individuals in the comparison group. The data set also provides information on the economic and social context (including national conditions and local conditions) of the respondents. Such a large sample of individuals (64,622) makes the SCREENER very useful for computing prevalence rates for nascent entrepreneurial activity as well as for making comparisons between nascent entrepreneurs and individuals in the comparison group on the 181 variables available.

THE SCREENER IS USEFUL for providing information on broad demographic variables.

Table 1

Examples of Variables in the SCREENER

Gender
Age (Exact Age and Age Range)
Education
Employment Status
Marital Status
Size of Household
Home Ownership
Household Income
Ethnicity
Location (Region, State, Zip Code)
County Census Information (based on Zip Code identification)

The second data set is known as the SAMPLE. The SAMPLE contains detailed information on the nascent entrepreneurs and individuals in the comparison group who agreed to participate in the in-depth phone interviews and mail surveys. There are 1,261 respondents in the SAMPLE (830 nascent entrepreneurs and 431 in the comparison group). There are more than 1,200 variables in this data set for most of these respondents. The SAMPLE provides information about the nascent entrepreneurs and the comparison group on their personal context, including work and family responsibilities, their social networks, personal background and work experiences, personal dispositions, decision making styles, risk preferences, and aspirations. In addition, the data contain detailed information about: (1) the

nature and sequence of start-up activities that nascent entrepreneurs undertook during the start-up process; (2) the sources and kinds of resources they used; and (3) the strategic focus, kinds of industries, and characteristics of the markets where the prospective firms intend to compete. Follow-up information on the nascent entrepreneurs was collected 12 and 24 months after the first interview. The variables in the follow-ups are similar to information collected in the first interviews, except, that for those cases where firms have been started; information on the characteristics of the new firms also were collected. Table 2 provides examples of some of the variables in the SAMPLE data set.

Table 2

Examples of Variables in the SAMPLE

	Nascent Entrepreneurs	Comparison Group
Work and Career Experience	x	x
Work Participation Histories	x	x
Family Business Background	x	x
Social Network	x	x
Household Structure	x	x
Household Net Worth	x	x
Perceptions of Entrepreneurial Climate	x	x
Risk Assessment	x	x
Social Skills Assessment	x	x
Time Use Diaries	x	x
Opportunity Recognition Assessment	x	
Start-up Activities	x	
Start-up Team Efforts	x	
Competitive Strategy	x	
Future Expectations	x	

x = Data for this variable were gathered for this group.

HOW MANY START-UP ATTEMPTS IN THE UNITED STATES? TOTAL POPULATION ESTIMATES

We limit our analyses in this report to data from the large-scale screening of households in the first phase of the data collection. Other substantial benefits of the PSED will occur as scholars begin to disseminate findings from their analyses of the longitudinal surveys of the nascent entrepreneurs and the control group. Reports summarizing these results will be distributed as the findings become available.

Data from the SCREENER are useful for providing an overall picture of entrepreneurial activity in the United States and can be compared to the insights offered in other prevalence studies of entrepreneurship.¹⁴ Our analyses reveal that about 6.2 per 100 U.S. adults 18 years and older are engaged in trying to start new firms. The prevalence rate for men 18 years and older is 8.1 per 100, about twice the 4.5 per 100 for women 18 and older. Proportionally, this means that even though men and women are roughly equal in numbers in the population, men are likely to start two businesses for every one started by women. In other words, women are starting one-third of the new businesses.

THERE APPEARS TO BE ABOUT *10.1 million adults in the United States attempting to create a new business.*

In the late 1990s there appear to be about 10.1 million adults in the United States attempting to create a new business. Among whites, about 7.7 million are nascent entrepreneurs, among blacks it is 1.8 million and among Hispanics it is 1.1 million. These numbers exceed 10.1 million because of differences between official U.S. census data on Hispanics, which includes those who also identify with other races.¹⁵

What do these high estimates mean? A lot of energy is being devoted to creating new businesses in the United States. The average start-up team is about 1.8 people, even though over 40 percent are sole-proprietorships.¹⁶ This suggests that 10.1 million nascent entrepreneurs are attempting to put 5.6 million new firms in place. Marriages and births also may be considered widespread features of adult life — there were 2.4 million marriages and 3.9 million live births in the United States in 1997.¹⁷ In short, the creation of a new firm is more widespread than the creation of a new household or the birth of a baby.

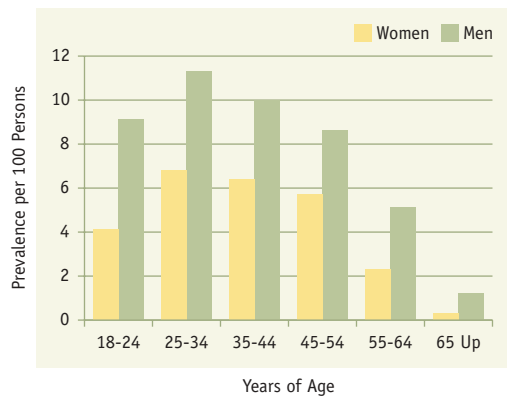
ABOUT 6.2 PER 100 U.S. ADULTS *over the age of 18 are engaged in trying to start new firms.*

AGE AND GENDER

Age and gender significantly predict whether individuals initiate efforts to start a new business. As Figure 3 shows, men and women of all ages engage in the entrepreneurial process. Three out of every 1,000 women (0.3 percent) over the age of 65 are involved as compared to a high of 11.3 out of every 100 men (11.3 percent) in the 25-34 age category. The highest prevalence rate for both men and women is among those 25-54 years old, although young men, 18-24 years, are relatively more active than in previous samples obtained in 1993.¹⁸ There also has been a slight increase among men 35-54 years in age.

Figure 3

Nascent Entrepreneur Prevalence Rates by Age and Gender¹⁹

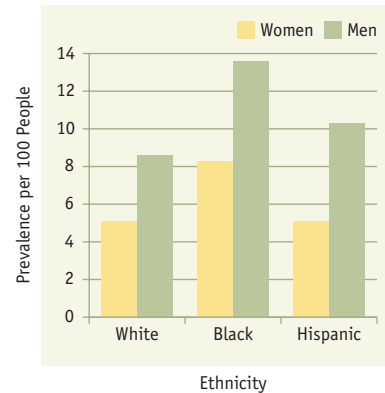


ETHNIC DIFFERENCES IN PARTICIPATION

Ethnic background influences the likelihood that individuals will attempt to start new businesses. Among individuals 18-64 years old, the age where participation in the labor force is most expected, black men and black women are about 50 percent more likely to try to start a business than white men and women; and the difference between the two is statistically significant (see Figure 4). The prevalence rate for Hispanic men is about 20 percent higher than for white men, but the difference is not statistically significant. Hispanic women are about equally likely to be involved in starting a business as white women but less likely than black women.

Figure 4

Nascent Entrepreneur Prevalence Rates by Ethnic Identity and Gender²⁰



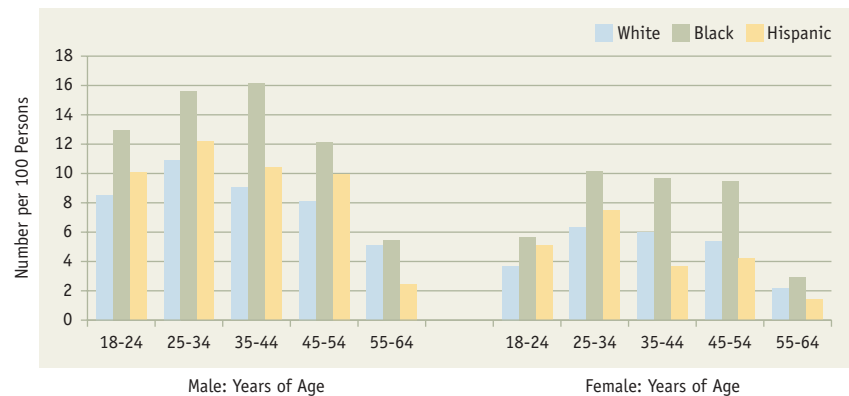
Combining age, ethnicity and gender provides a more fine-grained comparison of the individuals in these demographic categories. Figure 5 shows that the prevalence rates for black men and women are consistently higher than for white men and women, although the differences are not statistically significant across each age group. Below 55 years of age the prevalence rate for Hispanic men is also consistently but only slightly higher than for white men. In other words, white and Hispanic men of almost all ages have similar propensities for launching a new venture. Black males, on the other hand, pursue entrepreneurial endeavors to a greater degree.

The prevalence rate pattern for Hispanic and white women is nearly identical, rising in the younger ages and then tapering off. The rate for black women is substantially higher, particularly in the middle ages. There is a dramatic drop among Hispanic women after the age of 34, a decrease not reflected in the data for white or black women until they reach their middle fifties. This suggests that after their mid-thirties, the social role of Hispanic women differs somewhat from that of white and black women in that age category.

BLACK MEN AND BLACK WOMEN are about 50 percent more likely to try to start a business than white men and women.

Figure 5

Nascent Entrepreneur Prevalence Rates by Age, Gender and Ethnic Identity²¹



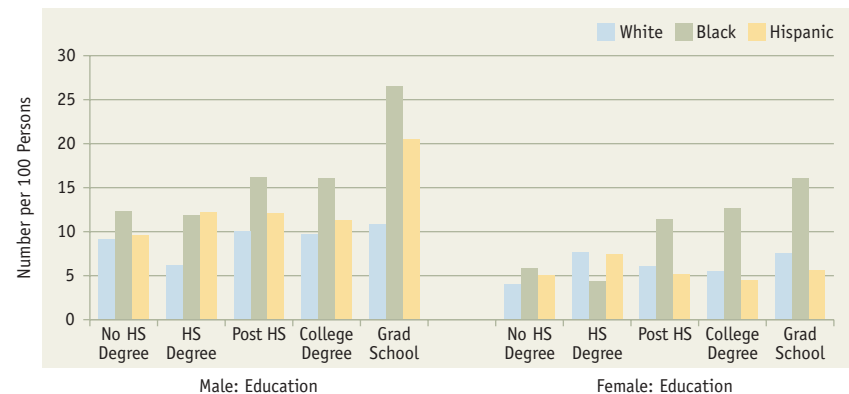
EDUCATION AND NASCENT ENTREPRENEURSHIP ACTIVITY

The abundance of education and training programs available to assist start-ups attests to the influence schooling presumably has on the prevalence rates of nascent entrepreneurs. Figure 6 affirms this speculation. Individuals who finish high school and complete some additional education or training are more likely to be involved in the entrepreneurial process, but the impact varies substantially by ethnic group. Indeed, education's impact differs dramatically for whites, blacks and Hispanics. For white men and women, there is a slight increase of participation with higher levels of education. Among black men and women, and Hispanic men those reporting any graduate training are two to three times more likely to be involved in a firm start-up. Black and Hispanic men with graduate experience are at least twice as likely to be involved as compared to white men with similar education. Education seems to have little influence among Hispanic women.

BLACK AND HISPANIC MEN with graduate experience are at least twice as likely to be involved as compared to white men with similar education.

Figure 6

Nascent Entrepreneur Prevalence Rates by Education, Gender and Ethnic Identity²²
(18-54 years old)

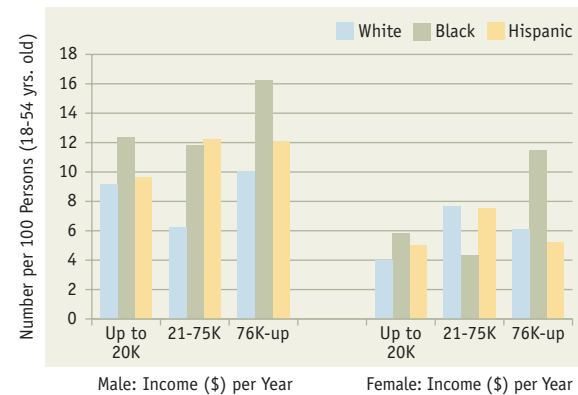


HOUSEHOLD INCOME AND NASCENT ENTREPRENEURSHIP ACTIVITY

Like education and age, an individual's household income influences the likelihood that they will start a new business. Individuals with higher household income are more likely to participate in start-up activities. The prevalence rate for individuals with up to \$15,000 in annual household income is 3.1; for those over \$75,000, the rate is almost three times greater, 8.2. Figure 7 shows the influence varies considerably by gender and ethnicity. Among white men and women only modest differences exist at high levels of household income. Much larger differences exist among black and Hispanic men and women. The same pattern is found among white women but not white men; there is no statistically significant difference in the prevalence rate among white men with different levels of household income.

INDIVIDUALS WITH HIGHER *household income* are more likely to participate in start-up activities.

Figure 7
Nascent Entrepreneur Prevalence Rates by Household Income, Gender and Ethnic Identity²³ (18-54 years old)



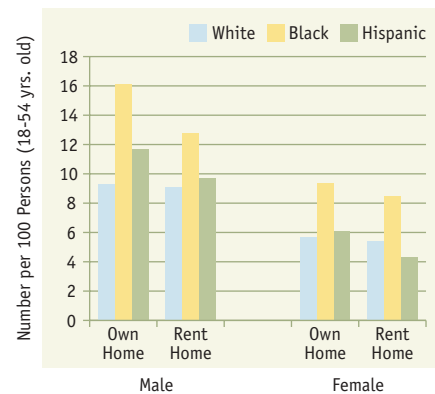
DWELLING OWNERSHIP AND NASCENT ENTREPRENEURSHIP ACTIVITY

In addition to household income, other financial assets such as home ownership may influence an individual's propensity to start a new business. Figure 8 shows the impact of this asset seems to be associated with higher levels of entrepreneurial activity, but it is statistically significant only for black men. It is unclear whether home ownership causes entrepreneurial activity or vice versa. Recall that black men with higher household incomes also are more likely to be starting businesses. While it is plausible that access to financial resources (earned income or home equity) may facilitate developing a start-up business, black men more involved in entrepreneurship may have higher personal income and dwelling ownership.

IT IS UNCLEAR WHETHER *home ownership causes entrepreneurial activity or vice versa.*

Figure 8

Nascent Entrepreneur Prevalence Rates by Dwelling Ownership, Gender and Ethnic Identity²⁴ (18-54 years old)



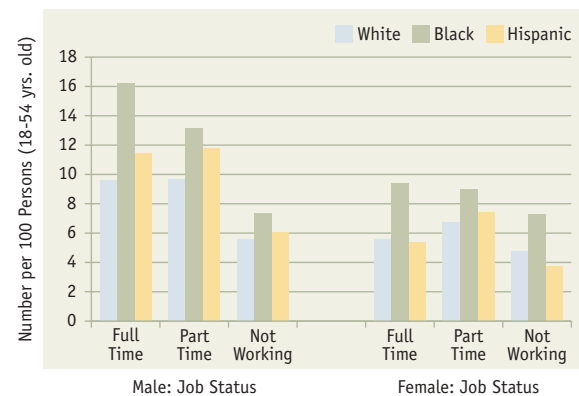
LABOR FORCE PARTICIPATION AND NASCENT ENTREPRENEURSHIP ACTIVITY

It is often speculated that people start new businesses out of desperation, because they have lost employment or cannot find a job. The results from the SCREENER analysis provide little support for this presumption. The prevalence rate for those 18 and older with full time jobs is 8 percent and for those working part time, 7 percent. In contrast, the rate for those not currently working (such as the unemployed, students, and homemakers) the rate is about 5 percent; it is about 1 percent among those who are retired (5 percent among those retired but under 65 years old). Active participation in the work force significantly impacts entrepreneurial activity and the influence doesn't appear to vary by gender or ethnic group. Across all groups, those 18-54 years old not involved in the labor force — housewives, retirees, unemployed, students, etc. — are less likely to be involved in business start-up than those with full or part time jobs.

ACTIVE PARTICIPATION IN THE *work force* significantly impacts entrepreneurial activity.

Figure 9

Nascent Entrepreneur Prevalence Rates by Labor Force Participation, Gender and Ethnic Identity (18-54 years old)



MARITAL STATUS AND NASCENT ENTREPRENEURSHIP ACTIVITY

Marital status has a small but varied affect on whether individuals attempt to start new businesses. Married women are more likely to be involved in start-ups, but the difference is statistically significant only for black women. Unmarried white and black men are more likely to be involved in start-ups, but the difference is statistically significant only for white men.

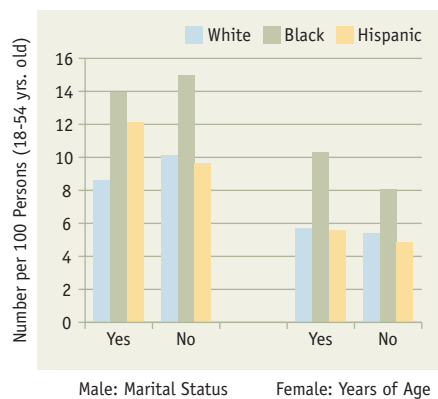
MARRIED WOMEN ARE MORE *likely to be involved in start-ups, but the difference is statistically significant only for black women.*

SIZE OF HOUSEHOLD AND NASCENT ENTREPRENEURSHIP ACTIVITY

The number of people living in a household has little effect on whether individuals engage in starting a business. Although black men living in three- to four-person households have the highest prevalence rate among the groups, there is no statistically significant relationship between household size and nascent entrepreneurship prevalence rate for any of the respondent categories.

Figure 10

Nascent Entrepreneur Prevalence Rates by Marital Status, Gender and Ethnic Identity (18-54 years old)



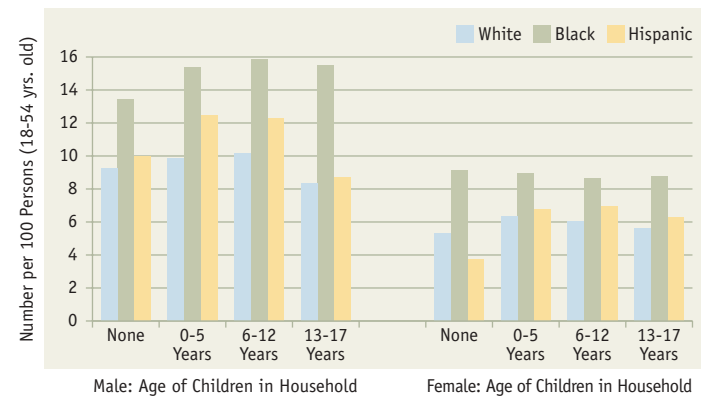
AGE OF CHILDREN IN THE HOUSEHOLD AND NASCENT ENTREPRENEURSHIP ACTIVITY

Respondents may have children in any of the three age groups: 0-5 years, 6-12 years, and 13-17 years old. Comparisons between nascent entrepreneurs without children and those with children across various age groups are displayed in Figure 11. In most cases there is no statistically significant difference, but there are differences in the prevalence rates of white men and women, and Hispanic men and women. In both groups, the prevalence rates for starting businesses is higher for women with children in the household than it is for men with children in the household. In other words, those with children in the household are more likely to report being involved in a business start-up.

THE PREVALENCE RATES for starting businesses is higher for women with children in the household than it is for men with children in the household.

Figure 11

Nascent Entrepreneur Prevalence Rates by Age of Children in the Household, Gender and Ethnic Identity (18-54 years old)



REGIONAL FACTORS AND NASCENT ENTREPRENEURSHIP ACTIVITY

Just as some personal characteristics predict the likelihood that an individual will attempt to start a business, where they live also makes a difference. Demographic and economic information about the counties where each of the survey respondents resides is contained in the SCREENER. These data are useful for examining whether some localities are more conducive to supporting entrepreneurial activity.²⁵ To illustrate how this information can be used we selected five of the county characteristics and created a scale. Characteristics chosen included the percent of the population that was 25-44 years in age in 1990; the percent of the population with college degrees in 1990; per capita income in 1993; the percentage of households with annual incomes of \$75,000 or more in 1989; and a measure of income disparity, the ratio of households with annual incomes of \$75,000 or more as a proportion of households with annual incomes of \$15,000 or less in 1989. Because the five measures are highly inter-correlated we computed an index called urban context that combined the items.²⁶ Each respondent was assigned an urban context score that represented the particular demographic-economic characteristics where they lived.

We then divided the respondents into four groups based on whether their urban context score fell in the bottom quartile of the scale, the second, third or fourth quartile group. Table 3 displays comparisons among the ethnic and gender groups. Counties representative of the lowest quartile include Greenbriar in West Virginia, where less than 29 percent of the population in 1990 was between 24 and 44 years of age and only 11 percent had college degrees. The per capita income in the community during 1993 was just \$15,800, and in 1989 only about 3 percent of households had annual incomes of \$75,000. In the top quartile are counties like Dakota in Minnesota. Here, more than 35 percent of the population in 1990 was between 24 and 44 years of age. The percent with college degrees topped 30 percent, per capita income was almost \$28,000 and almost 17 percent of the households had incomes of over \$75,000.

Table 3 Urban Context Index: Selected Characteristics²⁷

Nascent entrepreneur prevalence rates: #/100	Lowest quartile	Below average quartile	Above average quartile	Highest quartile
All respondents	4.9	5.6	6.6	7.1
White: Men	6.1	6.5	8.0	8.5
White: Women	3.2	3.6	4.4	4.8
Black: Men	9.5	10.4	14.3	12.4
Black: Women	4.5	6.9	7.3	9.1
Hispanic: Men (No significant difference)	11.6	8.6	9.0	10.5
Hispanic: Women (No significant difference)	4.9	4.6	4.1	4.6

Urban Index Items	Lowest quartile	Below average quartile	Above average quartile	Highest quartile
Percent of the population, 25-44 Years old: 1990	28.8%	31.7%	33.0%	35.6%
Percentage of population with college degrees: 1990	10.8%	17.0%	21.6%	30.2%
Per capital income: 1993	\$15,700.00	\$16,084.00	\$21,080.00	\$26,799.00
Percentage of households with annual income \$75,000 and up: 1989	3.3%	7.3%	8.3%	16.8%
Income disparity: of households with income \$75,000 in relation to households with income up to \$15,000	11.0%	30.9%	39.6%	133.7%

Character of the Counties	Lowest quartile	Below average quartile	Above average quartile	Highest quartile
Typical counties	Montgomery, MS Cedar, NE Ida, IA Greenbriar, WV Mason, WA Defiance, OH	Mobile, AL Utah, UT Kerr, TX Wayne, MI Lancaster, PA Los Angeles, CA	Peoria, IL Dade, FL Allegheny, PA Queens, NY	Dakota, MN Suffolk, NY Orange, CA New York, NY Montgomery, MD
Percent in North East United States	10.0%	16.0%	20.0%	31.0%
Percent in Southern United States	50.0%	29.0%	34.0%	29.0%
Percent in Midwest United States	29.0%	28.0%	24.0%	12.0%
Percent in Western United States	11.0%	27.0%	22.0%	27.0%
Number of cases	16,181	16,178	16,103	16,160

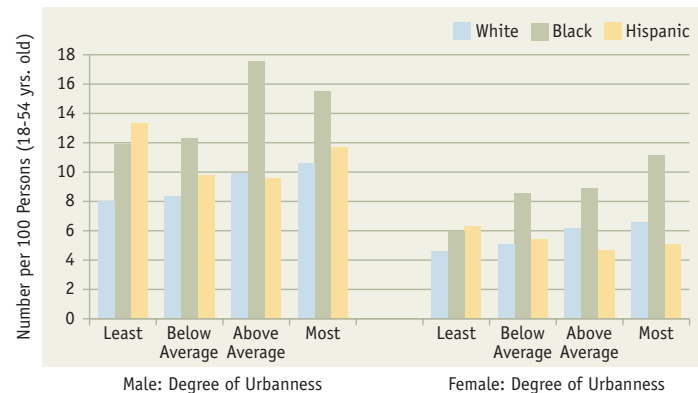
Comparisons between the lowest and highest quartile groups show substantial differences. For example, the highest quartile has 24 percent more of the population 25-44 years old; three times the percentage of the population with college degrees; the per capita income is 70 percent higher; the percentage of households with incomes in excess of \$75,000 per year in 1989 is five times greater; and the ratio of low to high income households goes from 0.11 to 1.34. Respondents in the most “urbanized” counties are found in all four regions of the United States, although there are less urbanized counties in the Midwest and the largest percentage of respondents in the lowest quartile are in the Midwest and the South.²⁸ Furthermore, the prevalence rates of entrepreneurship differ significantly across the four “urbanness” groups ranging from 4.9 per 100 adults in counties in the lowest quartile, to 7.1 start-up efforts per 100 adults in counties in the top quartile.

FURTHERMORE, THE PREVALENCE rates of entrepreneurship differ significantly across the four urbanness groups ranging from 4.9 per 100 adults in counties in the lowest quartile, to 7.1 start-up efforts per 100 adults in counties in the top quartile.

The impact of urban context also varies by gender and ethnicity. As illustrated in Figure 12 the prevalence rates for white men and women and black women increases when a greater percent of the population is between 25 and 44 years old and education, income and income disparity are higher. For black men the highest entrepreneurial prevalence rate occurs in communities where values on the demographic-economic characteristics are above average, but not in the top 25 percent of the urban context scale. Alternatively, for both Hispanic men and women urban context appears to exert little influence.

Figure 12

Nascent Entrepreneur Prevalence Rates by Urbanness, Gender and Ethnic Identity (18-54 years old)



Two other aspects of the respondents' residential location provides insight about the effect that community context can exert, the population density, or number of persons per square mile, and change in population (measured as the percentage population growth between 1980 and 1992).²⁹ Both features have a positive and statistically significant impact on the prevalence rate of nascent entrepreneurs. The greater the population density, and the higher the rate of change in population growth, the higher the prevalence rate for entrepreneurial activity.

The results of the urban context analyses provide a number of insights. In terms of broad socio-demographic categories such as race and gender, the location of entrepreneurial activity matters. Overall, more urban areas seem to promote higher rates of entrepreneurial activity. Yet for some groups, such as Hispanic men and women, the characteristics of urban context do not appear to promote higher levels of entrepreneurship. Apparently not all social and economic levers stimulate entrepreneurship in the same way for all groups and individuals.

OVERALL, MORE URBAN AREAS *seem to promote higher rates of entrepreneurial activity.*

CONCLUSIONS

The creation of new businesses in the United States affects our economy and social structure by providing a mechanism for self-employment, innovation and economic development. As a result, it is crucial that we understand the process of new business creation more completely. The Panel Study of Entrepreneurial Dynamics (PSED) offers that opportunity. It is the first national database to offer systematic, reliable and generalizable data on the process of business formation. It identifies and tracks a cohort of nascent entrepreneurs for a period of two years, observing their activities — real time — rather than after the fact.

This report provides an overview of the PSED research design, information about the database, and analyses of data from the SCREENER, a sample of 64,622 individuals. What have we discovered so far? More than 10.1 million individuals are actively engaged in starting new businesses in the United States. All categories of individuals (by gender, age, and ethnicity) are involved in entrepreneurship. Men are twice as likely to be starting new businesses as women. Entrepreneurial activity for blacks is about 50 percent higher than for whites. Additionally, urban context significantly affects the prevalence of entrepreneurial activity as does higher levels of household income. Such findings exemplify the usefulness of the data for focusing and increasing efforts for encouraging entrepreneurship in general and certain sub-populations in particular. Yet, despite the

importance of these findings, they represent only the tip of the iceberg. The central and unique value of the PSED involves detailed information from the longitudinal sample of 830 nascent entrepreneurs. Studies that utilize this sample promise to reveal never before gained insights into the characteristics of individuals involved in business formation, their activities, and the subsequent success of their efforts. For those interested in furthering entrepreneurship in the United States, support for research on the PSED will provide valuable evidence about how this process actually happens. Data from the SCREENER (sample of 64,622 households) phase of the project, as well as the detailed interviews at time zero and the 12-month follow-up interviews are currently available in the public domain at <http://projects.isr.umich.edu/psed>. The remainder of the data on the sample of 830 nascent entrepreneurs and the 431 members of the comparison group will be available to the public in January 2003.

THE PANEL STUDY OF Entrepreneurial Dynamics is the first national database to offer systematic, reliable and generalizable data on the process of business formation.

THE ENTREPRENEUR NEXT DOOR

FIVE OF YOUR NEIGHBORS WHO
ARE STARTING COMPANIES

by Larry W. Cox

Entrepreneurship is as much a part of the American experience as baseball, jazz and Disneyland. Indeed, independence and self-sufficiency permeate every aspect of our culture, and innovation is the cornerstone of our business success. However, despite its prevalence and contribution to society, surprisingly little is known about the process we call “entrepreneurship.” Seated around kitchen tables planning into the late hours of the night, or cloistered in garages endlessly tinkering with prototypes, nascent entrepreneurs have heretofore been obscured from inspection. All that we know about them has been gleaned “after the fact” through the retrospective accounts of “successful” entrepreneurs

who hit the radar when they hired personnel, filed a tax return or built a multibillion dollar business. Indeed, the Panel Study of Entrepreneurial Dynamics (PSED) is the very first research program to systematically track a cohort of *nascent* entrepreneurs *as they progress* through the gestation phase, in order to better understand this critical phenomenon and the people who are central to it.

SEATED AROUND KITCHEN TABLES *planning into the late hours of the night, or cloistered in garages endlessly tinkering with prototypes, nascent entrepreneurs have heretofore been obscured from inspection.*

Initial findings from the PSED demonstrate conclusively that while entrepreneurship may be detected within all age and socioeconomic categories in the United States, there are certain demographic characteristics that may be used to predict where one is most likely to find people in the process of starting companies. What remains to be investigated in the PSED program is whether these same factors are able to foretell

successful transition into an infant firm or eventual rise to high-growth venture. The following stories highlight five real “nascent entrepreneurs” who, in many ways, illustrate the results elaborated in the body of this report. They also exemplify the type of data contained in the PSED database. While these individuals were *not* subjects in the PSED, they *are* representative of the people included in this program. They are the neighbors you encounter at the store, invite over for barbeque, and with whom you share a carpool — ordinary people involved in the extraordinary process of launching a new venture.



DESIGNING MEN

Alston Green

The epiphany occurred last year at a trade show in New York during his annual pilgrimage to designer-Mecca, Manhattan. After 30 years in the industry, working in established design houses, creating apparel, home décor and, most recently, greeting cards, it was suddenly apparent to then 50-year-old Alston Green that it was time to launch his own studio.

Over the past 12 years as a product designer for Hallmark Cards in Kansas City, Missouri, Alston has honed his skills in product and business development. Indeed, when he took over creative responsibility for Hallmark's "Mahogany" card line — products targeted specifically for African-Americans — it consisted of only 20 items (i.e., 20 stock keeping units or SKUs). Today, however, it boasts approximately 900 SKUs. The current Mahogany line not only includes ethnic cards, gift wrap, hand bags, and specialty products for traditional seasonal celebrations such as Christmas, Valentine's Day, Easter, Mother's Day and Father's Day, but also features the same types of items for Kwanzaa, as well as a "Legacy of Greatness" line that highlights renowned African-Americans whose lifework has transformed the United States.

Alston's career in design began shortly after he received an associate's degree in illustration, painting, and design from Parsons School of Design in New York City. It was further enhanced by a bachelor of fine arts degree from the New School for Social Research, and advanced study in drawing and painting at the prestigious Hochschule Der Kuenste in Berlin. Alston figures that the unique combination of his ethnic heritage, formal training in design, and product development experience at Hallmark will provide him with the competitive advantage he needs to survive on his own with a service-oriented business located in the challenging environment of New York City. It has also placed him in the position to recognize an untapped market niche — design services with an ethnic orientation. He says that "most firms are out of touch with Generation X and Y," and few understand the needs of potential ethnic audiences.

Alston is confident that he understands the ethnic market better than most and he feels that it is extremely underdeveloped. The burgeoning revenues from Mahogany greeting cards would tend to support his thesis. In addition, formal market research performed by Alston as part of a FastTrac® business feasibility class has further convinced him that his services will be in great demand as time goes on. His investigation into the market has shown that by 2010, the majority of the U.S. population will be Hispanic, and by 2045, the ethnic market will be \$6 trillion.

While he has not yet completed a business plan, Alston is contemplating how to raise the \$2 to \$5 million he anticipates needing to open his doors. He is not looking for partners or debt financing. Rather, he has his sights set on attracting professional investors, venture capitalists, based on his track history at Hallmark, his impressive marketing numbers, and his ability to network with and hire other creative individuals. When asked about his prospects, Alston says that he is "scared to death ... but excited about the possibilities!"

Clearly, Alston Green's heritage as an African-American has had an impact on the direction of his entrepreneurial endeavors — a design studio focusing on the ethnic market. But how has it affected his propensity to start a business in the first place? What are the odds that this 50-year-old black male would be actively involved in entrepreneurial activity? As demonstrated in the PSED, Alston's ethnic background is highly predictive of his move to start a business. While he is older than the most entrepreneurially active age group, the fact that he is an African-American male with some graduate education made it highly likely (26 percent probability) that he would eventually catch the bug to start his own firm. Future research into the PSED data may address the issue of whether or not the lack of a formal business plan, or his decision to seek venture capital may be used to predict Alston's success at actually launching the venture.

NURSING A SECOND BUSINESS

Rose Leidl

Rose Leidl describes starting a business much like Sinatra describes falling in love. That is, she says it's "more comfortable the second time around" — well, at least more businesslike. Having completed her bachelor's degree in nursing at the University of Santo Thomas in the Philippines, Rose immigrated to the United States in 1985 in response to a nursing shortage in this country. She soon found herself in Boonton, New Jersey where she held her first job as a registered nurse in a local community hospital. Rose moved to Los Angeles, California a year later where she met and married her physician husband, Peter Leidl, while working at Charter Community Hospital. Eventually Rose and Peter settled in Long Beach, where, by 1995, Rose was working for Blue Shield of California and simultaneously starting her first venture, Managed Healthcare Unlimited, Inc. (MHU). According to Rose, this was a time when she had "nothing to lose and nothing to protect," but also nothing to start with.

The original idea behind MHU was to provide managed healthcare services for self-insured companies. However, by 1996, it was primarily subcontracting work from the Health Care Financing Administration as well as one of the "big five" consulting firms that ensured a more promising future for MHU in the area of managed care consulting. By the end of 1997, things were looking good for this fledgling firm. Then the bottom fell out in the span of a few days, and MHU not only lost two large accounts but also Rose's partner who announced her intention to start another (competing) company. Refusing to quit, Rose retrenched, eventually reducing her workforce to one (herself) and her office space to 400 square feet. By 1999, she was keeping MHU afloat only by farming herself out to a nearby HMO as a temporary employee. With Peter no longer willing to bankroll the business, Rose cleaned out her savings account and pumped her last \$46,000 into her dream. Finally, however, in July of 2000, Rose says that her luck changed. To her amazement, she landed a substantial contract with the Department of Managed Healthcare to develop a protocol for surveying HMOs with regard to their compliance to California regulations. Today, MHU is well known for this protocol throughout the state of California, and business is better than ever.

Managed Healthcare Unlimited was a natural extension of Rose's previous work. However, her experience as a nurse and in the managed healthcare industry did not make the start-up process any easier. In fact, for the first four years of operation, MHU struggled to survive. It was only Rose's dogged persistence that kept her company afloat. Every time her friends suggested that it was time to call it quits, refusing to accept defeat, she stubbornly found renewed determination to make her business work.

So, now that MHU is on track, why start a new venture recruiting nurses from foreign countries in order to supply the nation's demand for nursing services? In a much more reasoned and far less emotional manner, Rose is simply diversifying her business and hedging her bets. She feels strongly that her current government contracts cannot last forever. As a result, she must broaden her business interests. Here is where her second foray into the start-up process differs from her first one. This time she is not being pulled by her dreams, but rather pushed by her growing business acumen. She is performing market research and carefully weighing her options. Rose says her first love is still compliance surveys (i.e., the current focus of MHU), but nurse recruitment represents an excellent business opportunity.

Rose Leidl was working full-time when she started her first business, Managed Healthcare Unlimited. But is employment a hindrance or a help for individuals considering an entrepreneurial venture? Are people who are employed more likely to "play it safe," remaining in their current occupation, or "take the plunge," starting their own company? The PSED indicates that participation in the labor force is significantly related to start-up activity. That is, it finds that individuals who are fully employed or employed on a part-time basis are more likely than those who are unemployed (e.g., retired, working at home, or going to school) to start a company. Further research into the PSED data should provide greater understanding as to why this is true. Is it the capital provided through employment, or the experience gained on the job that increases the likelihood of entrepreneurship?





¿HABLES ENTREPRENEURSHIP?

Mary De La Rosa

Immokalee, Florida, with its 15,000 residents, represents the rural side of a state better known for Mickey Mouse, retirees, and South Beach. It doesn't expand and contract with the seasonal influx of elderly people escaping the winds of winter, like nearby Fort Meyers. Nor does it entice shrieking crowds of young tourists with theme parks like those in Orlando, or throb to the beat of hip cosmopolitan culture and art deco as in Miami. Located on the edge of the Florida Everglades, the main business of Immokalee is farming, primarily the cultivation of winter vegetables. Residents are steady and hard working, but not necessarily high-tech. So, is this the right place to start a business?

Mary De La Rosa thinks so. The venture she is in the process of launching, MGD Bookkeeping, seeks to take advantage of the huge demographic shift occurring around the country in towns like Immokalee — the immigration of Hispanic workers. In the case of Immokalee, the new residents are primarily farm laborers from Mexico who represent a substantial and largely under-served segment of the local market. “There are no Spanish-speaking bookkeepers in Immokalee,” says Mary. And this, she figures, will be her competitive advantage.

Mary is a Hispanic, 28-year-old, married mother of three who has always been interested in the accounting profession. She has an accounting certificate from a local vocational school, and has kept the books for her brother-in-law for several years. Most recently, she has been the office manager in her uncle’s investment business. But what really drives Mary is a burning desire to be her own boss. For the past 10 years she has dreamt of little else. She sees it primarily as an opportunity to build security for her kids. However, it is obvious even to the casual observer that Mary is enjoying the challenge of building her own organization.

There is no business plan for MGD Bookkeeping. Nor has Mary performed any formal market research. However, she has aligned herself with another more experienced bookkeeper who will serve as her mentor and with whom she will initially share an office. She has also sought help from the local Small Business Development Center. She doesn’t need seed capital because she has been saving

for this enterprise for a long time. And although Mary doesn’t have ownership experience, she is confident that she can build MGD Bookkeeping into a million dollar business in the next three years. Mary sees tremendous opportunity in Immokalee. She also wants to make her uncle eat his words. “He told me that I would never become a member of the Chamber of Commerce because I am female. I want to prove him wrong.”

How important is location in the start-up process? Are inhabitants of urban areas more likely to start a business? Are nascent entrepreneurs who live in farming communities like Mary’s the exception or the rule? According to the PSED, the inhabitants of urban areas are in fact, more likely to be involved in the start-up process than people who live in rural locations. Future research may support the notion that, in general, companies are started where sizeable markets are readily available. However, it must also explain why Hispanics are an exception to this rule. For Hispanics, as seen in the PSED data, the “urbanness” of a particular location makes no difference in the prevalence of start-up activity. With the substantial influx of Hispanics immigrants, nascent entrepreneurs like Mary may find entrepreneurial opportunity in the shifting demographics of small town America.

GETTING AIRBORN

Miguel Hidalgo

Miguel Hidalgo is fascinated with high-speed transportation — especially air transportation. That’s why he’s trying to start a regional airline, “Voyager.” He feels strongly that attempts by other entrepreneurs to launch California-based regional air carriers have been poorly managed. “They were mostly looking for a quick dollar,” he explains, describing why no such airlines are currently in operation. Further, Miguel contends, “They didn’t have the training, regional experience, flexibility or long-term commitment to pull it off.”

If knowledge of the industry is the key to launching an airline, then Miguel should have no problem. He’s been dreaming about this venture for the last 15 years, preparing himself at every juncture for this moment in time. Miguel has held jobs with AeroCalifornia and US Airways. He has a bachelor of arts degree in international communications from Pepperdine University. He also has master of science degree in aeronautical management from National University and is only two courses shy of an MBA, also from National University. In 1991, Miguel’s company, AeroCargo, opened a “fixed base operation” (FBO) at Brown Field in San Diego, just across the border from Tijuana. The FBO featured hangars, ramp facilities, and offices, and spawned three additional businesses: Baja AirWest Express, Nelly’s Pilot & Office Supply, and Brown Field Rental Car. Scheduled commuter flights were flown, where Miguel acquired hard-core experience. He has even written a book about how to fly into Baja California. Unfortunately, however, AeroCargo was forced to close in 1995 when AeroCargo was unable to get approvals from San Diego needed to continue operations.

Miguel has prepared an 800-page business plan, featuring a very detailed operations blueprint. He is currently paring this down to create an executive summary suitable for distribution to potential investors. He figures that he will need around \$250,000 just to complete the marketing and financial portions of the plan, as well as to fund his fundraising efforts. In total,

Miguel thinks he needs \$19 million to launch Voyager. However, as with any sustained effort, the most important assistance may be the intangible kind supplied by friends and family. Yet, after 15 years of chasing this particular dream, moral support may be harder to obtain than financing. Miguel's father, a self-made millionaire who immigrated to the United States 72 years ago, and Miguel's siblings are dismayed that he did not join the family law firm. His wife and children are counting on him to succeed. Clearly, Miguel must keep his closest supporters from abandoning ship. Wearily, he admits that "if you want to succeed, you're going to have to be persistent."

Miguel Hidalgo has been preparing to launch Voyager for many years. During this time, his education, work experience and attention have been narrowly focused on one goal — starting a regional airline. To what degree does job and industry experience play a role in the successful launch and growth of such a venture? At what point is it financially prudent and personally responsible to abandon the entrepreneurial effort? Only by tracking nascent entrepreneurs like Miguel through to the realization (or abandonment) of their dreams will we be able to answer these questions. The PSED provides an excellent vehicle for doing this. By following a representative sample of nascent entrepreneurs over the course of two years, this investigation is able to add insight into these important issues.





TEXTBOOK CASE OF ENTREPRENEURSHIP

Seth Hendrickson and Zach McPherson

Frankly, Seth Hendrickson would rather be doing something else. While he's enthusiastic about starting a business, his heart is still very much on the family farm near Kearney, Nebraska. However, he's resigned himself to the fact that he must earn his livelihood some other way. It's difficult to argue with his logic. Why do all that work and gamble all of your capital when there is no reason to believe that you will ever get paid or receive a return from your investment? As Seth says, "These days it's hard to make a living on a midsized farm." So, although he started out at a nearby tech school majoring in ag business, he recently graduated from the University of Nebraska-Kearney (UNK) in marketing. Further, because he didn't want to move away from his hometown, he and fellow classmate, Zach McPherson began putting the pieces together to launch a venture that can be operated directly from Kearney.

The concept behind Peak Learning is to build a business that will transform college level textbooks into an audio format. The idea first came to Seth and Zach last October as they sat in class wondering how they were going to get everything read before finals. It occurred to them that if they could listen to their books rather than read them, they would be able to absorb the material while walking on campus or driving a car (or sitting on a tractor), and not be confined to the library. Both students had taken an entrepreneurship class at UNK where they had learned how to perform market research and prepare a business plan. So, one of their first steps was to see if any publishers were already producing audio versions of their textbooks. Next, they conducted a phone survey of their fellow students. Finally, satisfied that no incumbents were already selling audio textbooks, and that other collegiates were interested in such products, Seth and Zach began to focus their attention on production.

Today, these young would-be entrepreneurs are nearly finished with their business plan and are in the process of completing their cash flow projections. They figure that each audio textbook will cost approximately \$18,000 to complete, but they intend to bootstrap their operation rather than seek outside investors. They also plan to outsource production, and they're counting heavily on help from family members along the way. The two partners want to roll out two audio textbooks by fall of 2002, 125 in the next five years, and 250 by year 10. They realize that there are no barriers blocking

the established publishing houses from entering their market. As a result, Peak Learning must fly below the radar and make use of its first-mover advantages. In light of this, being headquartered in the middle of rural America may actually turn out to be an unexpected strategic advantage — Seth and Zach may just have found a textbook solution to competing against large, established goliaths — obscurity.

Seth and Zach, like many of today's young people growing up in a rural setting, would prefer to stay on the farm, working the land just as their parents and grandparents did before them. However, the risk-reward ratio for tilling the soil is unacceptably high and they are usually forced to consider other options in an urban context where the payoff is more certain. Still, some may find a solution in entrepreneurship. The information age, the internet and the globalization of markets may create opportunities for them to remain in isolated areas while making a living as an entrepreneur. Analysis of the screening portion of the PSED tells us that whites and blacks in rural areas are less likely to be involved in the start-up process. But a more detailed look at the longitudinal portion of the database is necessary to find out whether rural nascent entrepreneurs are more or less likely to actually create a viable business. Does the lack of a sizeable local market hinder successful business formation? Is the infrastructure in a rural setting sufficient to support manufacturing or even information-based industries?

WHERE DO WE GO FROM HERE?

It is obvious from the Panel Study of Entrepreneurial Dynamics that entrepreneurship is a widespread and important phenomenon in the United States. Entrepreneurship affects our economy and social structure by providing a much-needed mechanism for self-employment, innovation and economic development. As a result, it is crucial that we understand it more completely. Which individuals are likely to enter the start-up process? How can we increase participation in entrepreneurship at all levels of society? What are the processes by which new businesses are formed? What conditions are necessary and/or sufficient to produce infant firms? Finally, are there characteristics that might predict the successful launch of a high-growth venture?

The findings included in this report are clearly an important first cut at these issues. However, they are drawn exclusively from the initial “screening” portion of the PSED — truly the tip of the iceberg. Thus, while this report allows a quick peek into the life of a nascent entrepreneur, a more thorough examination is certainly warranted and possible. There is a tremendous richness to the PSED data, and much remains to be done with the more than 1,200 variables measured over the course of two years. The good news is that the data analyzed for this publication are currently available in the public domain³⁰ and the remainder will be made available to the public in January 2003. It is hoped that many of the subtleties and mysteries of the entrepreneurial process will be unraveled through further analysis utilizing this unique resource.

ENDNOTES

WHY STUDY NASCENT ENTREPRENEURS?

- 1 The Ewing Marion Kauffman Foundation has, since 1999, sponsored a number of studies that have sought to understand the impact of new business formation activities on economic growth in countries throughout the world. The latest study [Reynolds, P. D., Camp, S. M., Bygrave, W. D., Autio, E. & Hay, M. (2001). *Global Entrepreneurship Monitor: 2001 Executive Report*. Kansas City: Kauffman Center for Entrepreneurial Leadership] can be found at:

<http://www.entreworld.org/gem2001>.

A previous study [Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M. & Autio, E. & (2000). *Global Entrepreneurship Monitor: 2000 Executive Report*. Kansas City: Kauffman Center for Entrepreneurial Leadership] found a 0.7 correlation between entrepreneurial activity and economic growth.
- 2 Purrington, C. A. & Bettcher, K. E. (2001). From the garage to the boardroom: The entrepreneurial roots of America's largest corporations. Washington, D.C.: National Commission on Entrepreneurship.
- 3 Purrington, C. A. & Bettcher, K. E. (2001). From the garage to the boardroom: The entrepreneurial roots of America's largest corporations. Washington, D.C.: National Commission on Entrepreneurship, pp. 24-31.
- 4 Zoltan Acs and David Audretsch have published a number of studies that have explored the relationship between entrepreneurial activity and innovation. A good example of this research is:

Acs, Z. J. & Audretsch, D. B. (1988). Innovation in large and small firms: An empirical analysis. *American Economic Review*. 78: 678-690.
- 5 Research on the relationship between new and small firms and job creation is substantial. Thoughtful reviews of these studies can be found in books written by Kirchoff (1994), and Reynolds and White (1997).

Birch, D. L. (1979). "The job generation process." Unpublished report. Massachusetts Institute of Technology Program on Neighborhood and Regional Change for the Economic Development Administration, U.S. Department of Commerce, Washington, D.C.

Birch, D. L. (1987). *Job Creation in America*. New York: The Free Press.

Kirchoff, B. A. (1994). *Entrepreneurship and Dynamic Capitalism: The Economics of Business Firm Formation and Growth*. Westport, CT: Praeger.

Reynolds, P. D. & White, S. B. (1997). *The Entrepreneurial Process*. Westport, CT: Quorum Books.
- 6 Acs, Z. J., Armington, C., & Robb, A.. (1999) Measures of Job Flow Dynamics in the U.S. Economy. Upper Marlboro, MD. U.S. Bureau of the Census, Center for Economic Studies, discussion paper.
- 7 Boden, R. (2000) Employment Establishment Changes and Survival, 1992-1996. Upper Marlboro, Maryland. U.S. Bureau of the Census, Center for Economic Studies, discussion paper.
- 8 The PSED process built on earlier efforts by Paul Reynolds and colleagues to study nascent entrepreneurs in Wisconsin (Reynolds, & White, 1993; 1997), as well as a small national sample of nascent entrepreneurs who were identified from a study that was "piggy-backed" onto the University of Michigan Institute for Social Research Survey of Consumer Attitudes (Curtin, 1982; Reynolds, 1997). These prior studies indicated that it was technically feasible, as well as financially possible, to locate and survey individuals from the general population of all U.S. adults who were actively engaged in starting businesses.

Curtin, R. (1982). Indicators of consumer behavior: The University of Michigan Survey of Consumers. *Public Opinion Quarterly*. 46: 340-362.

Reynolds, P. D. (1997). Who starts new firms? Preliminary explorations of firms-in-gestation. *Small Business Economics*. 9: 449-462.

Reynolds, P. D. & White, S. B. (1993). *Wisconsin's Entrepreneurial Climate Study*. Milwaukee: Marquette University Center for the Study of Entrepreneurship.

Reynolds, P. D. & White, S. B. (1997). *The Entrepreneurial Process*. Westport, CT: Greenwood Publishing.

HOW TO STUDY NASCENT ENTREPRENEURS: THE PSED MODEL AND RESEARCH DESIGN

- 9 This report is an overview of a broader research program focusing on the general features of the entrepreneurial process that is described in detail in Reynolds (2000).

Reynolds, P. D. (2000). National PSED of U. S. business start-ups: Background and methodology. In J. A. Katz (Ed.), *Advances in Entrepreneurship, Firm Emergence, and Growth* (Vol. 4,). Stamford, CT: JAI Press, pp. 153-227.

- 10 National screening of the adult population was completed by a commercial market research firm (TeleNation Program, Market Facts, Inc.; Arlington Heights, IL). The screening process identified three random samples of 1,000 adults each week in the contiguous 48 states. Random digit dial sampling procedures (the actual phone numbers were randomly generated) were used to locate households, listed and unlisted. The first individual 18 years and older that would complete the phone interview was accepted as a respondent. Quota sampling was used to ensure that half of each sample was men and the other half women. Each sample was completed in a three-day period with a three-call criterion

(initial call and two call-backs). However, up to 2 percent of the respondents were called from four to nine times. The interviews were controlled to be less than 30 minutes long to minimize mid-interview terminations.

There were five such subsamples that were generated from the telephone screening. The first subsample (labeled below as ERC) has been identified as the "ERC" sample or the "mixed gender" sample in other studies. The "ERC" sample was funded by the Entrepreneurial Research Consortium, a group of universities, foundations and for-profit companies. The second subsample (labeled as CG-ERC) was the "mixed gender" comparison group, also funded by the ERC. The third subsample (labeled as NSF-W) has been called the "NSF women only" subsample, as it was funded by a grant to Nancy M. Carter from the National Science Foundation (NSF) to study women nascent entrepreneurs. The fourth subsample (labeled as NSF-MIN) is known as the "NSF minority over-sample," as it was funded through a grant to Patricia G. Greene from the NSF to study minority nascent entrepreneurs. Finally, a fifth subsample (labeled as CG-MIN) was collected that focused on a "minority over-sample comparison group," that was also funded by the NSF grant to Greene.

Because the two different NSF grants came several months apart, the national screening process for identifying nascent entrepreneurs occurred over two broad time periods. Screening of individuals targeted for the nascent entrepreneur ERC group began in July of 1998 and ended in April of 1999. Screening of individuals targeted for the NSF-W over sample began in September of 1998 and ended in December of 1998. Together, these two samples of potential nascent entrepreneurs comprised a total of 31,261 individuals. Screening for the CG-ERC comparison group began and was completed in November of 1998 with a total of 2,010. Screening for the NSF-MIN minority over-sample began in July of 1999 and ended in January of 2000 with a case listing of

28,314 people. Finally, screening of the CG-MIN, minority over-sample comparison group began and ended in November of 1999 with a case listing of 3,037 people. Thus, a grand total of 64,622 individuals were screened between July of 1998 and January of 2000. The characteristics of the various subsamples in the SCREENER are listed in Table A.

Table A Reported Involvement in Start-up Activity

Target Of Sample	Pool Size	Reports Autonomous Start-Up During Market Facts Screening (SUINVOL)			
		NIE ^a	NCE ^b	Both ^c	Total
ERC					
F	7,563	355	157	59	571
M	7,555	586	260	136	982
NSF-W					
F	8,099	367	147	52	566
M	8,044	577	288	127	992
NSF-Min					
F	14,632	657	280	128	1,065
M	13,682	985	393	211	1,589
CG-ERC					
F	1,007	Unknown. Not asked.			
M	1,003	Unknown. Not asked.			
CG-Min					
F	1,574	80	30	7	117
M	1,463	109	35	29	173
TOTALS:	64,622	3,527 ^d	1,525 ^d	713 ^d	5,765 ^d

a NIE = Nascent Independent Entrepreneur. A “yes” response to: Are you, alone or with others, now trying to start a new business?

b NCI = Nascent Corporate Entrepreneur. A “yes” response to: Are you, alone or with others, now starting a new business or new venture for your employer? An effort that is part of your job assignment?

c Both. Answered “yes” to both of the NIE + NCE questions.

d Totals for all classifications of nascent entrepreneurs do *not* include the respondents from either comparison group.

Whether members of the comparison groups were themselves involved in start-up activity was unfortunately not asked of the mixed gender comparison group (the CG-ERC subsample). Follow-up interviews with these individuals revealed that four of them had in fact started businesses, and in subsequent analyses using the SAMPLE dataset these four individuals were dropped. Within the minority over-sample comparison group (the CG-Min) subsample, a total of 29 individuals reported some start-up activity, and so these individuals were also dropped in analyses using the SAMPLE dataset. Details of the distribution of males and females for the various subsamples and descriptions of the decision rules for identifying nascent entrepreneurs is found in:

Shaver, K. G., Carter, N. M., Gartner, W. B. and P. D. Reynolds. (2001). "Who is a nascent entrepreneur? Decision rules for identifying and selecting entrepreneurs in the Panel Study of Entrepreneurial Dynamics." Paper presented at the Babson College/Kauffman Foundation Entrepreneurship Research Conference, Jonkoping, Sweden, June.

Because of the oversight about start-up activity in the comparison group, the CG-ERC subsample (2010 respondents) was dropped in analyses using the SCREENER. In addition, another 40 respondents were dropped from analyses using the SCREENER because of problems with various variables that made these cases suspect. Therefore, the SCREENER reports on analyses using 62,612 respondents.

11 To be labeled as a "nascent entrepreneur" a respondent had to say, "yes" to either one or both of the following questions:

- (1) Are you, alone or with others, now trying to start a new business?
- (2) Are you, alone or with others, now starting a new business or new venture for your employer? An effort that is part of your job assignment?

AND meet three addition criteria:

- a. Were currently active in the start-up effort.
- b. Anticipated full or part ownership of the new business.
- c. The effort had not yet generated a positive monthly cash flow that covered all expenses and owner/manager salaries for more than three months.

The initial stage of the detailed interviews, completed by the University of Wisconsin Survey Research Laboratory, included the third criteria. Only *three-criteria nascent entrepreneurs* received the full 60-minute phone and 12 page self-administered questionnaire. About one-fourth (27 percent) of the two-criteria nascent entrepreneurs were involved with baby businesses, new firms in the first stages of operational existence, and did not qualify as three-criteria nascents. Hence, the actual prevalence rate of three-criteria nascents would be about three-fourths of that of two-criteria nascents.

On the other hand, the three callback criteria utilized in the initial screening — three calls to each randomly selected phone number — led to a lower prevalence rate. The prevalence rate for two-criteria nascent entrepreneurs among three callback respondents was 6.2 per 100, compared to 7.5 per 100 for five to nine callback respondents. This 21 percent higher prevalence rate is statistically significant.

These two sources of attrition may, therefore, offset each other. The prevalence rate of two-criteria nascent entrepreneurs with a three callback operational criteria may be equal to the prevalence rate of three-criteria nascent entrepreneurs with a nine callback operational criteria. The impact of more callbacks on the prevalence rate reflects the extreme time pressures on nascent entrepreneurs, most of whom have a full time role in the labor force at the same time they are trying to start a new business. They are difficult to find and interview precisely because they are so busy trying to implement a new business.

Those that answered “yes” to either (6.1 percent to the first and 2.8% to the second) or both (1.2 percent) of the first two questions were then asked about the first two a + b of the three additional criteria. Analysis of population prevalence rates focus on these *two-criteria nascent entrepreneurs*.

About 87 percent of those respondents that met the a + b criteria provided their first name and phone number for subsequent survey efforts by the University of Wisconsin Survey Research Laboratory in Madison, Wisconsin.

A similar procedure was used to identify candidates for the comparison group, except that all respondents in the sample were offered a chance to participate in a “study of the work and career patterns of all Americans, including those not currently working.” In this case, 62 percent agreed to participate.

In addition to providing candidates for the nascent entrepreneur cohort and the comparison group, the resulting data set includes basic sociodemographic information on the respondent and their household as well as the county and state in which the household was located. This information is used in the analysis of factors affecting the prevalence rates of two-criteria nascents.

If the respondent was involved in several start-up efforts, they were asked to focus on only the most recent start-up effort. *Up to one-third of the nascent entrepreneurs reported simultaneous participation in several start-ups.* A series of four questions were used to determine if the start-up had *not* had positive monthly cash flow that covered expenses and the owner-manager salaries for more than three months.

An infant business was considered to be a business in which the start-up effort had a positive monthly cash flow that covered expenses and salaries for the owner/manager for more than three months (91 days). In the phone interview four questions were asked that were used to make this determination:

1. Question 162: first year in which money, income, or fees were received.
2. Question 164: first year in which there was positive monthly cash flow.
3. Question 165: whether business expenses included owner’s salary.
4. Question 166: first year in which expenses included owner’s salary.

Each of the “year” questions was followed by a corresponding “month” question (162a, 164a, 166a) to specify the timing more precisely.

If so, the effort was considered an infant business and not a start-up effort and respondents were thanked for their time and dropped from the procedure. *Approximately one-fourth (27 percent) of the respondents were dropped at this stage, reflecting the ambiguity associated with the phrase “starting a business.”*

- 12 Potential nascent entrepreneurs were more interested in volunteering for the project than those in the comparison group, 87 percent versus 62 percent; but those in the comparison group were more likely to complete all aspects of the data collection procedure, they have a 10 percent higher return rate on the mailed questionnaires.

The time and effort required to obtain completed phone interviews is indicated by the time lags between the initial screening and the phone interview, which average 51 days for nascent entrepreneurs and 62 days for the comparison group respondents, with a maximum of 250 days. It also is reflected in the lag between completion of the phone interview and receipt of the mail questionnaire, which averages 51 and 37 days, respectively, for nascent entrepreneurs and comparison group respondents, with a maximum of 337 days. Further, the number of contacts required to obtain the phone interviews

averaged 8 for nascent entrepreneurs and 5 for the comparison group, with a maximum of 74. Twenty-five percent of the nascent entrepreneur phone interviews required more than 9 calls and 25 percent of the comparison group phone interviews required more than 7 calls.

Reactions of the respondents were measured in several ways. Nascent entrepreneurs were asked, at the end of the phone interview, how the experience affected their interest in starting a new firm: 59 percent said it increased their interest, 39 percent said it had no effect, and 1.2 percent indicated that it reduced their interest in starting a new firm. In fact, the positive effect may cause some problems, since some of the respondents may claim that participation in the project has increased their interest in entrepreneurship and, because of the content of the interview schedules, their business knowledge as well. Thus, participation may have improved their chances for business success. This is known as the “Hawthorne effect” which argues that a known research focus on work activity may lead to higher levels of productivity. However, it may be offset by the “Heisenberg effect” which holds that collecting data from a phenomenon actually takes energy away from the process under study.

The most difficult information to collect from respondents in survey research are details regarding their household financial status. It is easier to get candid responses about drug use, deviant or extramarital sexual behavior, cheating on income tax returns, and almost any other personal activity. In this project, however, over 95 percent of the nascent entrepreneurs and 98 percent of the comparison group provided information on both household income and net worth. On the self-administered questionnaires returned, 98 percent of the items were completed. In terms of respondent cooperation in survey research in the United States at the end of the twentieth century — this is as good as it gets!

THE PSED DATASETS

13 Analyses based on the full screening sample of 62,612 respondents are labeled as the SCREENER. Analyses of data from the the detailed interviews reflects comparisons among three-criteria nascents of different ethnic backgrounds as well as with appropriate comparison group individuals. The unweighted counts of respondents by ethnic identification are indicated for the two types of analyses in Table B. Analyses conducted on data from the sample of 1,261 (nascent entrepreneurs and comparison group individuals) are labeled as SAMPLE.

The attrition between the screening sample and the detailed data on nascent entrepreneurs reflects losses during the data collection process as well as purposeful sampling from the screened population to enhance the female and minority detailed samples. The slight under-representation of Hispanics in the screening sample reflects the practice, for this study, of restricting all interviews to English.

Ethnic identity was determined in two ways in the two surveys. In the screening interviews, individuals were asked two questions; one related to whether respondents considered themselves white, black, Asian, or other. The second question asked respondents whether they considered themselves Hispanic or Latino: yes or no. In order to create a single variable, any person who responded, “white” or “other” to the first item and “yes” to the Hispanic item was considered Hispanic. Of those in the Hispanic category, 44 percent responded, “white” to the first item, the remainder responded as “other.” Among those retained in the “black” category 3 percent had responded “yes” to the Hispanic item as had 8 percent of those in the “Asian” category. The ethnic identification of the respondents is not, therefore, unambiguous in every case. In the detailed interviews, each respondent answered a single item related to

ethnic identification as white, black, Hispanic, American Indian, Asian, etc. Among those who identified themselves as “white” in the detailed interviews, 92 percent were in the “white” category for the screening interviews; 94 percent of those “black” and “Hispanic” in the detailed interviews were in the same category for the screening interviews. Some of this “switching” reflects a change in actual respondent reporting on the start-up effort, which is often a team initiative and different members of the team (often spouses) were interviewed at these two different points in the data collection process.

HOW MANY START-UP ATTEMPTS IN THE UNITED STATES? TOTAL POPULATION ESTIMATES.

14 See: Reynolds, P. D., Camp, S. M., Bygrave, W. D., Autio, E. & Hay, M. (2001). *Global Entrepreneurship Monitor: 2001 Executive Report*. Kansas City: Kauffman Center for Entrepreneurial Leadership.

15 The details associated with this estimate are presented in Table C (see next page). It involves using the results from the SCREENER sample of 62,612 households to estimate the size of the total population. In order to improve the precision of these estimates, counts were computed for each of four age categories, by gender, for all U.S. adults, whites, blacks and Hispanics. The standard error of the mean was used to provide a range of counts (the 95 percent confidence interval) for each age and gender category. The total number of U.S. residences in each category was multiplied by the prevalence rate from the sample to provide an estimated count; the upper and lower estimates were carried through the computation in the same way.

Table B Number of Respondents by State of Data Collection and Ethnic Background

	Screening Sample: Not Two-Criteria Nascent Entrepreneurs	Screening Sample: Two-Criteria Nascent Entrepreneurs	Detailed Sample: Three-Criteria Nascent Entrepreneurs	Detailed Sample: Comparison Group
Whites	46,289	2,726	492	191
Blacks	5,156	547	210	139
Hispanics	3,519	258	57	69
Asians	1,016	53	11	6
Others	1,427	122	14	20
No Information	1,431	68	46	6
Column Totals	58,838	3,774	830	431
Total Each Sample		62,612 Screener		1,261 Sample

Table C Estimated Number of Two-Criteria Nascent Entrepreneurs in the United States by Age, Gender and Ethnic Identity

	U.S. Count: 1997 (1,000) ^a	Two-Criteria Nascent Entrepreneurs (#/100)	Standard Error of the Mean	Two-Criteria Nascent Entrepreneurs; Estimated (1,000)	95% Confidence Interval, Low (1,000)	95% Confidence Interval, High (1,000)	Age Adjusted Estimate of NE Prevalence Rates (#/100)
ALL							
Men: 18-24 Yrs	12,993	9.1	0.50	1,186	1,059	1,314	
Men: 25-44 Yrs	41,355	10.6	0.30	4,379	4,136	4,623	
Men: 45-64 Yrs	27,705	7.2	0.30	1,989	1,826	2,152	
Men: 65+ Yrs	14,198	1.2	0.20	169	113	225	
Men: All yrs	96,251			7,724	7,135	8,313	8.0
Women: 18-24 Yrs	12,478	4.1	0.30	514	441	587	
Women: 25-44 Yrs	41,939	6.6	0.20	2,764	2,599	2,928	
Women: 45-64 Yrs	29,556	4.3	0.20	1,262	1,146	1,378	
Women: 65+ Yrs	18,203	0.4	0.01	64	60	67	
Women: All yrs	102,176			4,604	4,246	4,961	4.5
All Adults	198,427			12,328	11,381	13,274	6.2
WHITE							
Men: 18-24 Yrs	10,413	8.5	0.60	889	767	1,012	
Men: 25-44 Yrs	34,137	9.9	0.30	3,380	3,179	3,580	
Men: 45-64 Yrs	23,896	6.9	0.30	1,644	1,504	1,785	
Men: 65+ Yrs	12,691	1.2	0.20	147	97	197	
Men: All yrs	81,137			6,060	5,547	6,574	7.5
Women: 18-24 Yrs	9,871	3.7	0.40	364	287	442	
Women: 25-44 Yrs	33,881	6.1	0.20	2,080	1,947	2,213	
Women: 45-64 Yrs	24,936	4.0	0.20	1,002	905	1,100	
Women: 65+ Yrs	17,934	0.3	0.01	61	57	64	
Women: All yrs	86,622			3,508	3,819	3,819	4.0
All Adults	167,759			9,568	8,743	10,393	5.7
BLACK							
Men: 18-24 Yrs	1,915	12.9	1.70	247	183	311	
Men: 25-44 Yrs	5,139	15.9	1.00	816	715	917	
Men: 45-64 Yrs	2,683	9.7	1.20	260	197	323	
Men: 65+ Yrs	1,118	0.4	0.40	4	0	13	
Men: All yrs	10,855			1,327	1,096	1,564	12.2
Women: 18-24 Yrs	1,939	5.6	1.00	110	72	148	
Women: 25-44 Yrs	5,772	9.9	0.80	572	482	663	
Women: 45-64 Yrs	3,336	6.9	0.90	229	170	288	
Women: 65+ Yrs	1,734	0.8	0.50	15	0	32	
Women: All yrs	12,781			925	723	1,130	7.2
All Adults	23,636			2,253	1,819	2,694	9.5
HISPANIC							
Men: 18-24 Yrs	1,915	10.1	1.40	193	140	245	
Men: 25-44 Yrs	5,001	11.4	1.00	570	472	668	
Men: 45-64 Yrs	2,080	7.5	1.50	155	94	217	
Men: 65+ Yrs	740	4.4	2.30	33	0	66	
Men: All yrs	9,736			951	707	1,196	9.8
Women: 18-24 Yrs	1,773	5.1	1.00	90	55	125	
Women: 25-44 Yrs	4,722	5.8	0.80	272	198	346	
Women: 45-64 Yrs	2,262	3.3	0.90	75	35	115	
Women: 65+ Yrs	1,023	0.0	0.00	0	0	0	
Women: All yrs	9,780			437	288	585	4.5
All Adults	19,516			1,388	995	1,781	7.1

a Population counts from Tables 21 and 23 for 1997, Statistical Abstracts of the United States: 1999, 119th Edition.

- 16 Ruef, M., Aldrich, H.E. and Carter, N.M. 2002. Don't go to strangers: Homophily, strong ties and isolation in the formation of organizational founding teams. American Sociological Association, Chicago.
- 17 1999 Statistical Abstract of the United States, Tables 92 & 155
- 18 Reynolds, P.D. & White, S.B. (1977). *The Entrepreneurial Process*. Westport, CT: Quorum Books.
- 19 Per 100 people. Women Sample N = 32,336. Men Sample N = 30,276.
- 20 Prevalence rates for nascent entrepreneurs derived from the SCREENER.

Table D
Prevalence Rates by Gender and Ethnicity (percent)

	White	Black	Hispanic
Women	5.1	8.3	5.1
Men	8.6	13.6	10.3

- 21 Per 100 People. White Women N = 20,246. White Men N = 19,861. Black Women N = 2,773. Black Men N = 2,271. Hispanic Women N = 1,778. Hispanic Men N = 1,759.
- 22 Per 100 People.
- 23 Per 100 People.
- 24 Per 100 People.

REGIONAL FACTORS AND NASCENT ENTREPRENEURSHIP ACTIVITY

- 25 The screening sample of 62,612 respondents is distributed among the 3,124 U.S. counties in proportion to the population of the counties. There are very few counties where the sample is large enough to provide a stable estimate of the prevalence of nascent entrepreneurs, by gender and ethnic background in each county. But, comparisons can be made based on the characteristics of the counties.
- 26 The Chronbach measure of reliability was 0.89, indicating a high level of correspondence among the items as a measure of context for the respondents.
- 27 Prevalence rates for nascent entrepreneurs derived from the SCREENER.
- 28 Differences across the four categories, including the prevalence rate of nascent entrepreneurs is statistically significant at the $p > .0000$ level.
- 29 The correlations between these three features of the context are presented in Table E for the 62,612 respondents. Although all correlations are statistically significant, even the negative correlation of -.13 between population density and population growth, it is clear these reflect rather low levels of association.

Table E
Selected Contextual Factors: Intercorrelations

	Urban Index	Population Density	Population Growth
Urban Index	1.00		
Population Density	0.26	1.00	
Population Growth	0.23	-.13	1.00

- 30 For more details, visit the PSED website at:
<http://projects.isr.umich.edu/psed/>.

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