

losses. What put salt in the wounds for us was the \$90,000 we had to spend on lawyers just to get the bank to sit down with us and admit some culpability.

NEJE: Were you made whole?

Lichter: I cannot divulge the settlement, but my partner and I were not satisfied with the outcome.

NEJE: How long did you struggle financially?

Lichter: Actually, less than two years. It's been a personal triumph for us. We had had stellar credit with all our creditors for nearly 20 years and you can't put a price on that. So after this whole thing blew up, we sent letters to all of our suppliers. Some were understanding and said they would back us. Others were not so kind. However, we carefully managed each account and we're now back on track.

We have downsized our office space, sent the large press which wasn't used to capacity back to the manufacturer and they were willing to work with us. We're down to one shift again and watching quality and customer service like hawks.

NEJE: Do you expect Millennium Graphics to be in business five years from now?

Lichter: I don't like to forecast so far into the future, but, yes, I believe we will be in business and I'd like to think we will be thriving once again. We've been through so much and my partner and I still feel we're vulnerable to outside forces over which we have no control. That's scary in some ways, but it's no different for any other small business operation.

NEJE: How do you keep up your morale? How do you come to work each day with the energy and focus to make it all work?

Lichter: What choice do I have? I'm not just going to walk away after devoting 22 years of my life to building this company. We have a business, a responsibility to our employees, our clients, our suppliers, and to our families. You don't simply walk away from a business that once stood so tall and say, "Aw shucks." We're here for today and I expect for many days to come. We've learned a lot, bounced back, and perhaps some day we'll be stronger and even more profitable than ever before. You've got to believe in things like that or why would anyone work so hard and take the risk of going into business for themselves?

—L. W.

Entrepreneurial Women and Life Expectancy

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Sandra Lueder

This article explores whether the longevity phenomenon experienced by entrepreneurial women born between 1720 and 1940 can be explained by the life circumstances of these women or whether other research may provide better insights into their remarkable tenacity. The characteristics of hardiness, resiliency, and self-efficacy should be examined as well as the newly developing research theories of perseverance in the face of adversity to determine which are most appropriate in explaining what is clearly female entrepreneurial endurance.

Recent historical research into the lives of entrepreneurial women (Oppedisano 2000) unveiled a dramatic fact: 97 percent of the profiled women born between 1720 and 1940 surpassed the life expectancy of their generation—and, for the most part, by large margins. This article delves into whether the longevity phenomenon is easily explained by the life circumstances of these women (e.g., being born into affluence, living in a physically safe time/environment, choosing low-stress career paths, not getting pregnant). It also explores whether the research on hardiness, resiliency, self-efficacy, and perseverance in the face of adversity provides insights into possible alternative explanations for the long lives of these women.

Introduction and Background

Commonly identified factors that contribute to life expectancy are heredity, lifestyle, health and health care opportunities, affluence, marriage, stress management, and personality. According to gerontologist Kevan Namazi, 20 to 30 percent of the success of living a long life is based on heredity, 50 percent on lifestyle, with the balance influenced by factors such as socioeconomic status and strong social ties (Schneider 2002). "All along the social class gradient, at each of its levels, richer and more socially prominent people live longer than poorer and less advantaged people...even in the advantaged group, those higher up in the hierarchy are healthier than those lower down," reports Shelley Taylor, professor of psychology (Taylor 2002, 163).

Additionally, starting an entrepreneurial venture has substantial negative impact on not only the entrepreneur, but on the spouse and family because of conflicting needs/demands of business interests and family commitments (Kuratko and Hodgetts 1995; Liang and Dunn 2002). This family pressure is supported in research

conducted by Liang and Dunn (2002). When they posed the question to entrepreneurs of whether they would start a business again, of those who responded affirmatively, more than 50 percent cited not enough time for spouse and children as a problem. Of those who would not start such a venture again, the numbers climbed to 61 percent and 72 percent, respectively. Taylor's research on health and stress highlights the importance of social ties for women. She points out that women and men respond differently to stress. Instead of a "flight or fight response" typified by men, women respond in a nurturing manner referred to as the "tending instinct" (Taylor 2002).

Ecological Approach to Assessing Longevity Factors

Dr. Robert Butler, president and CEO of the International Longevity Center, brought together a group of researchers and experts in medicine and public health to explore the factors that contribute to a healthy life. Among their suggestions was that an expanded, ecological approach be used to effectively assess the dynamics involved. (See Figure 1.) They noted that it was a necessity to identify "...behavioral determinants including psychological factors...interpersonal processes, primary social groups...institutional factors...community factors, public policies, and physical environmental factors (Butler 2000, 13).

Ecological Approach Applied to Profiled Female Entrepreneurs

This section explores physical environmental factors, the historical context, social factors, and capacity of individual and resources that influenced the longevity of entrepreneurial women.

Physical Environmental Factors

Women born in the 1700s to the 1800s were primarily "frontier" immigrant women living through all of the dangers such a label implies. Women like Ann Lee, Mary Donoho, Abigail Dunaway, and Freda Ehmann crossed oceans, continents, mountains, and rivers by boat, wagon train, horseback, or early railcars often in the face of possible attack by robbers, Indians, or persons of malicious intent. Others were born into or were children of slavery; for example, Madame C. J. Walker, Lucy Laney, Clara Brown, Elizabeth Keckley, and Mary Ellen Pleasant.

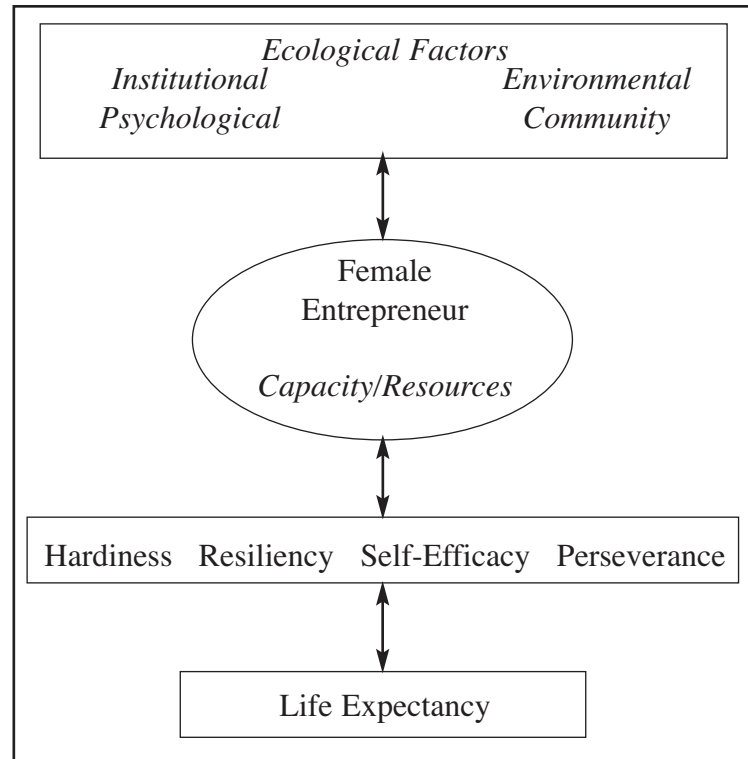


Figure 1. A Conceptual Model of Female Entrepreneurs and Life Expectancy

Additionally, even women born into privilege, such as Henriette Delille, Juliette Low, Jane Addams, Lucy Scribner, and Katherine Drexel, gave their money away and, in the cases of Delille, Addams, and Drexel, chose to live in poverty to support their “missions.” Their goals might seem exaggerated if we could not place them in the historical framework in which these women found themselves.

Historical Context

For the first two centuries covered in this data, many women died because of the medical care of the times; for example, dying in childbirth, being medically diagnosed incorrectly because of the “dictates of Victorian prudishness” (Stage 1979, 78), or succumbing to infectious diseases in these preantibiotic days. Thus, when we review the life circumstances of the profiled women, we might wonder why they did not die young because so much was going against them in terms of health care. Juxtapose this with the following facts about some of these women.

Childbirth. Giving birth was a dangerous, life-threatening experience for women in the 18th and 19th centuries. However, Ann Lee (1736–1784), founder of the Shaker movement, gave birth to four children; Lydia Pinkham

(1819–1873), founder of the Lydia Pinkham Medicine Company, had four; Clara Brown (1803–1885), a former slave who became the owner of a number of laundry businesses and mining companies, had four; Rebecca Lukens (1794–1854), champion of the Lukens Steel company, had five; Mary Donoho (1807–1880), proprietress of the Donoho Hotel, had six; Abigail Duniway (1834–1915), founder/publisher of the *New Northwest* newspaper, had six; and Ninnie Baird (1869–1961) initiator of Mrs. Baird’s Bakeries, had eight.

Early Medical Practices. Medical practices during the early period of the United States were in the beginning development stages of this scientific endeavor; surgical instruments were not sterilized, bloodletting was practiced, and the doctors (almost entirely men) were not supposed to look at the naked body of a female. Juliette Low (1860–1927) had an ear infection that led to deafness, yet she founded the Girl Scouts of America. Julia Morgan (1872–1957), who led her own architectural firm for more than 46 years, had an “altered” line to her face because of a bone infection behind the ear. Susan La Flesche Picotte (1865–1915), the first female Native American medical doctor, became deaf and eventually died following a long struggle with cancer. The Walthill hospital she initiated in Nebraska was renamed the Dr. Susan Picotte Memorial Hospital in her honor.

Infections. Infections developed and spread quickly because those living in the 17th, 18th, and early 19th centuries did not have antibiotics or even widely practiced sanitation methods. Henriette Delille (1813–1862), founder of the Order of the Sisters of the Holy Family—a religious community for women of color as well as a school, hospital, and home for the sick, aged, and poor—suffered from pleurisy throughout her life. Susan Anderson, M.D. (1860–1960), went to Colorado because she was suffering from tuberculosis. Here she set up a frontier medical practice and survived calamities such as a diphtheria epidemic, an avalanche, blizzards, and mountain lions as she served her patients throughout this nascent state until she was 48 years old. Dr. Elizabeth Blackwell (1821–1912) was the first female medical doctor in the United States and the cofounder of the New York Infirmary for Women and Children. She had wanted to be a surgeon, but an eye disease she caught from a patient during her residency in France led to blindness in one eye.

Even though some people would be overwhelmed with such hurdles, none of these life experience factors limited what these women went on to accomplish. In fact, some of these negative dynamics could be viewed as “triggering events”—catalysts toward the ultimate entrepreneurial ventures of these women.

Social Factors

In addition to the physical and medical constraints noted above, a number of the women in this database suffered discrimination through racism, legal limitations, and gender-role expectations.

Racism. Henriette Delille (1813–1862) was a quadroon; that is, she was a woman of mixed blood who “passed” for white. She had access to money, education, etc. However, because she wanted to educate “Negroes,” she risked not only her own possible imprisonment but disgrace for her prominent family because of the laws forbidding education of those in bondage. And, in fact, her family disowned her because of her chosen mission. Clara Brown, was a slave until her owners freed her at the age of 57. Well aware that her newly acquired status was tenuous because of “nigger traders”—people who would steal former slaves’ legal documents and resell them as runaways—Brown went west to Colorado. Once she earned enough money through her many and varied businesses to go back to Kentucky, Brown risked her life on many occasions to bring other freed blacks out west and help them get established with jobs and homes. Mary McLeod Bethune (1875–1955) was the 15th of 17 children born to her parents and the first to be born free. She went on to initiate the Daytona Literary and Industrial Training School for Negro Girls, Bethune–Cookman College, and McLeod Hospital and Training School for Nurses. Yet, racism was ever present in her life. As a young girl, she had been taunted and assaulted. As a young woman, she was denied her dream of becoming a missionary in Africa because the Presbyterian Church “had no openings for black missionaries” on that continent. As an established educator, she and her students were threatened by the Ku Klux Klan.

Illegal Actions. Illegal actions and legal constraints also were perpetrated on some of the entrepreneurial women. In assessing these experiences, we must remember that these women lived in times when females were considered a property of their fathers or husbands and did not yet have the right to vote. Harriet Hubbard Ayer (1849–1903), initiator of her own international cosmetics firm, was illegally declared mentally unfit and institutionalized. She went on to become a vocal advocate for the mentally ill. At the age of 21, Martha Coston’s (1826–1902) husband died, leaving her with three small boys to raise. She soon discovered she was penniless because her husband’s partners had swindled her of his assets. She went on to invent the Coston maritime signals and founded the Coston Supply Company. While still a teenager, Eliza Pinckney (1722–1793) was left in charge of her father’s plantation as well as the care of her mother and sibling. Since she had always been fascinated with botany, Eliza experimented with plants and eventually discovered how to successfully farm indigo in South Carolina, which then became a “cash crop” for that state. However, her overseer went to great lengths to sabotage her early efforts because of his loyalty to his native country, the island of Montserrat—the original source of the indigo harvest.

Gender-Role Expectations. In addition to the gender constraints noted above, female children had extremely limited access to education if they had any access at all. Emma Willard (1787–1870) was one of the first to change

this. Although she had actually begun to teach at the age of 16, Willard started her first school, Middlebury Female Seminary, when she was 27. She advocated that girls be taught such “nontraditional” subjects as science, mathematics, and social studies. Religion was another arena where females had limited opportunities until women like Ann Lee (1736–1784), the Shaker religion founder, and Aimee Semple McPherson (1890–1944), architect of the International Church of the Foursquare Gospel, chose this line of work. According to Oppedisano, Lee’s American persecutors had great difficulty accepting that a woman would choose to take this path. To “test their theory that she *had* to be a man in disguise, they tore her clothes and beat her across the chest—once in front of a judge in a court of law, and he didn’t object” (2000, 159). Even centuries later, Molly Haley (1942) was still feeling the constraints of being born female. In 1967 she was married and a schoolteacher, but had to leave her job when she became pregnant because women were not allowed to teach in this “condition.” She went on to establish Marblehead Handprints with her friend, Kathy Walters, a business that they shared for almost 25 years.

Capacity of Individual and Resources

In analyzing the life factors of these women, we must also consider the dynamics of an entrepreneurial venture itself. From the earliest definition of entrepreneurship to those frequently utilized now, such ventures incorporate starting an entity, taking risk (human, physical, and financial), and having an economic impact (Cantillon, in Brewer 1992). Certainly such an undertaking produces significant stress that puts strain on the entrepreneur’s body, mind, and spirit. For those willing to take on such responsibility, this choice could have a negative impact on overall life expectancy.

Once again, however, the women entrepreneurs seem to contradict such assumptions. In fact, some of these women did not even start their ventures until they were “past their prime”—that is, in their late 50s and beyond. Clara Brown was a slave until she was almost 60, yet she went on to become a noted miner, philanthropist, and elected member of the Colorado Pioneer Association. At 58, Freda Ehmman (1839–1932) was widowed and deeply in debt from investing in her son’s agricultural dream. Yet, with no relevant educational background, she went on to invent the process for preserving olives, initiated the Ehmman Olive Company, and was later acknowledged as the “mother” of the California ripe olive industry. Mary Baker Eddy founded the Church of Christ Scientist in 1879 when she was 58, and left an estate of \$2.5 million when she died at the age of 89. Her international church and its related enterprises are still thriving. In 1890, Amanda Theodisia Jones (1835–1914), age 55 and the holder of over six patents, started the United States Women’s Pure Food Vacuum Preserving Company. Clara Hale (1905–1992) began Hale House, a residential treatment center for drug-addicted babies, when she was 65 years

Table 1

Life Expectancy v. Actual Life Span for Women Entrepreneurs

Life Expectancy at Birth	Age at Death	Race/Ethnicity ¹	Entrepreneur ¹	Life Span ¹
1700-1799 25-35 ²	48	Caucasian	Lee, Ann	1736-1784
	60	Caucasian	Lukens, Rebecca	1794-1854
	71	Caucasian	Pinckney, Eliza	1722-1793
	83	Caucasian	Willard, Emma	1787-1870
1800-1899 35-45 ³	35	Caucasian	Smith, Elizabeth Drexel	1855-1890
	47	Caucasian	Seymour, Mary	1846-1893
	49	African American	Delille, Henriette	1813-1862
	50	Native American	Picotte, Susan La Flesche	1865-1915
	52	African American	Walker, Madame C./Breedlove	1867-1919
	54	Caucasian	Pinkham, Lydia	1819-1873
	54	Caucasian	Ayer, Harriet Hubbard	1849-1903
	54	Caucasian	McPherson, Aimee Semple	1890-1944
	67	African American	Walker, Maggie Lena	1867-1934
	67	Caucasian	Low, Juliette	1860-1927
	70	Caucasian	O'Neill, Rose	1874-1944
	70	Caucasian	Rudkin, Margaret	1897-1967
	72	Caucasian	Stinson, Emma	1868-1940
	73	Caucasian	Donoho, Mary	1807-1880
	75	Caucasian	Addams, Jane	1860-1935
	76	Caucasian	Coston, Martha	1826-1902
78	Caucasian	Scribner, Lucy Skidmore	1853-1931	
79	Caucasian	Jones, Amanda	1835-1914	
79	African American	Laney, Lucy	1854-1933	
79	Caucasian	Stinson, Marjorie	1896-1975	
80	Caucasian	Morrell, Louise Drexel	1863-1943	
80	African American	Bethune, Mary McLeod	1875-1955	
81	Caucasian	Duniway, Abigail	1834-1915	
82	African American	Brown, Clara	1803-1885	
82	Caucasian	Strong, Harriet	1844-1926	
82	Caucasian	Emery, Mary	1845-1927	
83	Caucasian	Day, Dorothy	1897-1980	
85	Caucasian	deWolfe, Elsie	1865-1950	
85	Caucasian	Morgan, Julia		
1872-1957	85	Caucasian	Everleigh, Ada	1875-1960
	85	Caucasian	Stinson, Katherine	1891-1977
	89	African American	Keckley, Elizabeth	1818-1907
	89	Caucasian	Blackwell, Elizabeth	1821-1912
	89	Caucasian	Eddy, Mary Baker	1821-1910
	90	African American	Pleasant, Mary Ellen	1814-1904
	92	Caucasian	Baird, Ninnie	1869-1961
	93	Caucasian	Ehmann, Freda	1839-1932
95	Caucasian	Behrman, Beatrice	1895-1990	
97	Caucasian	Bulliff, Dorothy Stinson	1892-1989	

Table 1 (con't.)

Life Expectancy at Birth	Age at Death	Race/Ethnicity ¹	Entrepreneur ¹	Life Span ¹
	97	Caucasian	Graham, Martha	1894-1991
	99	Native American	Martinez, Maria	1881-1980
	100	Caucasian	Anderson, Susan	1860-1960
1900-1940 49-67 ⁴	56	Caucasian	Graham, Bette Nesmeth	1924-1980
	85	Caucasian	Ash, Mary Kay	1916-2001
	87	Caucasian	Hale, Clara	1905-1992
	98	African American	Austin, Hattie Moseley	1900-1998
Still Living...	63	Asian	An, Helene	1938
	67	Caucasian	Hinds, Catherine	1934
	67	Caucasian	Steinem, Gloria	1934
	71	Caucasian	Siebert, Muriel	1930
	71	Caucasian	Treganowan, Lucille	1930
	74	Caucasian	Vernon, Lillian	1927
	75	Caucasian	Billings, Patricia	1926
	78	Caucasian	Caplan, Frieda	1923
	81	African American	Stewart, Ellen	1920
	91	Caucasian	Duss, Vera	1910

1. Oppedisano, J. 2000. *Historical encyclopedia of American women entrepreneurs 1776 to the present*. Westport, CT: Greenwood Press.
2. Adapted from the U.S. Census Bureau. 1995. *Sixty-five plus in the United States*, <http://www.census.gov/socdemo/www/age-brieflhtml> (accessed July 11, 2001).
3. Adapted from the U.S. Census Bureau. 1975. *Historical statistics of the United States: Part I*; Vinovskis, M., ed. 1979. *Studies in American historical demography*. New York, NY: Academic Press.
4. Adapted from the Berkeley Mortality Database. 1998, <http://www.demog.berkeley.edu/wilmoth/mortality/overview.html> (accessed July 11, 2001); U.S. Government, National Vital Statistics Report. 1999. *Estimated life expectancy at birth in years, by race and sex: Death-registration States, 1900-28, and United States, 1929-97*: 32-33.

old. And Patricia Billings (1926) initiated the Geobond Company, a chemical research facility, as she was turning 70.

Although primarily only one example of life circumstances is presented in the text for each of these women, most of them experienced multiples of these factors such as death of or divorce from a spouse, racism and sexism, poverty, danger, poor health as well as shouldering responsibility for parents, children, and community. Thus, their life expectancy should be shorter than what was projected for their contemporaries, not longer. (See Table 1 for a listing of these women, their life expectancy at birth, and their age at death.)

Toward a Better Understanding of Life Expectancy and Women Entrepreneurs

The women entrepreneurs born between 1720 and 1940 who were profiled by Oppedisano (2000) lived much longer lives than their generational counterparts (see Table 2). Their significant successes in the face of great adversity may be due to their innate personalities. It certainly

appears that, rather than being overcome or defeated by adversity, these women turned stressful events into life-changing possibilities and opportunities for their personal and professional development and that of others around them.

Some might argue that longevity of entrepreneurs cannot be compared directly with the general population life expectancy at birth because the former suffers from a form of survivor bias. However, the differences in Table 2 are so great that further research is warranted to understand their causes.

Research on hardiness, resiliency, self-efficacy, and perseverance in the face of adversity holds much promise in understanding the factors that contributed to the long lives of the profiled women entrepreneurs. Four major research constructs emerge about which greater understanding is needed for the relevant contribution to life expectancy for female entrepreneurship.

Hardiness

Research was initiated on the hardiness concept in the mid-1970s by Salvatore Maddi at the Illinois Bell

Telephone Company. Psychologist Suzanne Kobasa expanded this work, identifying psychological hardiness as a critical factor in an individual's well-being. Indeed, the "hardy personality" has been conceptualized as a source of resistance to the negative effects on health of stressful life events (Kobasa and Puccetti 1983) which enables individuals not only to cope but to thrive during the stress of adverse life events. These "hardy" personalities are able to turn life-changing situations into positive, transformational experiences.

Kobasa (1979) proposed that hardiness is a constellation of personality characteristics that function as a resistance source in the encounter with stressful life events. Three personality dispositions characterize hardiness: commitment, control, and challenge.

Commitment. Commitment is the tendency of individuals to involve themselves in, rather than experience alienation from, whatever they do or encounter. Perhaps the most important result of this deep involvement in their life activities is their refusal to give up easily when under pressure.

Control. This attribute is expressed as the tendency of individuals to feel and act as if they are influential, rather than helpless, in the face of the varied situations and adversities of life (Kobasa, Maddi, and Kahn 1982). They evaluate a particular event in the context of an overall life plan, thus lessening the potential disruptiveness of any single occurrence.

Challenge. Challenge manifests itself in the belief that change is a normal occurrence that offers interesting incentives to growth and transformation of the self rather than threats to security (Kobasa 1979; Kobasa, Maddi, and Kahn 1982; Kobasa and Puccetti 1983.) Therefore, "hardy" people are enabled by their perceptions to evaluate and cope in a manner that leads to successful resolution of the situation created by stressful events (Kobasa and Puccetti 1983).

Hypothesis 1: Hardiness is positively related to longevity of female entrepreneurs.

Resiliency

Resiliency is the ability of individuals to survive and thrive despite exposure to negative circumstances (Garnezy, Masten, and Tellegen 1984; Hollister-Wagner, Foshee, and Jackson 2001). Because resiliency is characterized by good outcomes in spite of serious threats to adaptation or development, resiliency research tries to understand the processes that account for these good outcomes (Masten 2001).

To be considered resilient, an individual must have experienced current or past hazards (e.g., maltreatment or violence) judged to have the potential to derail normative development (i.e., there must be demonstrable risk; Masten 2001). Additionally, there are different ways in which the relationship between risk and protective factors (e.g., importance of religion, self-esteem) might predict behavior.

Interestingly, it has already been observed that there may be gender differences in the resiliency process. For example, Masten et al. (1988) found that females were exposed to more negative life events than males before they experienced negative effects on their behavior. Others have found that females may be more resistant than males to the negative impact of risk (Masten 2001). This finding is particularly intriguing when trying to understand why women entrepreneurs beat the life expectancy odds by such great margins.

Hypothesis 2: Resiliency is greater among female entrepreneurs than among other females, male entrepreneurs, and other males.

Self-Efficacy

An individual's belief in her or his capability to perform a specific task is referred to as *self-efficacy* (Bandura 1977; Holmes and Masuda 1974). Research on self-efficacy suggests that this characteristic has important implications for work motivation. Because feelings of self-efficacy necessarily have an impact on the difficulty of goals selected by individuals, the more difficult and challenging goals tend to be chosen by those with higher self-efficacy. Similarly, individuals who have high self-efficacy tend to respond to negative feedback with increased effort and motivation. Thus, persons with greater self-efficacy are likely to work harder to overcome diseases and other threats to their lives, are more likely to choose riskier opportunities, and are more likely to stay at a task until completed successfully.

Hypothesis 3: Self-efficacy is positively related to longevity of female entrepreneurs.

Perseverance

Recently, Markham, Baron, and Balkin (2001) linked the concept of self-belief with determination and posited a new measurement tool for studying entrepreneurs—an adversity quotient. They suggest that the ability of the entrepreneur to persevere in the face of adversity is a determinant

in her or his success in this type of endeavor and that this can be assessed. The physical/environmental, historical context, and social factors identified in this article coupled with the examples of entrepreneurial women who succeeded in spite of multiple adverse circumstances demonstrate this concept. This emerging body of research is promising for the question being pursued: What factors contribute to the longevity of women entrepreneurs in spite of what would appear to most people to be insurmountable obstacles?

Hypothesis 4: Perseverance is positively related to longevity of female entrepreneurs.

Summary and Conclusions

Since this article provides a limited analysis of those entrepreneurial women born between 1720 and 1940 contained in Oppedisano's (2000) research, further study should be directed toward providing greater insights into the longevity factors brought to light here. If, as Oppedisano (2000) and Masten (2001) suggest, entrepre-

neurial women/resilient women might possess characteristics unique to their gender, then what are they, and can they be learned? This would necessitate a comparable historical review of male entrepreneurs for comparative analysis. Based on the data in Table 2, demographers should analyze characteristics of the population from an innovative, entrepreneurial perspective. Longitudinal research on both female and male entrepreneurs born between 1940 to 1980 should also be analyzed for hardiness, resiliency, self-efficacy, and perseverance. This article has presented several hypotheses from which researchers could build an empirical research stream to further understanding of the relationship of gender-based factors and entrepreneurial life expectancy.

As the researchers reviewed the lives of the selected entrepreneurial women, they could not help but be impressed by the women's remarkable tenacity in the face of great adversity. Their lives are testament to the power of the human spirit—a power that, perhaps, can be explained, if only in part, by exploring the applicability of hardiness, resiliency, self-efficacy, and perseverance in the face of adversity. It is their hope that this research challenge will be undertaken so that further understanding of the uniqueness of the female entrepreneur will be attained.

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Time Period	General Population Average Life Expectancy at Birth (years)	Studied Entrepreneurs Average Life Years at Death
1700-1799	30	65.5
1800-1899	40	76.7
1900-1940	58	81.5

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Someone Old or Someone New? The Effects of CEO Change on Corporate Entrepreneurship

J. L. Morrow, Jr.

Boards of directors often attempt to foster corporate entrepreneurship by replacing a firm's chief executive officer (CEO). Compelling theoretical arguments and anecdotal evidence suggest that when firm performance has suffered, a new CEO is best suited to lead the firm's creative endeavors. On the other hand, among firms that retain their existing CEO after a decline in performance, manipulating the CEO's compensation package is a common governance practice used by boards to encourage innovation. In these cases, some have argued that increasing the CEO's pay will encourage corporate entrepreneurship, because the CEO has been compensated for assuming additional risk. Counter to these propositions, this study develops theoretical arguments that a firm's existing CEO is better equipped to foster corporate entrepreneurship and that this probability increases when the CEO's cash compensation is decreased. Results from a sample of 100 single-product manufacturing firms suggest firms that retain their current CEO and decrease the CEO's cash compensation are most likely to engage in corporate entrepreneurship. Implications that this research has for corporate entrepreneurship, corporate governance, and firm performance are discussed.

The CEOs of profit-seeking organizations are charged with organizing the firm's resources to create value. This has prompted some researchers to theorize about the CEO's role in corporate entrepreneurship (Brazeal and Herbert 1999; Floyd and Wooldridge 1999; Greene, Brush, and Hart 1999; Stopford and Baden-Fuller 1994). While no published research has considered the impact of CEO succession on the process of corporate entrepreneurship, a large body of research has explored the relationship between CEO change and subsequent organizational change (Miller 1993; Tushman and Romanelli 1985; Virany, Tushman, and Romanelli 1992). Some of this research has focused on executive succession following a decline in firm performance (Barker and Duhaime 1997; Goodstein and Boeker 1991). The prevailing wisdom seems to be that when firms experience a period of declining performance, they should change their CEOs as a first step in bringing about strategic organizational change. In support of this argument, an abundance of literature suggests new CEOs are more likely to undertake new strategic initiatives than old CEOs (Ford and Baucus 1987; Starbuck, Greve, and Hedberg 1978; Tushman and Romanelli 1985). Many examples also exist in the popular press of new CEOs who have successfully

brought about strategic organizational change (Iacocca 1984; Sager 1994). However, some research suggests that existing CEOs may be best suited to lead the organization's creative endeavors (Amburgey, Kelly, and Barnett 1993; Sutton, Eisenhardt, and Jucker 1986; Virany et al. 1992).

Consistent with research in organizational creativity (Woodman, Sawyer, and Griffin 1993), corporate entrepreneurship is the outcome of a complex interaction among individuals, groups, and the organization; and it seems clear that corporate entrepreneurship is affected by a large number of variables. However, it seems equally clear that the knowledge base and level of expertise possessed by individuals within the organization should also be a critical component necessary for corporate entrepreneurship. (Amabile 1979; Castanias and Helfat 1991; Greene et al. 1999; Penrose 1959). Indeed, Nonaka (1994: 21) argued that the individual is the "prime mover in the process of organizational knowledge creation" and that the quality of tacit knowledge possessed by individuals is critical to the creation of new strategies. Thus, firm-specific tacit knowledge may be used to formulate valuable organizational strategies, but such knowledge can only be developed by repeated experiences with an organization's routines (Nelson and Winter 1982).

The following quotation, attributed to Sir Joshua Reynolds (1732–1792), illustrates the important role that individuals play in the creation of value: "Invention is little more than a new combination of those images which have been previously gathered and deposited in the memory. Nothing can be made of nothing. He who has laid up no material can produce no combination" (quoted in Offner 1990). Reynolds was suggesting that the knowledge and information possessed by individuals, which may be viewed as the sum of one's life experiences, is a crucial element in creative behavior. However, the question addressed in this study is whether individuals who currently lead an organization, or individuals newly appointed to lead an organization, are most likely to have the greatest relevant stocks of knowledge and information that are useful for corporate entrepreneurship. Also examined is the question of what type of governance mechanism is most likely to provide the CEO with the proper incentive to lead and foster corporate entrepreneurship within the organization. In other words, it is not sufficient that new CEOs just bring about changes in the organization, but most importantly, these changes should create value that has the potential to be a source of sustained competitive advantage.