

# Rural Ethnic Entrepreneurship

*A Spatial Networks Approach to Community Development*

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## ***PREFACE***

This document presents our work around ethnic entrepreneurship in rural Mendocino County, California. Mendocino was selected as a representative example for issues common to many rural communities attempting to shift their economies from traditional resource-based extraction to other forms of business by leveraging their local resources and human capital. More information about the processes and tools developed through and used in this effort, a web site, [www.peopleplaceandbiz.org](http://www.peopleplaceandbiz.org) serves as an excellent starting point to further explore the resulting “Biz Tool” providing an overview of key steps.

This work was generously supported by the Ford Foundation. We would especially like to thank Mr. Wayne Fawbush of the Ford Foundation for his support and guidance throughout this project. Of course none of this would have been possible without the input of numerous business owners and community members throughout Mendocino County. We are extremely grateful to all who participated in this project by contributing their knowledge of their own communities and issues via a variety of phone and in-person interviews as well as during the public participation mapping sessions. The PPGIS sessions were essential in the development and ground truthing of the information contained in this document and the tools developed through this process.

We would like to thank Dr. Erick Eschker, Professor and Chair, Department of Economics, Humboldt State University for his assistance in the compilation and analysis of economic data. Thanks also to Humboldt State University graduate students Sarah M. Keeble, Jason M. Barnes and Lindsay Weymouth. Without their exceptional research and data analysis skills, this project would not have been possible. Thanks also to the Humboldt State University students who assisted with field-work on this project, Dimitra Zalarvis-Chase, Jessica Lamb, Marieshka Barton, Wendy Calderon, Cory DeLellis and Jenny Mayberry.

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# ***Contents***

PREFACE .....	i
LIST OF FIGURES .....	vii
LIST OF TABLES .....	ix
EXECUTIVE SUMMARY .....	1
Introduction .....	1
Methods .....	1
Results .....	2
Final Products .....	2
Conclusions .....	3
Recommendations .....	3
RESEARCH TEAM .....	7
Principal Investigators .....	7
Project Staff .....	8
PROJECT REPORT .....	9
PROJECT PURPOSE .....	11
Economic Development and Rural California Entrepreneurship .....	11
Entrepreneurship as a Community Strength .....	11
STUDY SITE BACKGROUND .....	13
Economic Snapshot of Mendocino County .....	14
Demographic Indicators .....	14
Economic Indicators .....	16
Mendocino County’s Latino Community .....	27
RELEVANT LITERATURE .....	29

Literature on Latino Entrepreneurship .....	29
Triple Bottom Line .....	30
Rural Entrepreneurship.....	31
Enterprise Development.....	33
A Need for Policy Regarding Entrepreneurial Growth in Rural Areas .....	33
Ethnic Entrepreneurship .....	34
Social Entrepreneurship.....	37
Sociospatial Entrepreneurship.....	39
Networks.....	40
THEORETICAL MODEL .....	45
Place .....	45
Industry .....	45
Ethnic Community.....	46
Social Networks.....	46
Entrepreneurship Success.....	47
RESEARCH METHODS.....	49
Pre-Research Community Conversations .....	50
Survey and Interview Question Development.....	51
Secondary Data .....	51
Sampling.....	51
Public Participation Geographic Information Systems (PPGIS) .....	52
Meeting #1: Places of Engagement .....	52
Meeting #2: Mapping Community Needs and Identifying Community Member Skills	53
Surveys and Field Work.....	53

Measures of Success .....	55
Theory of Entrepreneurship .....	56
Spatial Analysis.....	57
SAMPLE DESCRIPTION.....	59
Ethnicity .....	59
Gender .....	60
Age .....	60
Education .....	61
Industry Classification .....	61
Place Born .....	62
Length of Residence.....	63
Business History and Background.....	63
Current Business Information .....	70
Business Market Information .....	71
Business Success and Advice .....	72
Business Service to the Community.....	82
Participation in the Financial System.....	82
Networks.....	83
Business Technology Connectedness .....	85
PRIMARY DATA ANALYSIS .....	87
Business History and Background.....	87
Entrepreneur Background .....	88
Current Business Information.....	90
Business Market Information .....	92

Business Success and Advice .....	93
Business Service to the Community.....	102
Participation in Financial System .....	102
Networks.....	102
Business Technology Connectedness .....	104
SPATIAL ANALYSIS.....	105
CONCLUSIONS AND RECOMMENDATIONS.....	107
Importance of social networks .....	107
Business type, motivation and owner characteristics .....	108
Entrepreneurial Success.....	109
Spatial Differences .....	109
Recommendations .....	110
Study Limitations .....	112
Final Products.....	113
WORKS CITED.....	115
APPENDIX .....	123



## ***LIST OF FIGURES***

Figure 1: California and Mendocino County Poverty Rates Between 2003 and 2007 .....	22
Figure 2: California Poverty Levels by Race, 2000 .....	23
Figure 3: Mendocino County Poverty Levels By Race, 2000.....	24
Figure 4: Theoretical Model for Explaining Successful Rural Ethnic Entrepreneurship .....	45
Figure 5: Sample Field Work Map: Business names and addresses have been removed from this map to maintain confidentiality.....	54
Figure 6: Example of one mile buffer about major roads in Ukiah, California used to determine businesses to visit in person versus placing on call list to contact by phone. ....	55
Figure 7: Ethnicity of Study Participants (N = 132) .....	59
Figure 8: Gender of Study Participants (N = 130) .....	60
Figure 9: Education Levels of Study Participants .....	61
Figure 10: Industry Classification of Study Participants' Businesses .....	62
Figure 11: Study Participants' Occupation Prior to Self-Employment.....	64
Figure 12: Study Participants' Total Business Start Up Costs .....	66
Figure 13: Study Participants' Sources of Initial Funding .....	67
Figure 14: Business Start Up Motivations of Study Participants .....	69
Figure 15: Sources of Business Advice for Study Participants .....	73
Figure 16: Study Participants Definitions of Entrepreneurial Success.....	75
Figure 17: Study Participants' Biggest Entrepreneurial Challenges.....	77
Figure 18: Study Participants' Advice for Nascent Entrepreneurs .....	79



## ***LIST OF TABLES***

Table 1: Population Changes in California and Mendocino County Between 2004 and 2009 .....	15
Table 2: Population Changes in California and Mendocino County Between 2004 and 2009 by Race .....	16
Table 3: Mendocino County - December Employment Statistics By Area, 2009 Not Seasonally Adjusted.....	17
Table 4: California and Mendocino County: December Employment Statistics - 2004 to 2009, Not Seasonally Adjusted.....	17
Table 5: California Employment Class – 2000 and 2008 .....	18
Table 6: Mendocino County Employment Class: 2000 and 2008 .....	18
Table 7: California Industry Employment .....	19
Table 8: Mendocino County Industry Employment .....	20
Table 9: California and Mendocino County Income Levels.....	21
Table 10: Number of Employees by Size of Business, 2004 and 2008.....	25
Table 11: California: Percent of Businesses Ownership by Race, 2002 .....	25
Table 12: California: Race of Minority Business Owners, 2002 .....	26
Table 13: California: Minority Owned Businesses by Industry, 2002 .....	27
Table 14: Age of Study Participants .....	60
Table 15: Place Born of Study Participants .....	62
Table 16: Study Participants’ Mean Length of Residence in Mendocino County.....	63
Table 17: Prior Business Ownership of Study Participants .....	63
Table 18: Founding Status of Study Participants’ Businesses .....	64
Table 19: Year in Which Study Participants’ Businesses Were Started or Acquired .....	64
Table 20: Mean Years of Experience in Current Line of Work of Study Participants .....	65

Table 21: Use of a Business Plan for Study Participants .....	65
Table 22: Number of Current Owners for Study Participants’ Businesses .....	67
Table 23: Family Help in Getting Study Participants’ Businesses Started.....	67
Table 24: Number of Study Participants’ Family Members Who Are Also Business Owners	68
Table 25: Themes for Responses to the Question, “Why did you start this business?” .....	69
Table 26: Days Per Week Study Participants’ Businesses Are Open.....	70
Table 27: Days Per Week Study Participants Are Present at Their Business .....	70
Table 28: Study Participants’ Mean Number of Employees .....	70
Table 29: Study Participants’ Mean Number of Family Member Employees.....	70
Table 30: Types of Payment Accepted by Study Participants’ Businesses .....	71
Table 31: Bookkeeping for Study Participants’ Businesses.....	71
Table 32: Role of Latino People in Study Participants’ Businesses .....	71
Table 33: Role of Non-Latino People in Study Participants’ Businesses.....	71
Table 34: Use of Local Products in Study Participants’ Businesses.....	72
Table 35: Local Business Sales of Study Participants’ Businesses.....	72
Table 36: Change in Number of Employees for Study Participants’ Businesses.....	72
Table 37: Years of Profit for Study Participants’ Businesses.....	72
Table 38: Themes of Responses to the Question, “In your opinion, what is your biggest success as a business owner?” .....	74
Table 39: Themes of Responses to the Question, “What was the biggest challenge that you faced in starting this business?” .....	76
Table 40: Themes of Responses to the Question, “What advice do you have for people who are just starting a business?” .....	78
Table 41: Breakdown of Founding Status for Study Participants Who Have Owned Their Business for 5 or 6 Years .....	80
Table 42: Reported Profitability for Study Participants Who Started Their Business and Have Owned It for 5 to 6 Years .....	81

Table 43: Change in Number of Employees Since 2004 for Study Participants Who Started Their Business and Have Owned It for 5 or 6 Years .....	81
Table 44: Payroll Check Cashing By Study Participants.....	82
Table 45: Community Support of Study Participants’ Businesses .....	82
Table 46: Bank Account Status of Study Participants .....	82
Table 47: Loan Denial Experienced By Study Participants.....	82
Table 48: Familial Network Connections of Study Participants.....	83
Table 49: Business Network Connections of Study Participants .....	83
Table 50: Community Network Connections of Study Participants.....	84
Table 51: Formal and Informal Capital Connections of Study Participants .....	85
Table 52: International Networking of Study Participants .....	85
Table 53: Importance of Computer for Study Participants’ Businesses .....	85
Table 54: Importance of Internet for Study Participants’ Businesses .....	85
Table 55: Comparison of Use of a Credit Union Loan for Start-Up Costs for Ethnic and Non-Ethnic Study Participants.....	87
Table 56: Comparison of Mean Number of Family Members Who Are Also Business Owners for Ethnic and Non-Ethnic Study Participants.....	87
Table 57: Comparison of Mean Length of Residence in Mendocino County for Ethnic and Non-Ethnic Study Participants.....	88
Table 58: Comparison of Mean Age of Ethnic and Non-Ethnic Study Participants .....	88
Table 59: Comparison of Place Born of Ethnic and Non-Ethnic Study Participants .....	89
Table 60: Comparison of High School Education Levels Among Ethnic and Non-Ethnic Study Participants.....	89
Table 61: Comparison of College Education Levels Among Ethnic and Non-Ethnic Study Participants.....	89
Table 62: Comparison of Mean Number of Family Member Employees for Ethnic and Non-Ethnic Study Participants’ Businesses .....	90

Table 63: Comparison of Types of Payment Accepted By Ethnic and Non-Ethnic Study Participants' Businesses .....	90
Table 64: Comparison of Days Business Open for Ethnic and Non-Ethnic Study Participants' Businesses .....	91
Table 65: Comparison of Ethnic and Non-Ethnic Study Participants' Businesses in Which an Owner is Present on Saturdays .....	91
Table 66: Comparison of Bookkeepers of Ethnic and Non-Ethnic Study Participants' Businesses .....	92
Table 67: Comparison of Industry Types for Ethnic and Non-Ethnic Participants' Businesses .....	92
Table 68: Comparison of Role of Ethnic People in Sustaining Study Participants' Businesses .....	93
Table 69: Comparison of Use of Local Products in Ethnic and Non-Ethnic Study Participants' Businesses .....	93
Table 70: Comparison of Use of Internet for Business Advice for Ethnic and Non-Ethnic Study Participants' Businesses .....	94
Table 71: Comparison of Use of Other Business Owners for Business Advice for Ethnic and Non-Ethnic Study Participants.....	94
Table 72: Mean Number of Years of Profit Over the Last Five Years: Businesses That Were Started and Owned for Five or Six Years by the Current Owner .....	95
Table 73: Mean Number of Years of Profit Over the Last Five Years: Businesses That are Owned for Five or Six Years by the Current Owner .....	97
Table 74: Mean Number of Years of Profit Over the Last Five Years in Mendocino County Business Survey: All Businesses.....	98
Table 75: Mean Number of Years of Profit Over the Last Five Years: Ethnic Owned Businesses .....	100
Table 76: Change in the Number of Employees since 2004 in Mendocino County Business Survey: Businesses That Were Started and Owned for Five or Six Years by the Current Owner.....	101
Table 77: Comparison of Participation in Community Networking Groups for Ethnic and Non-Ethnic Study Participants.....	103

Table 78: Comparison of Ethnic and Non-Ethnic Study Participants Who Send Money Outside the U.S.....	103
Table 79: Comparison of Importance of a Computer for Ethnic and Non-Ethnic Study Participants' Businesses .....	104
Table 80: Comparison of Importance of the Internet for Ethnic and Non-Ethnic Study Participants' Businesses .....	104
Table 81: Comparison of Ethnic and Non-Ethnic spatial variables. ....	106





# ***EXECUTIVE SUMMARY***

## ***Introduction***

Rural ethnic entrepreneurship is a major driving force for strong rural communities (Fairlie 2004; Grey and Collins-Williams 2006; Quadrini 1999; Robles and Cordero-Guzman 2007; Rochin, Saenz, Hampton and Calo 1998; Verdaguer and Vallas 2008; Zarrugh 2007). In this project, we used a mixed methods approach to better understand rural entrepreneurship and to examine experiences and social network structures associated with ethnic entrepreneurs. This report identifies factors leading to successful ethnic-owned businesses and contributes to an understanding of the social networks and local resources using a sociospatial, community-focused approach. The term sociospatial means the active consideration of space, place and social indicators in a holistic fashion (Steinberg and Steinberg 2009). We explore issues important to ethnic business owners, how they work to achieve success in rural environments, and strengths they bring to the larger community. The result is a model for effective engagement in community and economic development for non-majority and ethnic groups who may not be at the table.

## ***Methods***

The mixed methods approach consists of both primary and secondary data collection and analysis. Research methods employed in this study include:

- ♦ Review of existing and archival data
- ♦ Public Participation Geographic Information Systems (PPGIS)
- ♦ Survey
- ♦ Spatial analysis

### *Review of existing and archival data:*

Historic documents and texts were reviewed in order to develop a detailed history of Mendocino County. Research was conducted at Humboldt State University Library's Humboldt Room, the Held-Poage Research Library in Ukiah, and online.

### *Public Participation Geographic Information Systems:*

Because a list of local Latino owned businesses did not exist, we used public participation geographic information systems (PPGIS) to generate this list. Maps of the county were placed on tables for participants to identify and mark locations where they

participate in community, church, professional, neighborhood, fundraising, school, volunteer, and service groups and activities, as well as the locations of Latino owned businesses.

### *Survey*

Four research field visits were conducted in Mendocino County between May 18, 2009 and July 12, 2009. Surveys were attempted with the 731 businesses identified through random sampling and the 92 Latino owned businesses identified through purposive sampling.

### *Spatial Analysis*

A geographical information system (GIS) was used to conduct spatial analysis on the collected community data. Spatial patterns were investigated among the final businesses and civic engagement points generated through the PPGIS sessions and surveys.

## **Results**

### *Review of existing and archival data*

A community history of economic activity in Mendocino County was developed, indicating a historical reliance on extractive industries such as timber and agriculture. Currently, the county's economy relies on small business, with 71% of the total businesses having four or fewer employees and 12% of businesses having five to nine employees (as of 2007).

### *Public Participation Geographic Information Systems*

Ninety-two Latino owned businesses in Mendocino County were identified through PPGIS activities.

### *Survey*

We conducted 134 surveys with Mendocino County entrepreneurs.

### *Spatial Analysis*

From the PPGIS sessions and completed survey data, relationships were investigated among the businesses and community engagement points to determine if significant differences existed.

## **Final Products**

In addition to this report, outcomes of this project included a website, [www.peopleplaceandbiz.org](http://www.peopleplaceandbiz.org) that contains detailed information on the project and an economic development tool with suggestions for engaging the entire community in local and regional economic development efforts including previously uninvolved populations. The “Biz Tool” includes key steps in the process along with examples of survey and mapping approaches that may be helpful to local economic developers.

### ***Conclusions***

The rural environment presents genuine challenges to success for rural entrepreneurs. Success can be enhanced for rural entrepreneurs by drawing on their networks. This was found to be especially true for rural ethnic entrepreneurs. Given the importance of rural networks it behooves economic developers to take a culturally appropriate approach that focuses on the social aspect of ethnic entrepreneurs communities prior to trying to engage them in the “work” of economic development.

### ***Recommendations***

Our recommendations stand on the notion that most communities have a wealth of untapped social and human capital. The approaches that we developed earlier, and our Biz Tool, are geared towards identifying and effectively involving these groups in community economic development.

Based upon this research we provide the following recommendations to community economic developers:

- ♦ **Expand the notion of who an entrepreneur is.** Ethnic and poor populations may not classify themselves as “entrepreneurs” due to cultural or socioeconomic differences. Individuals of these populations are often engaged in entrepreneurial activity, but may not self-identify it as entrepreneurship.
- ♦ **Adopt an approach to community economic development that moves beyond one size fits all.** Various cultural and ethnic groups have different norms that govern their patterns of interaction. These must be respectfully considered when attempting to engage with members of these communities.
- ♦ **Identify the group or groups who are not at the economic development table.** It is dangerous to simply assume that because a token member from a particular community is there that the whole community is represented. An individual member from a particular group may or may not truly speak for the whole, or may already be participating as a member of the majority group.
- ♦ **Develop trust and to engage socially with members from all sectors of the community.** Involving the full range of socioeconomic and ethnic groups present

in a community in economic development efforts requires ongoing time and effort. Approaching traditionally disengaged members of a community takes time, trust and understanding. This must begin before the short-term cycles often associated with grants or political cycles, but rather represent a sustained and ongoing effort to build and maintain strong networks.

- ♦ **Understand that family is very important to the ethnic entrepreneur.** Making economic development outreach efforts and events, family-friendly, and fun and inclusive is essential for the participation of ethnic and socioeconomically limited individuals. Seminars held in the evening when potential entrepreneurs have home and family obligations may discourage their engagement.
- ♦ **Develop increased links between ethnic and non-ethnic rural entrepreneurs.** Our study found that ethnic people play a role in supporting ethnic owned businesses. If a positive link can be established between ethnic and non-ethnic entrepreneurs, patronage of non-ethnic businesses could increase from ethnic consumers.
- ♦ **Ethnic entrepreneurs have a strong work ethic.** Economic and community developers should recognize that ethnic entrepreneurs bring important skills to the community, including a strong work ethic. This is a community strength that can be highlighted and drawn upon as bridges are built between members of the ethnic and non-ethnic business.
- ♦ **Ethnic entrepreneurs are well integrated into certain areas of the community.** Networks are essential to business success. As a result the greater the involvement entrepreneurs and prospective entrepreneurs have, the greater likelihood of success.
- ♦ **Develop opportunities for interaction and mentorship between non-ethnic and ethnic entrepreneurs.** We found that non-ethnic entrepreneurs tended to be older and have a longer length of residence in the community than ethnic entrepreneurs. This suggests that these entrepreneurs are well-positioned to provide mentorship to newer, ethnic entrepreneurs who don't have the level of experience or time spent in the community. Additionally, we found that many ethnic entrepreneurs desire advice or assistance in running their businesses.
- ♦ **Recognize the passion for entrepreneurship and success between ethnic and non-ethnic entrepreneurs.** We found no difference in motivation for starting a business and no difference in the definition of success between these two groups. This suggests both groups have similar intents and goals for becoming a business owner. This provides another reason to foster the links between the ethnic and the non-ethnic entrepreneurs. Ideas could be shared as well as strategies for success.

- ♦ **Consider space in economic development for all entrepreneurs.** We found that geography plays an important role in business and social networks. For example we found that ethnic owned businesses were located closer to points of civic engagement, to highways and located in neighborhood characterized by higher percentages of particular ethnic populations. So future economic development efforts should carefully examine the spatial context of business placement and location in relation to local social groups and places of local social interaction important to certain ethnic or cultural groups.
- ♦ **Determine needs of local entrepreneurs.** We found that many ethnic entrepreneurs would welcome business advice and guidance on running a successful business. However, this may be an unknown to local community economic developers due to language and cultural barriers. Thus, engaging with key members of the ethnic or cultural community early in planning for community and economic development is essential and will lead to better results later on.
- ♦ **Good ideas are enough to start with.** We found that prior business experience was not a necessity to run a profitable business. This suggests entrepreneurs can begin down the path of developing a business simply with a good idea.
- ♦ **Encourage participation in business networks.** Economic and community developers should encourage participation in business networks. We found that the factor most often associated with profit was being more highly networked. Also in our study we found that participation in business networks was positively correlated with increasing the number of employees in a business, which could be viewed as a measure of business success.
- ♦ **Begin collecting data on ethnic entrepreneur's presence and ownership patterns now.** We found that data on ethnic entrepreneurs was lacking at the community, regional and state level. If local agencies and organizations could start collecting that data now, that would benefit future efforts to engage with these populations and create successful entrepreneurship in the region.



## ***RESEARCH TEAM***

### ***Principal Investigators***

The lead investigators for this project are Drs. Sheila and Steven Steinberg. The Steinbergs possess relevant experience in the field of social science and GIS. Together they co-authored a book for Sage Publications (2006) titled, *GIS for the Social Sciences: Investigating Space and Place*. This book has been widely adopted by academic institutions and practitioners alike, reaching both a national and international audience.

*Dr. Sheila Lakshmi Steinberg* is a Professor of Sociology and Director of Community Research for the California Center for Rural Policy at Humboldt State University in Arcata, California. She is past-President and a member of the Board of Directors of Arcata Economic Development Corporation, a regional economic development organization dedicated to promoting community economic development in rural California. Dr. Steinberg's research interests include sociospatial research, community and economic development, research methods, rural entrepreneurship, applied sociology, and environmental sociology. She has conducted field research in Nepal, Guatemala, New Mexico, Pennsylvania, and northern California. The theme throughout this research has been the examination of people and their relationship to space and place. She has co-authored a book entitled, *GIS For the Social Sciences: Investigating Space and Place*, Sage Publications (2006) and various book chapters on social inequality, people and place such as "A Sociospatial Approach to Globalization: Mapping Ecologies of Inequality," Book Chapter in: *Understanding the Global Environment*, Samir Dasgupta, Editor (2009) and "Geospatial Analysis Technology and Social Science Research," in: *Handbook of Emergent Technologies*, Sharlene Hesse-Biber, Editor, Oxford University Press, 2011 (forthcoming). Her current research examines social networks role in space, place and time related to community development. In 2000, she joined Humboldt State University, where she now teaches courses on human interactions with the physical environment at the local, national, and global levels.

*Dr. Steven J. Steinberg*, GISP, Director of the Institute for Spatial Analysis (ISA) is a Professor of Geospatial Sciences in Humboldt State University's Natural Resource Planning Program.. He came to Humboldt State University in 1998 and has taught courses in map analysis, GPS, GIS and Image analysis as well as the ethics of mapping. His Ph.D. emphasized the introduction and adoption of GIS-based tools in seven rural communities throughout the State of Minnesota. In 2004, he was selected as a Fulbright Scholar and received an appointment as Distinguished Chair at the Centre for Scientific Computing, Simon Fraser University in Vancouver, British Columbia, Canada. In the fall of 2008 Dr. Steinberg was invited to teach at the University of Helsinki, Finland, as a Fulbright Senior Scholar in the International Master's Degree Programme in Geoinformatics (GIMP). Dr. Steinberg has researched, written and presented extensively on the application of geospatial analysis technologies for modeling and visualization in both human and natural environments.

## ***Project Staff***

- ♦ Dr. Erick Eschker, Director of the Humboldt Economic Index and Professor and Chair, Department of Economics, Humboldt State University.
- ♦ Jason Barnes, Research Analyst, ISA. Conducted spatial analysis, created GIS maps, and designed website.
- ♦ Sarah Keeble, Research Analyst, CCRP. Reviewed existing data, assisted in survey development, conducted field research, conducted qualitative and quantitative analysis, compiled project report.
- ♦ Lindsay Weymouth, Research Analyst, CCRP. Conducted qualitative and quantitative analysis.
- ♦ Dimitra Zalarvis-Chase, Research Analyst, CCRP. Created GIS maps, assisted in survey development, and conducted field research.
- ♦ Jessica Lamb, Research Assistant, CCRP. Reviewed existing secondary data, assisted in survey development, and participated in field research.
- ♦ Marieshka Barton, Research Assistant, CCRP. Participated in field research.
- ♦ Wendy Calderon, Research Assistant, CCRP. Participated in field research.
- ♦ Cory DeLellis, Research Assistant, CCRP. Assisted in qualitative and quantitative analysis.
- ♦ Jenny Mayberry, Research Assistant, CCRP. Participated in field research.



# *Project Report*

**Rural Ethnic Entrepreneurship  
A Spatial Networks Approach to Community Development**



## ***PROJECT PURPOSE***

In this project we investigate factors leading to successful ethnic owned businesses. Additionally, we explore how to identify and involve ethnic rural populations that are not actively engaged in economic development efforts. Our objective is to contribute to an understanding of the social networks and local resources using a sociospatial, community-focused approach.

### ***Economic Development and Rural California Entrepreneurship***

Entrepreneurship has been widely identified in the literature as a useful and effective strategy for rural economic development (Collaborative Economics 2005). Rural California economies experience many of the same issues that rural economies across the country experience. In rural California areas, the environment can be used as a valuable market niche. For example, rural entrepreneurs, unlike urban entrepreneurs, can capitalize on green business, organic agriculture, sustainable forest products, eco-tourism, and renewable energy (California Center for Regional Leadership 2005).

Rural communities can take advantage of their natural, historic, cultural, and recreational assets in order to build a high quality of life and access entrepreneurial opportunities. While many rural areas face similar issues in trying to build sustainable economies, they are diverse in terms of social, physical, and environmental characteristics. In order for California to be a good place for entrepreneurs, efforts to support affordable housing and energy costs, while regulations, taxes and fees, and budget and fiscal reform need to be made. Support for expanding education and workforce training opportunities, health care, infrastructure, and quality of life are also important. (California Center for Regional Leadership 2005). Urban and rural partnerships need to be forged to increase collaboration and success and reduce isolation. Drawing upon existing social capital in the form of networks and human capital in the form of skills, and leveraging information technology, rural entrepreneurs can effectively compete with urban city centers. Policies that promote entrepreneurship and its retention and recruitment on a local and regional level can ultimately help to improve rural economies. This focus allows rural communities to build upon their existing skills, capacities, and assets to create change for themselves (California Center for Regional Leadership 2005).

### ***Entrepreneurship as a Community Strength***

Entrepreneurship can be an especially useful tool for upward mobility in ethnic populations, however, ethnic entrepreneurs are often disconnected from the efforts of economic development agencies and service providers (Fairlie 2004; Grey and Collins-Williams 2006; Rochin et al. 1998; Quadrini 1999; Verdaguer and Vallas 2008; Zhou 2004). Much research has shown that ethnic populations tend to not trust non-ethnic service

providers, indicating the necessity of culturally sensitive economic development practices (Grey and Collins-Williams 2006; Robles and Cordero Guzman 2007; Rochin et al. 1998). A supportive community, available assistance, training, and capital, as well as access to networks are important issues to consider in the development and implementation of culturally sensitive economic development practices.

California is home to many diverse populations, especially Latinos, and has the largest number of Latino owned businesses in the country, with 27% of the total. As of 2002, Latino people owned 6.8% of all nonfarm businesses in the country and accounted for \$222 billion in revenues. While Latinos comprise the majority of the population in California, they do not comprise the majority of entrepreneurs in the state. Because Latinos are the majority in California, one might intuit that about 50% of the businesses would be Latino owned. In reality, there is a large gap relative to their proportion of the population. Nearly half of the Latino owned businesses in the country (43%) fall into the service industry, while 36% can be classified as retail or wholesale trade. As of 2007, 42% of Mendocino's businesses were in the service industry, 19% were in retail, and 9% were in construction. The service industry also employs the most people in the county, while government and public administration employs the second highest number of people. Currently, agriculture and mining comprise approximately 6% of business establishments and 9% of Mendocino's workforce. Small business prevails in Mendocino County with 71% of the total businesses having zero to four employees and 12% of businesses having five to nine employees [as of 2007] (Center for Economic Development 2008).

## ***STUDY SITE BACKGROUND***

Latino history in Mendocino County can be traced back over 450 years (Mendocino County Historical Society 1967; Ryder 1966; Thompson 2009). Mendocino County, California is named after Cape Mendocino, which was formally discovered by Juan Rodriguez Cabrillo in 1542 (Mendocino County Historical Society 1967). The mountainous county spans 135 kilometers from north to south and nearly 100 kilometers from east to west, covering more than one million hectares (Mendocino County Historical Society 1967; Thompson 2009). Three geographical sections comprise the county: the Eel River country, Russian River, and the coast. In the late 1800's, settlers in the Eel River area raised livestock and sheep for wool, the Russian River area was dedicated to livestock and agriculture, and the coast had abundant timber reserves (Mendocino County Historical Society 1967; Industrial Survey Associates 1951). The county is home to a national forest, numerous state parks and recreation areas, many beaches and rivers, and the Round Valley Indian Reservation. Mendocino has a high average rainfall and is prone to extreme winter weather and warm summer weather. Intense fog along the coast between May and August spurs grass and crop growth (Mendocino County Historical Society 1967).

Prior to settlement, numerous Native American tribes known collectively as the Pomo Indians inhabited Mendocino County. Spanish settlers began to occupy Native lands in the mid 16<sup>th</sup> century. Mainly Spanish and Mexican citizens inhabited the county until the Gold Rush and the timber industry brought the first permanent non-Spanish settlements in April 1852 (Ryder 1966; Thompson 2009). Subsequently, Native people began to be forced into slavery, which led to the 1859 Mendocino War, resulting in the near extermination of the Native population. Those who survived faced intense segregation and assimilation (Mendocino County Historical Society 1967; Industrial Survey Associates 1951).

Before the railroad, Mendocino County was geographically isolated and industry was limited. The railroad extended toward Mendocino County in the late 1800's and reached Willits around the turn of the century, which stimulated the timber industry, introduced tourism to the area, raised land prices, and lessened communication barriers. The construction of Highway 101 between 1915 and 1920 also decreased the county's isolation and spurred growth of the interior region (Herbert, Paterson and Wee 1979). On November 27, 1998 the railroad was shut down because it failed to meet minimum safety requirements (Wilner 1998).

County government was established in 1859, making Ukiah the county seat (Mendocino County Historical Society 1967; Hoover, Rensch and Rensch 1958). Ukiah is located in what was formerly the Yokayo Mexican land grant. Yokayo is a Pomo Indian word that means "south valley." Initially, the town's population relied on the redwood industry, however, today the town (and county) is known for its wine production and other forms of

agriculture. The valley is home to numerous orchards and wineries, two breweries, and several hot springs. The Russian River supports numerous small farms in the area.

The redwood industry began to develop on the coast in the early 1850's, making extractive industries, including timber and minerals, a large part of Mendocino's economic history (Mendocino County Historical Society 1967). Because Mendocino's economy has historically relied on the timber industry, fluctuations in timber demands directly affects the health of Mendocino's economy. The first sawmill, Mendocino Saw Mills, in the county was erected in 1851. The first business building in Mendocino opened in 1853 and was run by the sawmill company. This led to a flurry of business establishments in the county (Ryder 1966). Business licenses began being issued in 1862 to retail dealers, liquor stores, billiard saloons, livery stables, hotels, physicians, lawyers, cattle brokers, a brewer, and an apothecary shop (Mendocino County Historical Society 1967). Built in 1866, Point Arena was home to the first wharf in the county, making the town the center of the timber industry at that time. Towns began to grow along the coast as timber shipping points (Ryder 1966). Inland, livestock and agriculture were the leading industries. Tobacco became a top industry in 1863, with more than seven hundred acres of the crop planted that year (Mendocino County Historical Society 1967). Hops, oats, corn, as well as other grains and vegetables abound in Mendocino County. Mendocino is also home to a booming wine industry, with more than 15,000 acres of vineyards (Thompson 2009).

### ***Economic Snapshot of Mendocino County***

We examine the economic and demographic background of Mendocino County from 2004 to 2009 because much of our analysis focuses on business success over that period. In cases where these years were not available, the most recent five years were selected. Where appropriate, real or inflation-adjusted data were used, however, in cases where this data was unavailable, nominal data was used for comparison.

### ***Demographic Indicators***

#### *Population*

Mendocino County is situated on the North Coast of California and, as of 2002, is the 37<sup>th</sup> most populated county of 58 counties in the state (California Department of Finance 2009a). The county is home to 2.3% of Californians, and the 2009 population was estimated at 90,000 (Table 1). Mendocino's population grew 0.3 percentage points faster than the state's growth rate.

The area has three significant cities: Fort Bragg, Ukiah and Willits. Ukiah, the county seat, is the largest city, with an estimated population of 15,873, while Willits is the fastest growing major city in the county, with a 1.18% increase in population from 2004-2009 (U.S. Census Bureau 2000c).

**Table 1: Population Changes in California and Mendocino County Between 2004 and 2009**

<b>Location</b>	<b>January 2004 Total Population</b>	<b>January 2009 Total Population</b>	<b>Percent Change</b>
California	37,883,992	38,292,687	1.08%
Mendocino County	88,981	90,206	1.38%
Fort Bragg	6,881	6,868	-0.19%
Point Arena	481	492	2.29%
Ukiah	15,873	15,711	-1.02%
Willits	5,021	5,080	1.18%
Balance of County	60,725	62,055	2.19%

Sources: California Department of Finance. 2009a. E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2008 and 2009. Sacramento, CA: State of California.

California Department of Finance. 2009b. E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark. Sacramento, CA: State of California.

Population statistics for the state and the county are shown in Table 2. These include total population and percent change in population between 2004 and 2009 overall and by race. Since Latinos/Hispanics are the fastest growing ethnic minority, it is important to note that Census data for California revealed that while 16.4% of people identified themselves as Hispanic, 86% of those also classified their ethnicity as Mexican. The remaining percentages are about evenly distributed among many different nationalities (U.S. Census Bureau 2001).

**Table 2: Population Changes in California and Mendocino County Between 2004 and 2009 by Race**

	Mendocino		California	
	2004	2009	2004	2009
Total Population	89,966	92,446	36,525,947	28,688,293
% Change in Population		2.76%		5.92%
<b>White</b>				
Population	64,938	64,290	16,400,124	16,433,317
% of Population	72.18%	69.54%	44.90%	42.48%
% Change in Population		-2.64%		-2.42%
<b>Hispanic</b>				
Population	16,353	18,675	12,565,010	14,182,666
% of Population	18.18%	20.20%	34.40%	36.66%
% Change in Population		2.02%		2.26%
<b>Asian</b>				
Population	1,059	1,059	4,208,675	4,599,967
% of Population	1.18%	1.15%	11.52%	11.89%
% Change in Population		-0.03%		0.37%
<b>American Indian</b>				
Population	4,918	5,652	211,919	235,471
% of Population	5.47%	6.11%	0.58%	0.61%
% Change in Population		0.65%		0.03%
<b>Black</b>				
Population	499	518	2,260,877	2,279,118
% of Population	0.55%	0.56%	6.19%	5.89%
% Change in Population		0.01%		-0.30%
<b>Other</b>				
Population	2,199	2,222	879,342	898,565
% of Population	2.44%	2.40%	2.41%	2.32%
% Change in Population		-0.04%		-0.08%

Source: RAND California. 2009. Population Projections by Race/Ethnicity. Santa Monica, CA: Rand Corporation.

## ***Economic Indicators***

### *Employment*

The Mendocino County labor force makes up about 47% of the total population (Table 3), which is close to the statewide value of 48% (California Employment Development Department 2010b). Ukiah employs the largest proportion of the labor force within the county. Unemployment rates are the highest in Covelo at 17% and are the lowest in Point Arena at 3.6%. The overall state and county unemployment rates fell between 2004 and



2006, then began to rise as a major recession began in December 2007 (California Employment Development Department 2010f). The Mendocino County and California unemployment rates have risen drastically since 2008. However, Mendocino's unemployment rates have stayed below state unemployment rates over the last five years. Seasonally adjusted data were not available at the county level, so non-seasonally adjusted data were used for both Mendocino County and California (Table 4).

**Table 3: Mendocino County - December Employment Statistics By Area, 2009 Not Seasonally Adjusted**

Area Name	Labor Force	Employment	Unemployment	
			Number	Rate
Mendocino County	43,320	37,440	4,890	11.5%
Covelo	490	390	90	19.3%
Fort Bragg	3,500	3,030	470	13.4%
Laytonville	610	460	140	23.8%
Mendocino	410	370	50	11.4%
Point Arena	270	260	10	4.1%
Ukiah	7,230	6,380	850	11.8%
Willits	2,450	2,180	270	11.0%

Source: California Employment Development Department. 2010b. *Labor Force and Unemployment Rate for Cities and Census Designated Places, Mendocino County*. Sacramento, CA: State of California.

**Table 4: California and Mendocino County: December Employment Statistics - 2004 to 2009, Not Seasonally Adjusted**

	Year	Labor Force	Employment	Unemployment	Unemployment Rate
Mendocino	2004	43,840	41,070	2,770	6.3%
	2005	43,130	40,720	2,410	5.6%
	2006	43,530	41,190	2,340	5.4%
	2007	43,010	40,290	2,720	6.3%
	2008	43,960	40,120	3,850	8.8%
	2009	42,320	37,440	4,640	11.5%
California	2004	17,444,400	16,354,800	1,089,700	6.2%
	2005	17,703,800	16,626,100	877,700	5.0%
	2006	18,010,500	17,168,800	841,800	4.7%
	2007	18,223,200	17,156,300	1,066,900	5.9%
	2008	18,551,100	16,862,100	1,689,000	9.1%
	2009	18,195,800	15,989,300	2,206,600	12.1%

Source: California Employment Development Department. 2010f. *Unemployment Rates (Labor Force) Data Library*. Sacramento, CA: State of California.

Table 5 describes different employment classes in California and Mendocino County between 2000 and 2008. Private wage and salary workers comprise the bulk of the work force in both the state and the county (Table 6).

**Table 5: California Employment Class – 2000 and 2008**

Employment Class	2000		2008	
	N	%	N	%
Private Wage and Salary Workers	101,794,361	78.5%	12,925,248	76.8%
Government Workers	18,923,353	14.6%	2,389,201	14.2%
Self Employed	8,603,761	6.6%	1,482,298	8.8%
Unpaid Family Workers	400,037	0.3%	38,119	0.2%

**Table 6: Mendocino County Employment Class: 2000 and 2008**

Employment Class	2000		2008	
	N	%	N	%
Private Wage and Salary Workers	25,653	66.5%	24,129	62.8%
Government Workers	6,959	18.0%	7,234	18.8%
Self Employed	5,772	15.0%	6,488	16.9%
Unpaid Family Workers	191	0.5%	546	1.4%

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000a. Summary File 3. Washington, DC: U.S. Government Printing Office.

U.S. Census Bureau: U.S. Bureau of the Census. 2008. American Community Survey Three-Year Estimates, Mendocino County Profile of Selected Economic Characteristics, 2006-2008. Washington, DC: U.S. Government Printing Office.

The primary source of employment for Mendocino County and California workers are in non-farm industries, particularly service-oriented industries. In Mendocino County, the percentage of employees in all forms of non-farm industries showed an increase from 2004-2009 while farm industries showed a slight decline. In Mendocino County, farm industry employment shrank by 0.42% from 2004 to 2009 while California's farm industry grew 0.11% (California Employment Development Department 2010c). In Mendocino, this led the way for non-farm industries to fill in the gap, increasing the service sector employment by 2.8 percentage points. The largest area of decline in the service industry for California was the goods producing sector which experienced a 2.74 percentage point decline. Within the service industry, the largest growth of employers occurred in educational/health and government positions for both Mendocino County and California (Table 7 and Table 8).

As of 2007, 42% of Mendocino's businesses were in the service industry, 19% were in retail, and 9% were in construction. The service industry also employs the most people in the county, while government and public administration employs the second highest number of people. Small business prevails in Mendocino County with 71% of the total

businesses having four or fewer employees and 12% of businesses having five to nine employees [as of 2007] (Center for Economic Development 2008).

**Table 7: California Industry Employment**

Industry	Percent of Labor Force Employed 2004	Percent of Labor Force Employed 2009	Percent Change
Total, All Industries	100.00%	100.00%	0.00%
Total Farm	2.57%	2.68%	0.11%
Total Nonfarm	97.43%	97.32%	-0.11%
Goods Producing	16.14%	13.40%	-2.74%
Service Providing	81.28%	83.92%	2.64%
Information	3.20%	3.03%	-0.18%
Financial Activities	6.06%	5.48%	-0.58%
Professional and Business Services	14.06%	14.43%	0.37%
Educational and Health Services	10.44%	11.88%	1.44%
Leisure and Hospitality	9.64%	10.36%	0.72%
Other Services	3.38%	3.41%	0.03%
Government	16.05%	17.06%	1.03%

Source: California Employment Development Department. 2010c. *Labor Market Information, Monthly Industry Employment Data for Mendocino County, California*. Sacramento, CA: State of California.

**Table 8: Mendocino County Industry Employment**

Industry	Percent of Labor Force Employed 2004	Percent of Labor Force Employed 2009	Percent Change
Total, All Industries	100.00%	100.00%	0.00%
Total Farm	6.77%	6.35%	-0.42%
Total Nonfarm	93.23%	93.65%	0.42%
Goods Producing	16.32%	13.98%	-2.35%
Service Providing	76.90%	79.71%	2.80%
Information	1.47%	1.20%	-0.26%
Financial Activities	3.90%	3.95%	0.04%
Professional and Business Services	5.68%	6.29%	0.61%
Educational and Health Services	10.55%	12.17%	1.62%
Leisure and Hospitality	13.86%	12.70%	-1.15%
Other Services	2.43%	2.37%	-0.06%
Government	20.16%	22.00%	1.84%

Source: California Employment Development Department. 2010c. *Labor Market Information, Monthly Industry Employment Data for Mendocino County, California*. Sacramento, CA: State of California.

### *Income*

Mendocino County has a lower median household income and per capita personal income than the rest of California. In 2007 there was a difference of \$17,599 between the state and county median household incomes (California Employment Development Department 2010a), and in 2006 there was a difference of \$9,180 in per capita personal income (Table 9).

**Table 9: California and Mendocino County Income Levels**

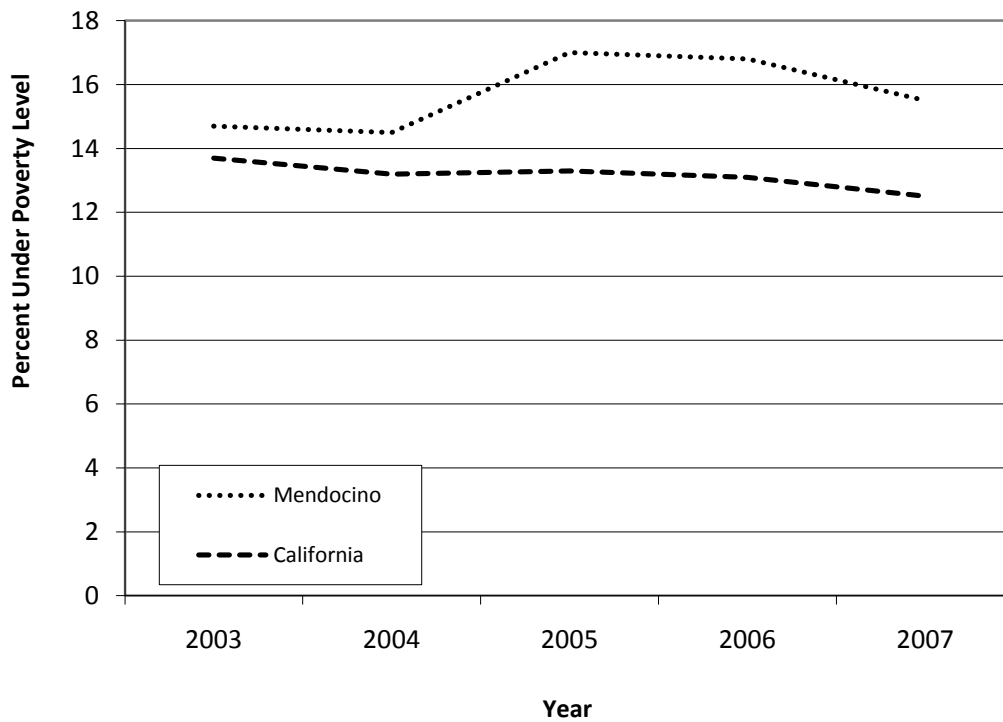
	Year	Median Household Income	Per Capita Personal Income	Total Personal Income
Mendocino	2007	\$42,329	-	-
	2006	\$39,847	\$30,446	\$2,636,843,000
	2005	\$40,149	\$28,652	\$2,497,339,000
	2004	\$36,624	\$28,200	\$2,463,685,000
	2003	\$35,869	\$26,139	\$2,289,844,000
California	2007	\$59,928	\$41,571	\$1,519,546,558,000
	2006	\$56,646	\$39,626	\$1,436,445,919,000
	2005	\$53,627	\$37,462	\$1,348,256,191,000
	2004	\$49,894	\$35,440	\$1,265,970,355,000
	2003	\$48,440	\$33,554	\$1,187,040,144,000

A (-) indicates that there is no data to report.

Source: California Employment Development Department. 2010a. California Labor Market Information, Data Library, Annual Measures of Income for California and Mendocino County 2003-2007. Sacramento, CA: State of California.

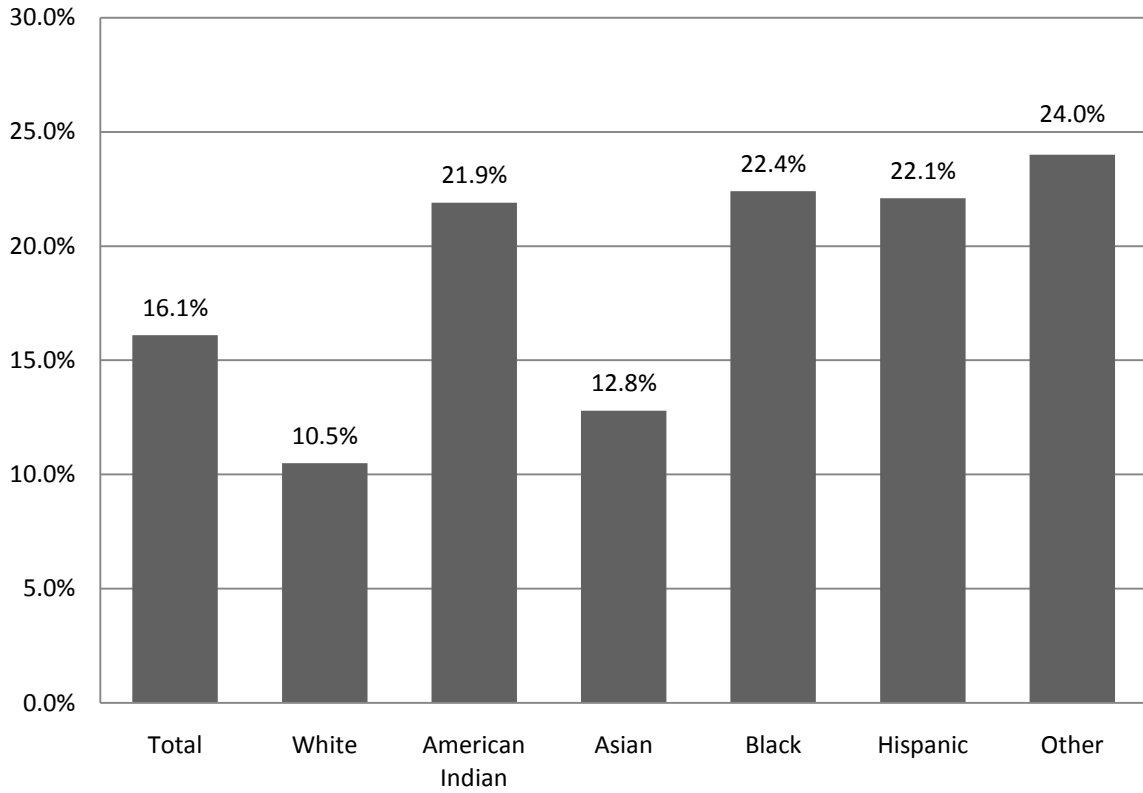
### *Poverty*

Between 2003 and 2007, the poverty rate in Mendocino County remained above the California State poverty rate (Figure 1). The percentage of the population in Mendocino County living below the poverty level in 2007 was 15.4%, while California’s poverty rate was 12.4% (U.S. Census Bureau 2000a). The overall level of poverty in Mendocino County has increased 0.8% in the last five years, while the poverty level in California during this same time period has decreased by 1.3%. In 2000, the highest incidence of poverty occurs in the “Other” race category at 31% of the population, closely followed by American Indians and Hispanics, each at 26.6%. The lowest poverty rate is among Whites at 13% (Figure 2 and Figure 3).



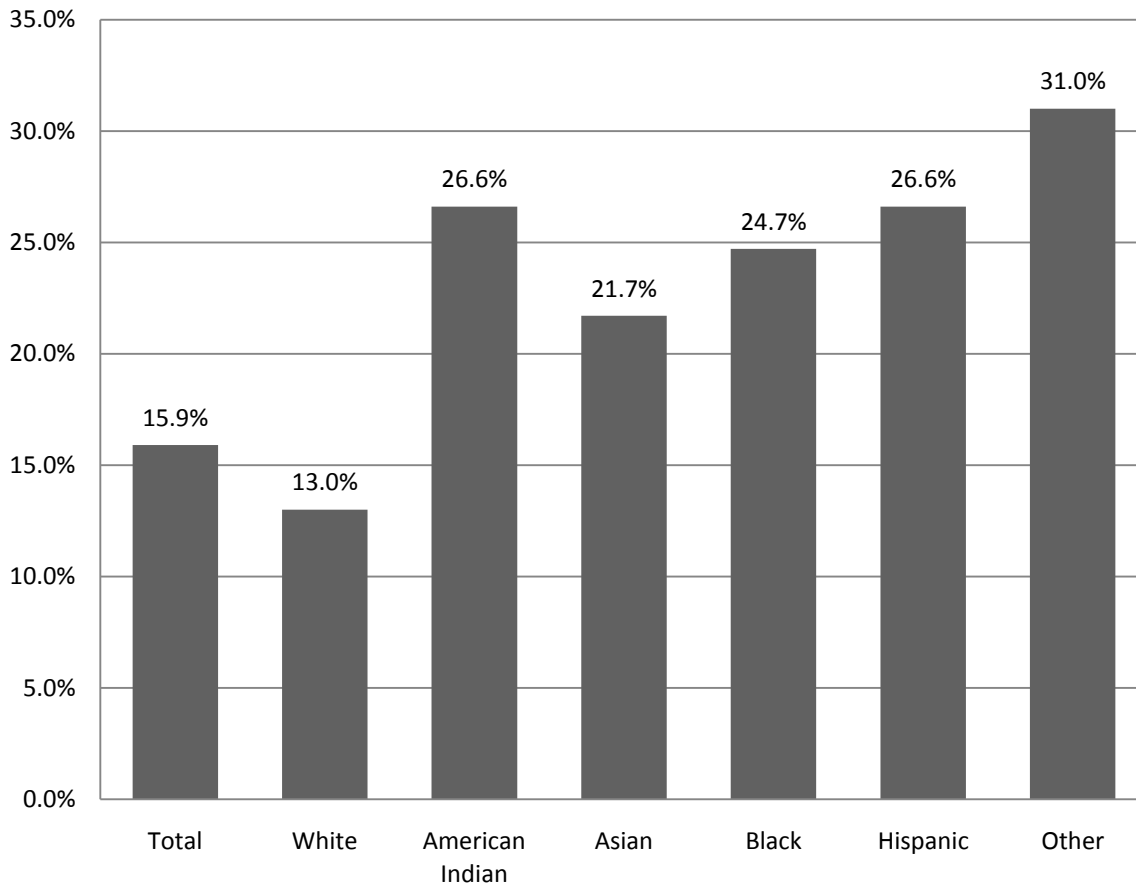
**Figure 1: California and Mendocino County Poverty Rates Between 2003 and 2007**

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000a. Summary File 3. Washington, DC: U.S. Government Printing Office.



**Figure 2: California Poverty Levels by Race, 2000**

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000a. Summary File 3. Washington, DC: U.S. Government Printing Office.



**Figure 3: Mendocino County Poverty Levels By Race, 2000**

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000a. Summary File 3. Washington, DC: U.S. Government Printing Office.

### *Businesses*

The majority of businesses statewide and in Mendocino County had 0-4 employees in both 2004 and 2008. In California, the number of businesses employing 250-499 and 500-999 people fell, while all other categories showed an increase in firms (California Employment Development Department 2010e). In Mendocino County, there was an increase in smaller businesses employing 0-4 and 5-9 people from 2004 to 2008, while all other categories showed negligible change or fell in number (California Employment Development Department 2010d). The numbers of larger firms employing 250-499 and 500-999 people were not given for Mendocino County because the data was suppressed and confidential information could not be extrapolated from the totals. Regardless, the numbers demonstrate that larger firms are a fraction of the total number of businesses at the state and county level (Table 10).



**Table 10: Number of Employees by Size of Business, 2004 and 2008**

	Number of Employees	2004		2008	
		Mendocino	California	Mendocino	California
Employees by Size Category	Total Employees	33,733	15,075,997	33,159	15,527,344
	0 to 4	3,373	1,015,698	3,630	1,117,271
	5 to 9	3,810	1,022,909	3,887	1,042,996
	10 to 19	5,132	1,437,639	4,686	1,498,583
	20 to 49	8,180	2,489,679	8,137	2,524,743
	50 to 99	5,936	2,126,834	5,605	2,205,904
	100 to 249	5,177	2,443,709	4,077	2,448,451
	250 to 499	S	1,392,156	S	1,376,310
	500 to 999	S	1,063,814	S	1,054,237
	100+	0	2,083,599	0	2,218,849

An (S) indicates suppressed data.

Sources: U.S. Census Bureau: U.S. Bureau of the Census. 2010d. Survey of Business Owners Data – 2001to Present, California Labor Market Information, Size of Business Data By County, Number of Employees by Size Category: 2004 and 2008. Sacramento, CA: State of California.

U.S. Census Bureau: U.S. Bureau of the Census. 2010e. Survey of Business Owners Data - 2001-Present, California Labor Market Information, California Size of Business Data, Number of Employees by Size Category, 2004 and 2008. Sacramento, CA: State of California.

According to the Survey of Business Owners from 2002, minority owned businesses comprise 31.5% of firms in California (U.S. Census Bureau 2000b). The U.S. Census Bureau considers minority owned businesses to be any firm with Asian, Black, American Indian and Alaska Native, Hispanic or Latino, Native Hawaiian and other Pacific Islander owners holding 51% or more of the share in the company (Table 11 and Table 12).

**Table 11: California: Percent of Businesses Ownership by Race, 2002**

Total Number of Firms	2,908,758
White	67.0%
Hispanic	14.7%
Asian	12.8%
Black	3.9%
American Indian and Alaska Native	1.3%
Native Hawaiian and Other Pacific Islander	0.2%

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000b. *State and County QuickFacts*. Washington, DC: U.S. Government Printing Office.

**Table 12: California: Race of Minority Business Owners, 2002**

<b>Race/Ethnicity</b>	<b>Percent</b>
Hispanic	44.68%
Asian	38.81%
Black	11.79%
American Indian and Alaska Native	3.98%
Native Hawaiian and Other Pacific Islander	0.74%

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2002b. *Survey of Business Owners: Estimates of Business Ownership by Gender, Ethnicity, and Race*. Washington, DC: U.S. Government Printing Office.

The sample surveyed through the U.S Census Survey of Business Owners revealed that the number of firms owned by racial minorities in Mendocino County is low (U.S. Census Bureau 2002a). In many cases the sample of owners did not even yield enough responses to get an average suitable for publication. Numbers for Black, Native Hawaiian, and Other Pacific Islander firms and statistics for Hispanic and American Indian owned firms were withheld from publication because the data was suppressed and did not meet publication standards (Table 13).

As of 2002, Mendocino County had 9,847 businesses, and two cities in the county had more than 100 minority owned firms (U.S. Census Bureau 2002a). Ukiah had 424 minority owned firms and Fort Bragg had over 100 minority owned firms. However, actual numbers in the sample were withheld because they did not meet statistical publication standards.

**Table 13: California: Minority Owned Businesses by Industry, 2002**

<b>Total CA Businesses</b>	<b>2,908,758</b>
Non-Minority Owned Businesses	68.53%
Minority Owned Businesses	31.47%
Agricultural, Forestry, Fishing, Hunting	0.11%
Mining	0.01%
Utilities	0.01%
Construction	1.89%
Manufacturing	0.74%
Wholesale Trade	1.03%
Retail Trade	3.39%
Transportation/Warehousing	1.83%
Information	0.37%
Finance and Insurance	0.88%
Real Estate, Rental and Leasing	2.02%
Professional, Scientific, and Technical	3.90%
Management	0.01%
Administrative, Support, and Remediation Services	3.40%
Educational	0.42%
Health Care and Social Services	4.14%
Arts, Entertainment, and Recreation	1.00%
Accommodation and Food Services	1.38%
Other	4.94%
Unclassified	0.03%

Source: U.S. Census Bureau: U.S. Bureau of the Census. 2000d. Survey of Business Owners Data - Statistics for Minority-Owned Firms by State, Selected Metropolitan Statistical Area, and Kind of Business: 2002. Washington, DC: U.S. Government Printing Office.

### ***Mendocino County's Latino Community***

As of 2008, Latino people are 15% of the country's population, 37% of California's population, and 21% of Mendocino's population (U.S. Census 2008). With agriculture as a top industry, Mendocino County gradually became home to many regular, seasonal, and temporary farmworkers. According to a 2006 study, 4,163 farmworkers were working in Mendocino County during this year, and 100% of these farmworkers are from Mexico (Strochlic, Kresge, Villarejo and Wirth 2008). Nearly 95% of farmworkers in the U.S. are Mexican, while 52% report as undocumented. Currently, Latinos are the fastest growing ethnic group in the county. Between 1990 and 1994, the Latino population in Mendocino County grew 18.8% (Lammers 1997; U.S. Census 2007). Despite their contributions to and vital role in the Mendocino agriculture industry and economy, many farmworkers do not have adequate access to transportation, housing, food, or health care (Steinberg, Strong,

Yandell and Guzman 2008; Strohlic et al. 2008). This lack of access to necessary services results from language barriers, a lack of resources, immigration issues, and a lack of insurance, among other things (Steinberg et al. 2008). Insufficient living and working conditions highlight the need for different avenues to economic success and well-being for farmworkers and Latinos in general. Entrepreneurship is a useful and viable self-development tool rural Latinos can use to advance their economic well-being. Job creation, innovation, and economic growth can result from entrepreneurship (Collaborative Economic, 2005). As a result of this lack of access to necessary services and adequate living conditions, efforts to empower Latino communities to utilize their assets and create change for themselves have increased.

In Mendocino County, the organization Nuestra Casa is focused on promoting the well-being of the Latino population through a variety of programs and initiatives. Nuestra Casa, located in Ukiah, is a non-profit family resource center that provides a wide range of support services in Spanish to Latino people. Among these support services are counseling, parenting classes, tutoring, English as a second language classes, and health care information (Klay 2009). Ultimately, the organization works to improve the well-being of Spanish speaking residents in Mendocino County by providing them with a valuable network of people and services. Nuestra Casa is the network hub for the Latino community and for community conversations in Mendocino. Currently, Nuestra Casa has a grant to promote civic engagement among Mendocino's Latino community. Monthly community meetings are taking place in order to build the capacity of the Latino community. In these meetings, community members are learning about the meaning and importance of civic engagement and about how they can individually and collectively improve both their lives and the larger community (Ukiah Daily Journal 2009).

### *Local Latino Entrepreneurship*

Due to the large Latino population in Mendocino County, many Latino owned businesses have established themselves to serve the needs of the regional Latino community and at times the non-Latino community as well. Business types include mini-department stores, sports stores, tire stores, restaurants, meat markets, record stores and general grocery stores. These businesses sell clothing (casual and formal), shoes, sports equipment, jewelry, food, and home decorations, among other things. One business had an entire wall of high-end cowboy boots for sale. One of these businesses also provided hair-cutting services. The bulk of Latino owned businesses in the area are Mexican restaurants or taco trucks. The county is also home to a few Latino owned grocery stores or markets that sell Latino products such as chilies, baked goods, and meats. A few Latino-owned tire and/or car product stores also reside in the county.

## ***RELEVANT LITERATURE***

The research on rural ethnic entrepreneurs consists of several main themes. Rural entrepreneurship literature addresses the benefits of entrepreneurship for local communities and economies (Beaulieu 2002; Dabson 2001; Emery, Wall and Macke 2004; Gladwin, Long, Babb, Beaulieu, Moseley, Mulkey and Zimet 1989; Henderson 2002; Korsching and Allen 2004), barriers that rural entrepreneurs face (Acs and Malecki 2003; Dabson 2001; Gladwin et al. 1989; Henderson 2002; Shields 2005), varying types of rural entrepreneurship (California Center for Regional Leadership 2005; Dabson 2001; Henderson 2002; Weinberg 2000), and the importance of public policy and education that facilitates rural entrepreneurship (California Center for Regional Leadership 2005; Beaulieu 2002; Dabson 2001; Emery et al. 2004; Henderson 2002; Lichtenstein et al. 2004; Korsching and Allen 2004).

Literature about ethnicity and entrepreneurship discusses barriers that ethnic groups face in becoming entrepreneurs, characteristics of ethnic entrepreneurs, reasons why ethnic groups become entrepreneurs, the benefits that come from entrepreneurship, and the dynamics of ethnic business networks (Aldrich and Waldinger 1990; Butler and Herring 1991; Chaganti and Greene 2002; Fairlie and Woodruff 2008; Janjuha-Jivraj 2003; Pessar 1995; Razin 1989; Robles and Cordero-Guzman 2007; Rochin et al. 1998; Verdaguer 2008; Wang and Li 2007; Zarrugh 2007).

Literature on business networks addresses their benefits, drawbacks, management, and classification (Canzano and Grimaldi 2004; Dimara, Goudis, Skuras and Tsegenidi 2003; Donckels and Lambrecht 1995; Martin and Stiefelmeyer 2001; Levitte 2004; Moller and Svahn 2002; Moller and Svahn 2004; Moller, Rajala and Svahn 2002; Phillipson, Gorton and Laschewski 2006; Schutjens and Stam 2003). The literature reviewed in this paper was gathered by Internet, catalog, and journal searches. Some articles were identified through other author's works cited pages. Scholarly work in varying areas such as economic development, community studies, ethnic studies, sociology, and geography is employed. Through this literature review, we have identified several themes that helped to guide this project. The findings of this review offer support for further study and analysis of rural ethnic entrepreneurial networks.

### ***Literature on Latino Entrepreneurship***

Literature about Latino entrepreneurship specifically is not extensive, especially about rural California Latino entrepreneurship (Robles and Cordero-Guzman 2007; Zarrugh 2007). Latinos are reported as being less likely to become successful entrepreneurs than other ethnic groups (Butler and Herring 1991; Fairlie and Woodruff 2008; Verdaguer and Vallas 2008). This is in part due to a lack of education and wealth creation possibilities. Research about why Latino populations specifically tend to lag behind other ethnic populations in business establishment and self-employment is limited. Verdaguer and Vallas (2008) have proposed a study of Northern Virginia that aims to meet this deficiency. Fairlie and

Woodruff (2008) propose that immigrant status influences the entrepreneurial nature and abilities of Mexican-Americans. Because a higher percentage of Mexican-Americans immigrated to the United States than non-Latinos, immigration is a likely factor in explaining why Latinos have lower rates of entrepreneurship than other ethnic groups. The Latino population in the rural U.S. has been growing, yet Americans remain unfamiliar with their culture and economic development generally does not recognize them. Latino immigrants are an untapped resource of entrepreneurial talent and passion. The number of Latino owned businesses in the U.S. are growing, (concentrated in retail and service) and they are making huge contributions to our economy (Grey and Collins-Williams 2006).

### ***Triple Bottom Line***

The triple bottom line (TBL) is a guiding principle for sustainable businesses. John Elkington coined the phrase “triple bottom line” in his 1998 book *Cannibals With Forks: The Triple Bottom Line of 21<sup>st</sup> Century Business.* It is an auditing and reporting framework for analysis of a business’ performance in terms of economic, social, and environmental issues. The idea behind the concept is that businesses should be thinking about a greater common good, rather than thinking purely about profits. According to the TBL, businesses should publish financial, social, and environmental performance reports that measure their performance and ultimately help improve practices (Norman and MacDonald 2004).

Elkington (1998) says that the concept is driven by seven sustainability revolutions, which are markets, values, transparency, life-cycle technology, partners, time, and corporate governance. These revolutions involve a paradigm shift in which markets shift from compliance to competition, values shift from hard to soft, transparency from closed to open, life-cycle technology from product to function, partnerships from subversion to symbiosis, time from wider to longer, and corporate governance from exclusive to inclusive. Shifting market focus from compliance to competition involves businesses no longer using competition as an excuse not to adopt triple bottom line practices. Many businesses operate under the assumption that shifting to a triple bottom line focus will make them less competitive in the market (Elkington 1998). Businesses need to make this shift and the market will follow, says Elkington (1998). Hard values are those that focus on immediate financial gain, while soft values involve thinking about future generations and considering the diversity of people’s values. Businesses need to become more transparent, or willing to disclose their practices and information in order to begin following the triple bottom line. Products should be designed with their life cycle in mind (Elkington 1998). In other words, companies need to be responsible for thinking about and planning for the social, economic, and environmental impacts of their products’ life cycles. Businesses should move away from subversion of their competition or enemies to cultivation of symbiosis. According to Elkington (1998), symbiotic partnerships will be key in adopting a sustainable agenda and shifting to a triple bottom line focus. Wide time involves thinking in the moment and about what is best for the present time, while long time entails learning from the past and looking toward the future. In order to promote a sustainable agenda, businesses need to adopt a

long time view. Lastly, corporations should adopt inclusive, rather than exclusive, governance practices, meaning they should be self-aware and police themselves.

Using triple bottom line accounting can be useful for rural businesses because it encourages them to use 'systems thinking' (Fawbush and Ratner 2009). Systems thinking involves looking at issues as a part of a system rather than as isolated incidents. Everything is connected, and systems thinking encourages people to approach problem solving with this concept in mind (Senge and Sterman 1992). Rather than focusing on short term, immediate effects of development, triple bottom line accounting takes a long term view of development and business sustainability (Quinn and Baltes 2007). Businesses are encouraged to develop products that do not harm the environment by using minimal energy input and producing little waste, as well as to hold their suppliers accountable for environmental stewardship. Businesses should also utilize practices that benefit the local economy (not just the individual business), offer compensation and benefits to employees, offer training to increase productivity, and follow fair trade practices. To be socially responsible, businesses should respect diversity and human rights among employees, enforce health and safety protection, and make charitable contributions (Willard 2002). Social entrepreneurship adheres to the triple bottom line; it is a catalyst for social transformation and involves entrepreneurs working to solve social problems through innovation. Social entrepreneurship seeks to demonstrate innovation by attempting to mobilize and build upon assets of local poor people, build local capacity, raise small amounts of funds, and foster adaptive and bridging leadership (Alvord, Brown and Letts 2004).

Quinn and Baltes (2007) identify the top three advantages to utilizing triple bottom line accounting as increased revenue and market share, increased employee retention, and increased community support. For distressed rural economies trying to recover from the loss of their few major employers, triple bottom line accounting can offer small business owners a way to begin moving toward sustainable practices. Adhering to the triple bottom line is a way for rural entrepreneurs to ensure that their businesses are beneficial for themselves, as well as their communities and local economies. The triple bottom line approach is accessible and allows people to create change for themselves, which increases its usefulness for rural communities (Quinn and Baltes 2007).

### ***Rural Entrepreneurship***

Entrepreneurship is an increasingly relevant component of economic development in rural communities and is encouraged as an economic development and revitalization strategy (Beaulieu 2002; Dabson 2001; Emery et al. 2003; Gladwin et al. 1989; Grey and Collins-Williams 2006; Korsching and Allen 2004; Levitte 2004; Lichtenstein, Lyons Kutzhanova 2004). Entrepreneurs add value to the local economy, lead to job creation and increased local incomes, and connect local economies to global economies (Beaulieu 2002; California Center for Regional Leadership 2005; Dabson 2001; Gladwin et al. 1989; Henderson 2002; Levitte 2004; Lichtenstein et al. 2004). Rural communities must overcome

small size, low education levels and population density, a limited skilled labor pool, limited infrastructure and broadband access, and large distance from metro markets to support entrepreneurial success (Acs and Malecki 2003; Beaulieu 2002; Dabson 2001; Gladwin et al. 1989; Henderson 2002; Shields 2005). These barriers, however, are place specific and vary from one rural area to another (Lyons 2002).

Existing literature does not offer a clear, universal definition of entrepreneurship. Most definitions include aspects of innovation, while some simply seem to define entrepreneurship as business ownership. Kreft and Sobel (2005) identify the major characteristics of an entrepreneur as innovator, risk taker, and resource allocator. Lichtenstein et al. (2004) identify opportunity and innovation as elements of the entrepreneurial process. Dabson (2001) cites *The Global Entrepreneurship Monitor* as using one of the more straightforward definitions: "Any attempt to create a new business enterprise or to expand an existing business by an individual, a team of individuals, or an established business" (p. 35). Dabson (2001) also cites this definition, "individuals who blend innovation with sound business practices to commercialize new products and services that result in high-growth firms" (p. 35). He says there is a spectrum of entrepreneurial activity, ranging from small businesses with the potential for high growth to microenterprises with five or fewer employees. Henderson (2002) says, "put simply, entrepreneurship is the creation of new firm. Ultimately, entrepreneurship is the process of uncovering or developing an opportunity to create value through innovation" (p. 47). "Entrepreneurs often raise local incomes and add to local wealth" (Henderson 2002: 47). Low, Henderson and Weiler (2005) say, "Not only do entrepreneurs create new local jobs, but they also generate new wealth and new growth. Entrepreneurs are innovative users of other regional assets and resources" (p. 62). A report published by Collaborative Economics (2005) defines an entrepreneur as "an individual engaged in the process of starting and growing one's own business or idea" (p. 9). Aldrich and Waldinger (1990) say, "Entrepreneurship, in the classic sense, is the combining of resources in novel ways so as to create something of value" (p. 112). Wortman (1990) says, rural entrepreneurship is, "the creation of a new organization that introduces a new product, serves or creates a new product, or utilizes a new technology in a rural environment" (p. 330).

### *Rural is Different*

Rural location is not necessarily a barrier for entrepreneurship. Rural communities actually have an advantage in certain entrepreneurial areas. They can produce products that convey nature and culture connections, telecommunication access is growing, and people often move to rural areas to pursue entrepreneurship and a higher quality of life (Dabson 2001). Gladwin et al. (1989) found that rural entrepreneurs are more personal and customer service oriented because of the smaller population (all customers are needed, none are dispensable) and rural areas can be more peaceful (less traffic, less stress). Because urban areas tend to have lower prices, rural entrepreneurs must be service oriented in order to avoid having their customers travel to urban areas or shop online for their purchases. Retail and service businesses thrive in rural communities because they



usually address a niche that is based on location and/or convenience (Beaulieu 2002; Gladwin et al. 1989; Henderson 2002; Razin 1989). Gladwin et al.'s (1989) study concludes that rural businesses that market their goods/services out of the area are the most beneficial place to start trying to generate economic growth. Low et al. (2005) found that rural areas tend to have higher levels of entrepreneurial depth (size and variety of entrepreneurs), but have low levels of entrepreneurial breadth (generated value). Business services have been found to be the one type of entrepreneurship that is lacking in rural communities (Acs and Malecki 2003).

Entrepreneurship can help create sustainable local economies (Beaulieu 2002; Lichtenstein et al. 2004). Local people can utilize their skills, talents, and resources for entrepreneurial success and locally oriented small businesses encourage civic mindedness among residents (Beaulieu 2002). When entrepreneurs are locals, they are more likely to act in ways that are considerate of their surrounding community than a distantly located corporation might (Korsching and Allen 2004; McKibben 2007). Typically, rural communities are home to a few major employers, offering little economic diversity and the potential for economic devastation if one of the major employers closes (Grey and Collins-Williams 2006). The presence of smaller, diverse businesses can protect a rural economy against economic changes. Trade and service industries predominate in rural areas (Beaulieu 2002; Gladwin et al. 1989; Grey and Collins-Williams 2006; Henderson 2002).

### ***Enterprise Development***

Enterprise development works especially well for rural areas because it is a low cost, bottom up strategy. Local enterprise development is beneficial for local people because it focuses on the development of local businesses that use local inputs, invest money locally, and are loyal to the local community. Local businesses are more likely to benefit the local community than big boxes, which are associated with higher levels of poverty than small to medium sized businesses are. Locally based entrepreneurs help foster bottom up development and guidance, which leads to a more sustainable local economy (Lichtenstein et al. 2004). Top down economic and community development is usually carried out in the interest of non-local people and to the detriment of local people (Beaulieu 2002; Emery et al. 2004; Korsching and Allen 2004; Lichtenstein et al. 2004; Razin 1989; Sirolli 1999; Weinberg 2000). Service providers do not know what a community or entrepreneur needs better than that community does. When an economic development professional wants to begin work with a certain community, they often begin by imposing their ideas of what that community needs and how to meet those needs. This can be detrimental for local communities because it eliminates their voice from the development process (Dabson 2001; McKibben 2007).

### ***A Need for Policy Regarding Entrepreneurial Growth in Rural Areas***

Much of the entrepreneurship literature addresses the need for policy that promotes entrepreneurial growth in rural areas (Beaulieu 2002; California Center for Regional

Leadership 2005; Dabson 2001; Henderson 2002). According to Dabson (2001), policies aimed at promoting entrepreneurship need to deal with the barriers that rural communities face in creating economies of scale, as well as issues of distinguishing and developing a comparative advantage. Dabson (2001) highlights the idea that government policies are not doing enough to promote rural entrepreneurship as an economic development strategy and proposes that policy support entrepreneur education in order to build entrepreneurial infrastructure. Henderson (2002) proposes that policy be directed at three areas: the individual, community resources, and linking entrepreneurs with local resources. He also stresses the need for a supportive community in order for an entrepreneurial spirit to grow.

An entrepreneurial community is one that has a large number of active entrepreneurs, has a network of entrepreneurs that is distinct and recognizable within the community (it takes a community to develop an entrepreneur), and has an entrepreneurial spirit or culture, or a supportive and encouraging climate for entrepreneurs (Acs and Malecki 2003; Emery et al. 2004; Lichtenstein et al. 2004). Low et al. (2005) posit that entrepreneurial policy implications are fourfold in that they need to address education, quality of life, immigrant entrepreneurship, and infrastructure. A report published by Collaborative Economics (2005) proposes that policy address local assets, connections (networks), culture, and quality of life in order to build an entrepreneurial community. Continuous learning through peer support networks is a crucial aspect of successful rural entrepreneurship (Emery et al. 2004; Henderson 2002). Policy should also promote local collaboration that sustains regional, national, and global competition in order to sustain local economies (California Center for Regional Leadership 2005). This collaboration can aid in overcoming the barriers that rural entrepreneurs face.

### ***Ethnic Entrepreneurship***

Chaganti and Greene (2002) note, "Ethnic entrepreneurship can be defined as a set of connections and regular patterns of interaction among people sharing common national background or migration experiences" (p. 127). Heberer (2004) says, "Ethnic entrepreneurship refers to those entrepreneurs who a) belong to an ethnic minority; b) have to rely on support from their ethnic community to do business, whereby this support can be informal (friends, relations) or formal (a network of ethnic institutions and organizations), and c) use ethnic resources in their businesses" (p. 1). Ethnic entrepreneurs often have to deal with significant barriers in getting started and maintaining their businesses. These barriers are compounded when an ethnic entrepreneur is rurally located. Economic development tends to be implemented by outsiders in service of a community need (Beaulieu 2002; Emery et al. 2004; Korsching and Allen 2004; Lichtenstein et al. 2004; Razin 1989; Sirolli 1999; Weinberg 2000). This can be especially problematic for minority populations that are disenfranchised by structural inequities. Entrepreneurship is a self-development tool that minority populations may access (Boyd 2008; Fairlie and Woodruff 2008; Verdaguer and Vallas 2008). Much research has been carried out on general characteristics of ethnic entrepreneurs, associated barriers, and network theory.

### *Barriers to Ethnic Entrepreneurship*

Ethnic groups face many unique barriers when trying to become entrepreneurs that many non-ethnic entrepreneurs do not have to deal with (Aldrich and Waldinger 1991; Fairlie and Woodruff 2008; Grey and Collins-Williams 2006; Razin 1989; Robles and Cordero-Guzman 2007; Verdaguer and Vallas 2008). Barriers to ethnic entrepreneurship are assimilationist ideologies, inclinations to separate ethnic communities from others, attempts to avoid ethnic enclave establishment, acquiring needed skills and dependable workers, managing customer-supplier relations, and surviving intense competition (Aldrich and Waldinger 1991; Fairlie and Woodruff 2008; Razin 1989; Verdaguer and Vallas 2008). Some communities are not always receptive and often do not have the capacity to accommodate ethnic entrepreneurs. Communities in which significant ethnic minority populations have settled do not have adequate social or organizational structures in place to deal with these population changes (Verdaguer and Vallas 2008). A lack of financial capital is also a major barrier for ethnic entrepreneurs (Aldrich and Waldinger 1991; Fairlie and Woodruff 2008; Grey and Collins-Williams 2006; Robles and Cordero-Guzman 2007; Verdaguer and Vallas 2008). Social stigma associated with rural business failure is another barrier for ethnic entrepreneurs, which can be compounded by the stigma of being an immigrant. Language barriers are another issue that ethnic entrepreneurs face when trying to start and run a business, as many development services are available only in English (Grey and Collins-Williams 2006). Many business development services tend to generalize their efforts to all types of ethnic people, which is problematic considering the diversity within ethnic people as a whole. Market conditions and politics can also hinder ethnic entrepreneurship. Some markets favor ethnic oriented products or services, and politics can affect market conditions (Aldrich and Waldinger 1991). Wang and Li (2007) cite public attitude as an influence on ethnic entrepreneurship. These barriers are compounded when an ethnic entrepreneur is rurally located.

### *Ethnic Entrepreneurs and Business Characteristics*

Many researchers make efforts to identify specific characteristics of ethnic entrepreneurs. Rural California Latino entrepreneurs have been found to be older, educated, assimilated, work long hours, do not have children or have older children, are mostly native born, and are proficient in English (Rochin et al. 1998; Robles and Guzman-Cordero 2007). Generally, age, gender, and education are reported as influences on ethnic entrepreneurship (Butler and Herring 1991; Chaganti and Greene 2002; Fairlie and Woodruff 2008; Razin 1989). Retail and wholesale trade comprised 36% of U.S. Latino owned business revenue in 2002, while approximately 30% of Latino owned businesses were in the service industry (Grey and Collins-Williams 2006; Zarrugh 2007). While identification of individual characteristics is a common objective in the literature, it is also a criticized focus (Butler and Herring 1991). Differences within Latino communities must be considered in research, as generalizing to the entire ethnic group is problematic and inaccurate (Verdaguer and Vallas 2008; Pessar 1995).

### *Reasons for Ethnic Entrepreneurship*

Much of the literature seeks to explain why and how different ethnic groups become entrepreneurs (Aldrich and Waldinger 1990; Butler and Herring 1991; Chaganti and Greene 2002; Razin 1989). Aldrich and Waldinger (1990) advance the structuralist theory, which says that opportunity structures, group characteristics, and ethnic strategies explain ethnic entrepreneurship. Opportunity structures are the presence of positive market conditions, ethnic enclaves, and supportive policies. Ethnic groups are often excluded from many job opportunities, pushing them into small business enterprise (Aldrich and Waldinger 1990; Fairlie and Woodruff 2008; Grey and Collins-Williams 2006; Verdaguer and Vallas 2008; Zhou 2004). However, due to the high rate of ethnic entrepreneurship in some areas, intense competition and high failure rates can result. In order to be successful, say Aldrich and Waldinger (1990), ethnic entrepreneurs need to branch out past the ethnic market. Robles and Guzman (2007) cite an entrepreneurial family background, family and community social networks, neighborhood resources, and civic engagement as factors that facilitate entrepreneurship among ethnic groups.

Group characteristics that influence entrepreneurship are skills or goals that an individual possesses, the presence of class difference among an ethnic group, and a continual flow of immigration (Rochin et al. 1998). Certain cultures are said to have “economically useful practices” that lend themselves to entrepreneurship (Aldrich and Waldinger 1990: 125; Fadahunsi, Smallbone and Supri 2000; Zhou 2004). Cultural values, such as honor, trust, and educational and occupational aspirations, can influence entrepreneurial skills (Verdaguer and Vallas 2008). Ethnic strategies involve the formation of ethnic credit unions, extended family networks, and a sense of ethnicity (Rochin et al. 1998). Ultimately, discrimination and disadvantage plague ethnic populations, and entrepreneurship is a way to overcome these obstacles (Fadahunsi et al. 2000).

### *Benefits of Ethnic Entrepreneurship*

Entrepreneurship is beneficial for ethnic populations for varying reasons. Ethnic entrepreneurship works to build and strengthen local communities. It is a route for integration and empowerment of minority and marginalized groups, a method for upward mobility and for curtailing labor market discrimination, and is an option when other economic opportunities are unavailable (Fairlie 2004; Rochin et al. 1998; Quadrini 1999; Verdaguer and Vallas 2008). Self-employment offers higher wages, flexible schedules, higher savings rates, and wealth accumulation that wage and salary jobs do not (Fairlie and Woodruff 2008). Ideas for a lot of ethnic business arise from issues within their community, meaning ethnic businesses tend to serve the needs of the ethnic population, which they are a part of (Aldrich and Waldinger 1990). Ethnic entrepreneurs can capitalize on cultural product markets and offer services that address language barriers and cultural issues (Zarrugh 2007). In Zhou’s (2004) Koreatown study, local Korean businesses targeted at youth helped build a favorable educational environment for youth. Ethnic entrepreneurs often serve as role models for youth or aspiring entrepreneurs (Zhou 2004). The absence of positive role models for ethnic and minority youths can impede them from believing that they are capable of being successful. Seeing an ethnic person in a position of power or

success can motivate youth to aspire to these things. Effectively, entrepreneurship can be empowering for ethnic communities.

### ***Social Entrepreneurship***

Much of the literature asserts that the concept of social entrepreneurship is under developed and lacks a clear theoretical background, pushing many authors to attempt outlining a unambiguous definition (Austin, Stevenson, Wei-Skillern 2006; Bielefeld 2006; Boschee and McClurg 2003; Mair and Marti 2006; Martin and Osberg 2007; Neck, Brush and Allen 2009; Peredo and McLean 2006; Seelos and Mair 2005; Thompson 2002; Weerawardena and Mort 2006). Most definitions address innovation, goals of social change, and the mobilization of resources (Austin et al. 2006; Bielefeld 2006; Boschee and McClurg 2003; Farmer and Kilpatrick 2009; Haugh 2005; Mair and Marti 2006; Martin and Osberg 2007; Murphy and Coombes 2008; Seelos and Mair 2005; Thompson 2002; Weerawardena and Mort 2006). Despite these common aspects of social entrepreneurship definitions across the literature, authors seem to disagree on the balance of financial and social goals that a social enterprise should employ. Some argue that social entrepreneurship is about addressing a social need and placing social goals paramount to financial goals (Alvord et al. 2004; Austin et al. 2006; Martin and Osberg 2007; Peredo and McLean 2006; Seelos and Mair 2005; Thompson 2002; Weerawardena and Mort 2006), while others argue that financial goals and earned income should be a larger part of social entrepreneurship (Boschee and McClurg 2003; Haugh 2005; Mair and Marti 2006). Others contend that social entrepreneurship employs a balance of social and financial goals (Bielefeld 2006; Murphy and Coombes 2008; Neck et al. 2009; Roper and Cheney 2005).

What constitutes social entrepreneurship or a social enterprise is a point of contention throughout existing literature (Austin et al. 2006; Bielefeld 2006; Boschee and McClurg 2003; Mair and Marti 2006; Martin and Osberg 2007; Neck et al. 2009; Peredo and McLean 2006; Seelos and Mair 2005; Thompson 2002; Weerawardena and Mort 2006). Many authors differentiate social entrepreneurship and social enterprises from commercial entrepreneurship and commercial enterprises in order to clarify this issue.

The primary differences between commercial and social entrepreneurs are that social entrepreneurs' earned income strategies are tied directly to their mission and social entrepreneurs are evaluated based on social and financial outcomes, while commercial entrepreneurs are concerned mainly with financial outcomes (Boschee and McClurg 2003; Farmer and Kilpatrick 2009; Martin and Osberg 2007; Murphy and Coombes 2008; Thompson 2002). Social enterprises utilize different resources and opportunities than commercial enterprises (Murphy and Coombes 2008; Neck et al. 2009). Social entrepreneurs are more reliant on large, diverse networks to sustain their goals, are not able to compensate employees as competitively, have fewer funding opportunities that come with more regulations and smaller time frames, and have more accountability than commercial entrepreneurs (Austin et al. 2006). Haugh (2005) and Williams (2007) find that

marginalized groups of people (i.e. women and ethnic groups) are more likely to engage in social entrepreneurship than others.

Management of social enterprises can be more challenging than management of commercial enterprises (Boschee and McClurg 2003; Haugh 2005; Peredo and McLean 2006). Employing two managers, one for the financial aspect and one for the social aspect, is usually most beneficial, as it is hard for one person to accomplish harmony of both aspects (Haugh 2005; Peredo and McLean 2006). Boschee and McClurg (2003) outline three necessary management positions for a social enterprise. Innovators are the dreamers who create prototypes, entrepreneurs are the builders who are concerned with financial viability, and professional managers are the trustees who install and oversee programs.

According to multiple authors, social entrepreneurship and social enterprises fall along a continuum, ranging from nonprofits with some earned income, to non-profits or for-profits with equal concerns for social and financial ends, to for-profits with some emphasis on social responsibility (Bielefeld 2006; Boschee and McClurg 2003; Haugh 2005; Murphy and Coombes 2008; Neck et al. 2009). Examples of social entrepreneurship include: working with potential high school drop outs to keep them in school, manufacturing products for disabled people, providing services to elderly people, developing or selling curricula, bringing funding to poor people trying to start businesses, low cost eye surgery for blind people, programs that reduce pesticide use in agricultural fields, manufacturing solar powered trash compactors, a charity that asks businesses to round up on individual total sales, a website that facilitates mass micro lending to entrepreneurs in developing countries, and a company that manufactures consumer products with waste materials (Boschee and McClurg 2003; Mair and Marti 2006; Neck et al. 2009).

Methods for measuring the performance of social enterprises is another heavily discussed topic in existing literature, as indicators of social change can be difficult to quantify (Austin et al. 2006; Bielefeld 2006; Haugh 2005; Peredo and McLean 2006). Bielefeld (2006) posits that assessment tools should address purpose, social context (rights and responsibilities of stakeholders, evaluate financial and social returns), and metrics (measurement of social and financial returns). Haugh (2005) argues that measurement tools should consider monetary input, output (jobs), and intangible outcomes such as social capital, community cohesion, social well being, and quality of life. The author also contends that negative outcomes also be measured and reported on. Development of a clear set of progress indicators is necessary for successful social entrepreneurship (Austin et al. 2006; Bielefeld 2006; Haugh 2005; Peredo and McLean 2006).

Social entrepreneurship has many benefits for local people and communities. Social enterprises cater to the infinite social needs that exist throughout the country. Haugh (2005) identifies greater market responsiveness, efficiency, innovation and leveraging of resources as benefits of social entrepreneurship. Social entrepreneurship can help revitalize disadvantaged communities by giving unemployed people necessary skills, generating jobs, and alleviating welfare dependency (Alvord et al. 2004; Haugh 2005). Ultimately, social

entrepreneurship is a catalyst for social transformation (Alvord et al. 2004; Austin et al. 2006; Bielefeld 2006; Boschee and McClurg 2003; Farmer and Kilpatrick 2009; Haugh 2005; Mair and Marti 2006; Martin and Osberg 2007; Neck et al. 2009; Peredo and McLean 2006; Seelos and Mair 2005; Thompson 2002; Weerawardena and Mort 2006).

### ***Sociospatial Entrepreneurship***

The term “sociospatial entrepreneurship” is not widely used throughout existing literature. Those that use the term in reference to entrepreneurship do not offer a clear definition. For Munoz (2009), sociospatial seems to refer to the spatial distribution of social enterprises. She refers to “geographies of social enterprise” (p. 3), the “place based nature of social enterprise activity” (p. 4), and “the spatiality of social enterprise impact” (p. 5). Ndoen, Gorter, Nijkamp and Rietveld (2002) discuss sociospatial as contextual conditions that influence entrepreneurial activity in a particular place. Williams (2007) use of the term seems to be referring to the geographic differences in rates of social entrepreneurship among different types of people (women, ethnic, disabled).

Some authors, however, discuss sociospatial entrepreneurship using the term “embeddedness” (Jack and Anderson 2002; Kalantaridis and Bika 2006; Kloosterman and Rath 2001; McEachern and Hanson 2008; Pallares-Barbera, Tulla and Vera 2004; Scott 2006; Shaw and Carter 2007). For most authors, this term refers to the geographically specific social context in which an entrepreneur operates. According to Jack and Anderson (2002), “Embedding is the mechanism whereby an entrepreneur becomes part of the local structure” (p. 467). It is “identified as the nature, depth, and extent of an individual’s ties into the environment” (Jack and Anderson 2002: 468; Kalantaridis and Bika 2006: 1564). Entrepreneurs become embedded by identifying contextual opportunities and by knowing the structure and the context in which they are operating (Jack and Anderson 2002). Being embedded in the local structure/social context creates opportunities for entrepreneurs, such as the identification of social resources, increased access to sources of support, and increased entrepreneurial activity (Jack and Anderson 2002). Embeddedness is heavily tied to social networks. Shaw and Carter (2007) found that network embeddedness is a key aspect of social entrepreneurship, as social entrepreneurs use their local networks to build credibility and support for their business. Kalantaridis and Bika (2006) outline a spectrum of entrepreneurial embeddedness, ranging from strong to weak. Kloosterman and Rath (2001) and Munoz (2009) argue that entrepreneurial embeddedness be investigated at the national, regional, and local level in order to develop a thorough understanding of the topic.

Authors who write about geographic topics related to entrepreneurship and do not use the term “embeddedness” to refer to place specific issues associated with entrepreneurship. Munoz (2009) argues that social entrepreneurship is a place based phenomenon. Environmental factors influence goals and access to resources, among other things. She posits that social entrepreneurship can be better understood by looking at the variation of social entrepreneurs across geographical locations. Williams (2007) does exactly this in his comparison of different populations of entrepreneurs across different geographic

areas of the UK. He found that there are different rates of commercial and social entrepreneurship among different population groups and areas. Marginalized groups (women, disabled, retired, ethnic groups) and residents of rural areas are more likely to engage in social entrepreneurship than commercial entrepreneurship. According to Boyd (2008), place specific racial segregation and “insider’s knowledge” can push ethnic groups into entrepreneurship. Opportunity structures are place specific; being embedded in a local structure increases an entrepreneur’s awareness of and ability to identify opportunities (Boyd 2008; Jack and Anderson 2002; Kloosterman and Rath 2001). Ethnic enclaves are discussed in the literature as an opportunity structure available to ethnic entrepreneurs (Boyd 2008; Chaganti and Greene, 2002; Fadahunsi et al., 2000; Janjuha-Jivraj 2003; Menzies, Filion, Brenner and Elgie 2007; Pessar 1995; Zhou 2004).

### ***Networks***

Networks play a key role in entrepreneurial success everywhere, but especially in rural areas, as they facilitate and motivate entrepreneurship (Dimara et al. 2003). Identifying and building upon existing rural business and social networks is an excellent way to achieve economic vitality in rural areas (Dabson 2001; Dimara et al. 2003; Rosenfeld 2001). People in rural communities rely on one another and their networks to meet specific needs at various times. Such alliances benefit not only the participants, but the larger community as well. Some of these benefits are monetary (increase in cost efficiency), shared liability, opportunity to develop differentiated products (through shared liability), legitimacy establishment (aligning with a well-established firm can give legitimacy to a new firm), increased innovation, competitive advantage, foreign market development, and technology and knowledge sharing (Dimara et al. 2003; Levitte 2004; Martin and Stiefelmeyer 2001). Networking in rural areas can be difficult due to sparse population concentrations. Rural people can be quite independent and are often used to acting from necessity based on their own personal experience, which can hinder their ability to tap outside resources that could spur growth (Acs 2003; Dabson 2001). Because small rural businesses can be heavily affected by the presence of bigger corporations, support networks become crucial for success (Dabson 2001; Donckels and Lambrecht 1995; Henderson 2002). Support networks allow rural businesses to pool their resources and share ideas and problems, which can reduce costs and increase productivity (Dabson 2001; Henderson 2002). Henderson (2002) addresses the usefulness of online peer support networks for rural entrepreneurs in overcoming isolation issues. In a study of mid-Atlantic region entrepreneurs, strong social networks were reported as crucial for business success (Shields 2005).

### ***Role of Social Ties***

Networks often involve a mix of strong and weak social ties (Granovetter 1973; Hoang and Antoncic 2003; Wilkinson 1999). Strong ties are “intimate and continuing relations among family members and friends,” while weak ties are “formal and transitory contacts among relative strangers” (Wilkinson 1999: 8). Strength of a tie is based on the time invested, the emotional intensity, intimacy, and reciprocation. Granovetter’s network



theory conjectures that both strong and weak ties are needed in order to promote social stability and social well-being in a community. Weak ties connect strong ties into the community. When weak and strong ties are unbalanced, chances for upward mobility are limited and community disruption increases. Both weak and strong ties are needed for individual and social well-being. Entrepreneurs should participate in multiple networks, as local networks can be restrictive in that they can reduce access to outside resources, ideas, and information and limit innovation (Donckels and Lambrecht 1995; Levitte 2004; Phillipson et al. 2006). Levitte (2004) discusses family and friend networks as important for daily business operations, while outside resources are important for training and education. Residents of rural areas tend to have an abundance of strong ties and lack necessary weak ties. Granovetter (1973) notes that weak ties provide upward mobility for disadvantaged people, therefore, if the number of weak ties decreases in a rural setting then upward mobility and reduction of inequality are negatively affected, which in turn, affects network development. Strong and weak ties contribute to the cohesiveness of a community because they complement each other (Granovetter 1973).

### *Ethnic Entrepreneur Networks*

Ethnic entrepreneur networks can be especially important for success. Rural location and ethnic status have commonalities in discussions of entrepreneurship. Ethnic and rural entrepreneurs experience similar barriers to entrepreneurship and benefit from networks in similar ways. For ethnic entrepreneurs, family, or strong ties, tend to be a rich resource for labor, capital, and other forms of assistance (Chaganti and Greene 2002; Dimara et al. 2003; Fadahunsi et al. 2000; Janjuha-Jivraj 2003; Zarrugh 2007). Minority groups tend to look to fellow minorities for support because higher levels of trust and social capital tend to be present among minorities than between minorities and white people (Chaganti and Greene 2002). Whether or not they receive the support they are looking for seems to depend on location and the nature of community relations.

Existing social networks among ethnic groups can offer aspiring entrepreneurs financial assistance, a labor pool, customers, suppliers, opportunities for international networking, and business advice and support (Fadahunsi et al. 2000; Janjuha-Jivraj 2003; Zhou 2004). Ethnic enclaves, or an area with a substantial number of immigrants with business experience, available capital, and available labor, are a supportive environment in which ethnic entrepreneurship can grow (Janjuha-Jivraj 2003; Pessar 1995). These enclaves can create unity and cohesion through shared culture and relationships due to common exclusion from the wider community (Janjuha-Jivraj 2003). Enclaves provide unique economic opportunities, an environment that is conducive to social mobility for ethnic entrepreneurs, and a pool of available weak ties (Zhou 2004). Enclaves often involve norms of trust and reciprocity, which can strengthen entrepreneurial efforts (Chaganti and Greene 2002; Fadahunsi et al. 2000; Zhou 2004) Ethnic culture can influence knowledge sharing in business networks, as individualistic cultures involve people who are loosely linked, independent, and possess explicit knowledge and rationality. Collective cultures involve people who are closely linked, belong to a collective, and have tacit and embedded

knowledge. This dimension of culture influences the type of information people prefer and can process (Moller and Svahn 2004).

While ethnic entrepreneurial networks are important for success, they typically are not linked into the mainstream, non-ethnic networks. This exclusion can hinder an ethnic entrepreneur's success by stifling innovation and creativity that networking facilitates. Ethnic owned businesses are often operating informally, or without collecting or paying taxes or going through formal permitting processes, which can preclude them from participating in formal business networks (Grey and Collins-Williams 2006).

### *Ethnic Enclaves*

Ethnic enclaves are discussed as both a catalyst for entrepreneurship and as restrictive for entrepreneurship. Ethnic enclaves often produce ethnic entrepreneurs and ethnic group cohesion due to common exclusion from the wider community. Ethnic enclaves often create unity through shared culture and relationships (Janjuha-Jivraj 2003). They offer low barriers to entry, niche markets, and specialized skills and knowledge that positively influence successful ethnic economic activity (Razin 1989; Zhou 2004). Zhou (2004) distinguishes between enclave entrepreneurs and middleman entrepreneurs. Enclave entrepreneurs are described as community builders because they are invested in social relationships and structures within their communities. Enclaves introduce a place-based element into the concept of ethnic entrepreneurship. Middleman theory, which says that self-employment, tends to become a viable option for ethnic or immigrant people when they can either not find a job or cannot find a well-paying job, are offered as an explanation for ethnic entrepreneurship in a few articles (Aldrich and Waldinger 1991; Butler and Herring 1991; Chaganti and Greene 2002). Zhou (2004) describes middleman minority entrepreneurs as "those who trade in between a society's elite and the masses" (p. 1041).

Networks can be restrictive for both rural and ethnic entrepreneurs as well. Chaganti and Greene (2002) found that entrepreneurs more closely tied to their ethnic communities, or those who are more reliant on strong ties, were not as successful as those that connected outside the ethnic community, or those who cultivated weak ties. According to the study, those who are more involved in the ethnic community will experience fewer personal resources (and thus, disadvantage), possess more traditional values, hold family and community success as more important than financial business success, are less likely to develop a competitive advantage, and will perform lower in terms of financial measures of success. On a similar note, Donckels and Lambrecht (1995) say, and Zhou (2004) seems to agree, that family networks, similarly to networks based on strong ties, are restrictive for entrepreneurs in that they foster opinion and idea homogenization and hinder innovation. An increased number of business connections would likely lead to increased success. In Pessar's (1995) study of Washington D.C. Latino entrepreneurs and in Zarrugh's (2007) study on Harrisonburg, Virginia Latino entrepreneurs, respondents reported being predominantly involved in networks with non-Latinos. Latino contacts were mainly used for services requiring a certain level of trust, such as lawyers and accountants (Pessar 1995).

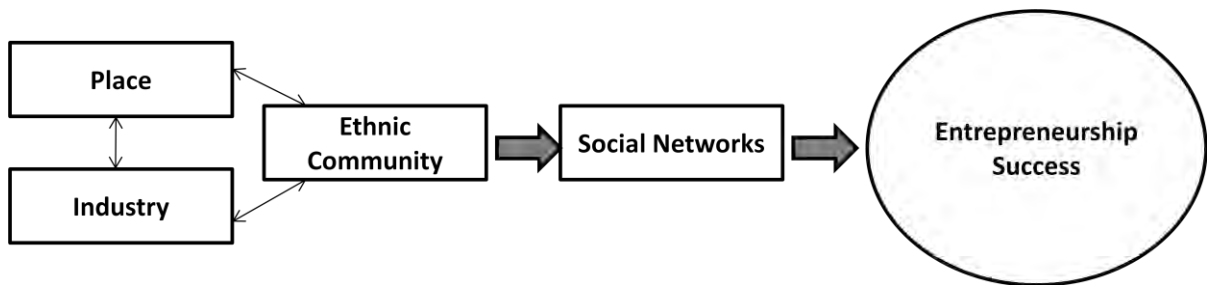
Latino entrepreneurs in the D.C. area generally do not rely on ethnic solidarity or an ethnic enclave to be successful and capitalize on the labor of newer immigrants, rather than embrace them and offer support. Hansen and Cardenas (2008) found that immigrant ethnic employers are more likely to rely on Mexican immigrants as employees and as consumers than native ethnic groups are. On a similar note, Zarrugh (2007) reports that relying on strictly Latino networks and contacts can be a hindrance for Latino entrepreneurs. At the same time, the well-being of the local Latino population directly affects the success of Latino entrepreneurs that cater to this market. In Janjuha-Jivraj's (2003) study, ethnic networks were found to diminish over time as ethnic entrepreneurs became more established and integrated into the larger community. Like rural entrepreneurs, ethnic entrepreneurs need to access outside resources for success.

Social networks allow ethnic populations to draw upon existing community strengths for economic and community development and growth. By utilizing existing social networks, ethnic groups are often able to gain a certain level of control over their lives that can provide them with social mobility and economic success. Sustainable rural and ethnic economic development requires guidance by local people in the interest of the local community (not by outsiders). Locally oriented small businesses are described as encouraging civic mindedness in rural areas (Beaulieu 2002). Local enterprise development is beneficial for local people because it does not target growth for growth's sake. It focuses on the development of local businesses that are invested in creating local wealth, and it is sustainable because local businesses tend to use local inputs, invest money locally, and are loyal to the local community.



## ***THEORETICAL MODEL***

Based on our review of the literature, we have developed the following theoretical model that provides a place-based perspective of rural entrepreneurship (Figure 4). While this model is based on a case-study approach, it has broader ranging applicability to rural areas throughout the country because it considers place, space, and environment. It highlights the concepts and relationships central to studying entrepreneurship in rural contexts, especially amongst ethnic populations.



**Figure 4: Theoretical Model for Explaining Successful Rural Ethnic Entrepreneurship**

### ***Place***

In our model, we begin with first understanding the place or community where entrepreneurship occurs. This consists of both the social and environmental factors that constitute a place. Place affects ethnic entrepreneurship, as certain ethnic groups have been found to be successful entrepreneurs in some areas, while they are not successful in other areas. Market conditions, public policy, and attitudes toward ethnic entrepreneurship vary from place to place (Acs and Malecki 2003; Aldrich and Waldinger 1991). What makes an ethnic entrepreneur successful in one area but not in another? Wang and Li (2007) study Latino entrepreneurship in three different metropolitan areas in order to address this question. Their study finds that ethnic diversity, immigration history, and local economic structures affect rates of Latino entrepreneurship.

### ***Industry***

Our model also begins with understanding the main industry or industries located in a particular place. The type of place and environment is directly going to affect the type of industry that develops. Characteristics of a place attract specific industries. For instance in the case of Ukiah, California, the surrounding area is flat and perfect for agricultural production and for the railroad to move products. Agriculture is one of the primary industries in the area (Industrial Survey Associates 1951; Mendocino County Historical Society 1967; Ryder 1966). Industries are drawn to specific places because they are based

on resources that exist in that place. For example, Mendocino County has many timber resources as well as a long history of an active timber industry which more recently has declined due to economic, social and political factors. The extension of the railroad into the County stimulated the timber industry, introduced tourism to the area, raised land prices, and lessened communication barriers (Herbert et al. 1979; Wilner 1998).

### ***Ethnic Community***

Both the context of a place and the presence of a particular industry have a direct affect on the local ethnic communities. Certain groups will be drawn to a particular location because of the presence of certain types of jobs. In Mendocino County, and Ukiah in particular, many Latinos are drawn to the region because of the availability of agricultural jobs. Ethnicity is another independent variable used for analysis in this study. Exploring how ethnicity affects an entrepreneurs' experience offers a deeper understanding of entrepreneurship in Mendocino County. "Ethnic groups are groups within a larger society that in some degree are set off from others by displaying a unique set of cultural traits, such as language, religion, diet, and so on" (Marger 2005: 231). Ethnic groups often possess a sense of allegiance to their group that is based on a common history and common experiences. The degree of allegiance that an ethnic person feels toward their group will vary based on the individual. Assimilation into western society can often diminish ethnic people's association and identification with their ethnic group. Social status is often linked with ethnicity, as certain ethnic groups carry higher or lower social status (Giddens, Duneier, Appelbaum and Carr 2008; Henslin 2000; Marger 2005). Furthermore, as an ethnic community establishes itself in a region, social networks are naturally generated. These social networks can be with members of the ethnic group as well as with people outside of this group.

### ***Social Networks***

Business success is influenced by different types of social networks. Different types of intra-group social networks (those that occur within the ethnic group) and inter-group social networks (those that occur with groups external to the ethnic population) impact the success of a business. Both types of social networks are important to business success (Granovetter 1973). Some businesses are designed to cater to a particular ethnic population and are therefore more focused on intra-group, ethnic-based social networks. Other businesses, designed to cater to the ethnic population and the larger, general community, including non-ethnic members of the community would be based on inter-group ties (connections with other non-ethnic groups) and intra-group (ties internal to the ethnic population).

## ***Entrepreneurship Success***

Ultimately, entrepreneurial success is dependent upon social networks (Andersson 2005; Dimara et al. 2003; Donckels and Lambrecht 1995; Grey and Collins-Williams 2006). A business that has well-developed intra-ethnic group ties and inter-group ties (external to the ethnic group) maximizes their potential number of networks and customers. So it would follow that this kind of business will be better positioned to achieve economic success. However, in difficult economic times, having the consistency and loyalty of a specific ethnic population could be very crucial to achieving economic success as an entrepreneur. Ethnic entrepreneurs who draw mostly on intra-ethnic group ties can base their business on customer loyalty and the strength of the relationship or social connection to a particular ethnic population.

Finally, our model indicates that rural ethnic entrepreneurs are going to be more reliant upon inter-group social networks than urban ethnic entrepreneurs. This is because in urban areas there tends to be a higher density of ethnic populations who cluster in ethnic enclaves. In rural areas, while ethnic enclaves exist, they don't exist to the magnitude that they do in urban areas. Their existence is directly related to population density of a particular ethnic population. It boils down to the fact that in rural areas there are fewer people, including members of an ethnic population, compared to urban areas. Another factor to consider is competition. In urban areas, greater numbers of ethnic entrepreneurs may result in more shops offering similar goods and services, so there is more to choose from. Competition for business in rural areas may not be as great as in urban ethnic enclave areas due to the lack of choices. Rural entrepreneurs may enjoy more market power and higher profits.





## ***RESEARCH METHODS***

We used a mixed method approach for this project, incorporating both quantitative and qualitative data analysis. Using both types of data strengthens research findings by offering both descriptions and explanations of the topic being studied (Gartner and Birley 2002). Techniques used in this study included: secondary data analysis, public participation GIS, survey, statistical analysis, and spatial analysis. Content analysis was employed to evaluate participant responses to the qualitative survey questions and generate common themes.

A mixed methods approach allows us to better understand rural entrepreneurship and to examine experiences and social network structures associated with rural ethnic entrepreneurs. This entailed using an inductive approach that began with gathering information about the topic and moved toward creating a theoretical model and methodological approach (Strauss and Corbin 1994). A Geographic Information System (GIS) was used in the initial steps to map business locations, clusters of industry, community engagement points, and gender and ethnicity of study participants (ESRI 2009). Mapping of this data helps to visualize any geographic trends occurring in the data while also giving spatial reference and context for the region of interest.

When attempting to initiate a partnership of some kind with an ethnic population, a community of interest must first be identified. This community's demographics must then be researched to gain an understanding of its history and current situation. This can be done by referencing census data or economic almanacs. Gathering the story of the community is also important when trying to build a partnership in order to understand people's perceptions of each other. This research process also aids in identifying the dominant and non-dominant groups within the community of interest. Checking the membership of local chambers of commerce can shed light on this issue by seeing who is included and who is not. One of the most important factors in trying to build a partnership with a Latino community is testing trust among local people.

If possible, a person or place that is trusted by the local non-dominant community must be identified. This connection allows outsiders access to the community of interest. If trust is not present, it must be cultivated over time by allowing for interaction, compassion, and relationship building. Once trust has been established, local networks can be identified. One way that ethnic networks can be identified is using public participation in geographic information systems (PPGIS). PPGIS allows members of a community to share their knowledge (e.g. thoughts, expertise and observations). It is an effective way for community members to gather together and identify what they know to be important about their community and/or environment in which they live.

PPGIS allows participants to visualize data in a spatial and social context. Non-ethnic networks can be identified by looking at newspapers, by conducting Internet searches, and

by checking with local chambers of commerce. To obtain an idea of how connected the majority and the minority are, the membership of local chambers of commerce can be compared to other sources to determine how well they represent local or regional ethnic diversity.

Once networks are identified, interviews and surveys can be administered in order to gather a complete picture of local Latino entrepreneurship. Surveys help to gain an understanding of rural entrepreneurship, while interviews with both Latino and non-Latino entrepreneurs gather the stories of local entrepreneurs and identify differences and commonalities between dominant and non-dominant groups. Entrepreneurial stories can positively affect success because they serve to identify and legitimate businesses to investors and competitors. They do so by giving the business distinctiveness, competitive advantage, credibility, and increased wealth and resources. Stories can align producers and consumers and can increase social connections (Lounsbury and Glynn 2001). Utilizing both qualitative and quantitative methods strengthens research findings by offering both descriptions and explanations of whatever is being studied (Gartner and Birley 2002).

The entrepreneur success stories gathered in this study highlight the contributions of Latinos to their local community and economy, which will likely strengthen community connections and provide youth with positive role models. Participatory mapping exercises using PPGIS techniques, enhanced this research by articulating community perceptions while helping people visualize their involvement in and connection to their community. We share this information back with community leaders to assist in further strengthening of local community capacity and economic development opportunities. Previous collaboration between the California Center for Rural Policy (CCRP) and Nuestra Casa, as well as census data, offered insight into the demographics and community perceptions in Mendocino. Nuestra Casa is a trusted organization within the Latino community, and therefore was chosen as the hub to conduct community engagement activities.

### ***Pre-Research Community Conversations***

At the outset of this project, we met with various local leaders within the Latino community in order to solicit input. From these meetings, we learned that Latino people would likely value our efforts as they seek to highlight Latino community strengths and contributions. Much of the media on Latinos portrays them negatively and as a strain on local economies. Immigration and crime as it pertains to the Latino community are the two most highly reported on themes in local media (Steinberg et al. 2008). The Latino community in Mendocino is timid in wanting to expose or engage themselves with the larger community or economic development. The reality is quite the opposite, as Latino people contribute largely to local economies through their entrepreneurial success and provide many services. From these conversations, we also learned about the need for positive Latino role models for Latino youth. This project will bring this subject to light by presenting success stories of Latino entrepreneurs. These local leaders informed us about the prevalence of restaurant ownership among Latinos and about intense competition that

exists among Latino entrepreneurs. Churches and soccer fields were identified as rally points for the Latino community.

### ***Survey and Interview Question Development***

The survey question development process began by researching business retention and expansion surveys from various cities and counties across the country. These examples aided in formatting and question content. We then brainstormed about what information we wanted to solicit from a survey or interview. Based on the literature review, we identified several issues to investigate. Do ethnic people utilize family and friend networks to start and maintain their businesses? Do they access traditional forms of capital or funding to start and maintain their businesses (i.e. credit unions, bank loans)? What are barriers and/or obstacles that ethnic entrepreneurs face in starting a business? Do ethnic entrepreneurs work together? Do ethnic entrepreneurs support the local ethnic community? These questions informed the survey and interview development process. After an initial set of questions was developed, the research team met various times over the course of two months to discuss and refine the documents. We also consulted leaders at Nuestra Casa and a local economic development professional for input and feedback on question content. Four out of the 46 survey questions are qualitative, while the remaining questions are quantitative.

### ***Secondary Data***

Data from the U.S. Census and the California Employment Development Department provided a deeper understanding of Mendocino County's economic background. These sources provided data about California and Mendocino County population statistics, industry employment trends, employment classes, income and poverty levels, and numbers of employees, as well as comparisons of this data in terms of race.

### ***Sampling***

This study employed both random and purposive sampling methods. The random sample was drawn from Fictitious Business Name Statements (FBNS) filed with the Mendocino County Recorder's Office in 2004. In 2004, 731 FBNS were filed in Mendocino County. A FBNS is defined as, "A business name that does not include the surname of the individual owner, and each of the partners or the nature of the business is not clearly evident by the name" (San Diego County Recorder's Office 2009). Anyone who is doing business using a fictitious business name should file a FBNS with the county in which they are doing business. After filing a FBNS, it must be published in a local newspaper for four weeks and is valid for five years. The statements include the business name, the owner(s) name(s), business and residential addresses, who business will be conducted by (partnership, individual, limited liability corporation, etc.), the date that business will commence on, the date the statement was filed, and if the statement is new or a renewal.

Information from these statements was then transferred into an excel spreadsheet and each business was given an identification number. Businesses that filed renewal statements were not used in the sample because I was interested in identifying businesses that began in 2004. Five years of business operation is considered an indicator of success. However, due to a lack of quality control at the county, fictitious business names filed in 2004 sometimes were for businesses that had begun their operations prior to that year. Contact was attempted with each of these 731 businesses.

### ***Public Participation Geographic Information Systems (PPGIS)***

Because a list of local Latino owned businesses does not exist, we utilized public participation geographic information systems (PPGIS) as a purposive sampling method to gather the study sample. PPGIS involves non-experts capturing their spatial knowledge. The 'public' can be any subset of individuals that have a stake in an issue. 'Participation' entails community engagement with an issue (Steinberg and Steinberg 2006). Within the FBNS sample, only three Latino people were included in the completed surveys, which speaks to the use of a second purposive sampling method that facilitates the inclusion of an adequate number of Latino entrepreneurs. To generate this list, the larger project held community meetings with the Latino community in which PPGIS was used with community members. PPGIS allows members of a community to share their knowledge and to visualize data in a spatial and social context. PPGIS provides an effective way for community members to gather together and identify what they know to be important about their community and/or environment in which they live. We also talked to community leaders who knew of existing Latino owned businesses. Through these exercises, we generated a list of 92 Latino owned businesses in Mendocino County, which were ground-truthed with Latino community members and business owner interviews. Contact was attempted with all 92 Latino owned businesses.

Once all of the business information was entered into an excel spreadsheet, the business locations were then digitized into ArcGIS feature layers and organized into a geodatabase. This allows the data to be further analyzed in a spatial context (ESRI 2009). This process produced maps that were used in the field work process. Maps contained a business identification number, name, and address for each business

### ***Meeting #1: Places of Engagement***

A community mapping (PPGIS) exercise was conducted on January 24, 2009 as a part of the first Nuestra Casa civic engagement convening to identify places where Latinos participate in community, church, professional, neighborhood, fundraising, school, volunteer, and service groups and activities, as well as the locations of Latino owned businesses. Multiple maps of the county and focus communities were placed on tables for people to mark the locations of the aforementioned activities. To help orient participants, base maps included familiar landmarks, such as schools and churches, identified by Nuestra Casa as being important to the local Latino community. After marking locations on maps,

participants could visualize where and to what degree they are integrated into the community. This visual representation of a very involved Latino community helps to counteract media coverage that negatively portrays Latinos and also builds the confidence and capacity of the community. This data was later geocoded onto the county base map. Using PPGIS, it was clear that Latinos in Mendocino are civically engaged and active in multiple arenas.

### ***Meeting #2: Mapping Community Needs and Identifying Community Member Skills***

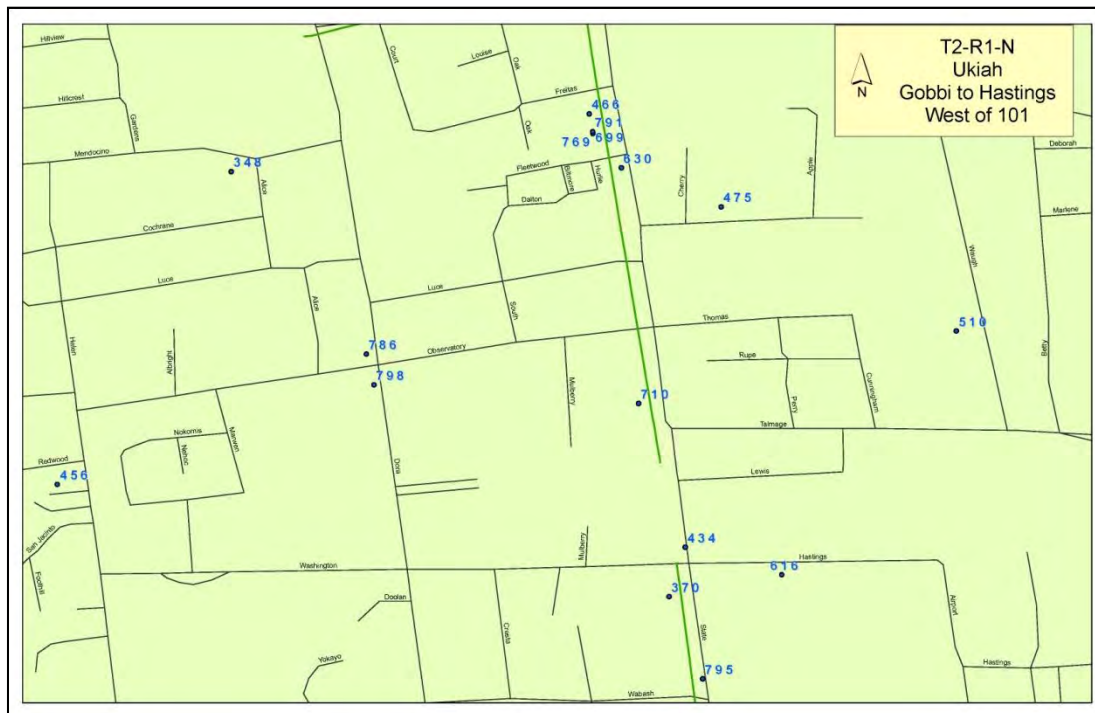
Another PPGIS exercise carried out on April 25, 2009 engaged participants to identify Latino community needs and locations. After a list of needs was generated, themes were identified. The themes identified in this activity were education, health, bilingual services, youth, housing, and community/civic needs. Thematic maps were then placed around the room for participants to mark exactly where community needs exist. For example, a need for bilingual teachers would be classified on the bilingual services thematic map. Participants then marked on this map where bilingual teachers are needed. These points were also digitized and organized in a geodatabase.

The research team also asked participants to complete a worksheet indicating their personal skills. People chose from a list of possible skills, such as bookkeeping, construction, house painting, yard work, tutoring, and teaching, among others. Respondents also indicated the closest cross streets to their home. Residents' skills were then geocoded onto a map according to their cross streets using [www.batchgeocode.com](http://www.batchgeocode.com) (Holmstrand 2010). Low accuracy points generated from the geocoding tool were then ground-truthed using Google Earth, [earth.google.com](http://earth.google.com) (Google 2010). Mapping this information allows for visual comparison of the locations of community needs and community skills in order to match people's skills to community needs while also allowing for more in depth spatial analysis to occur. Through this exercise, community members can better identify entrepreneurial opportunities built upon their own community resources.

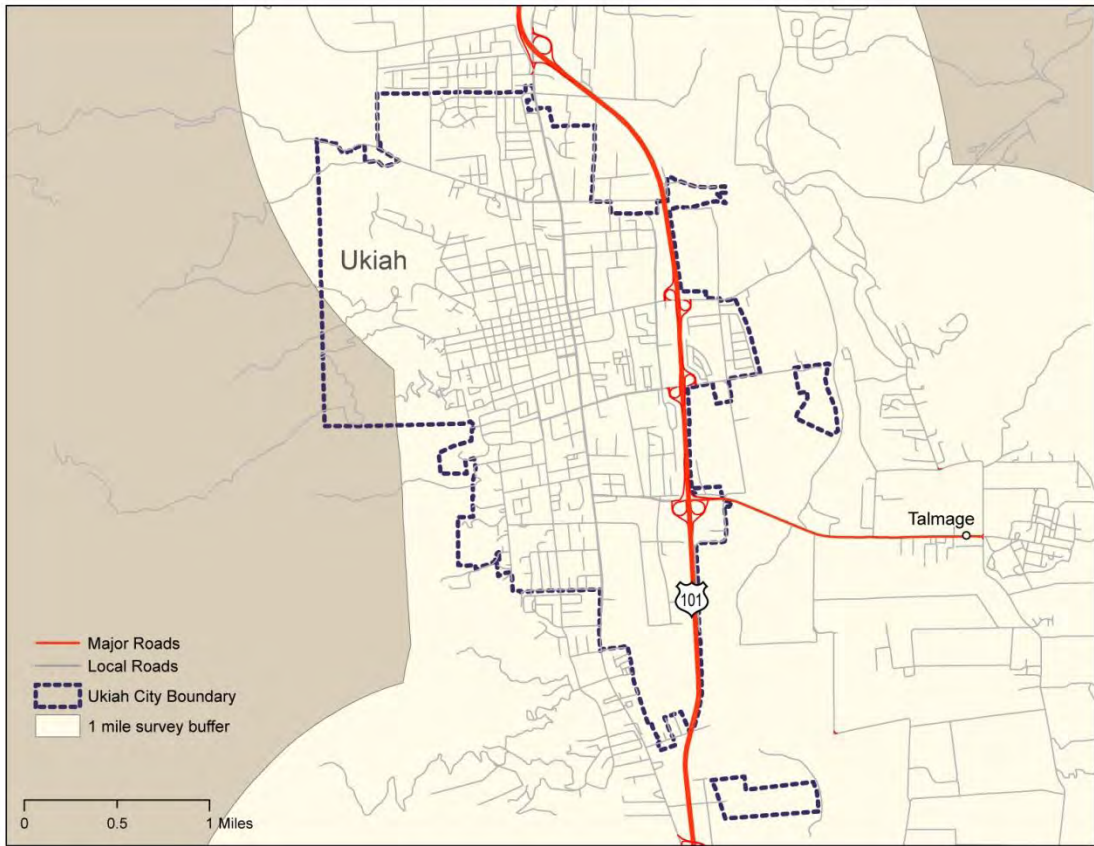
### ***Surveys and Field Work***

Four research trips were conducted in Mendocino County between May 18, 2009 and July 12, 2009. On these trips, teams of two visited businesses and asked the owner to participate in the survey. If owner agreed to participate, a team member conducted the survey at the place of business. If the owner was not present at the first visit to the business, team members would inquire about a time to return. In some cases, if the owner was busy or was not going to be on site within while the research team was in the field, a survey was left at the business for them to complete and return in a postage paid, return envelope. If a business was located in a residential area and no one was home after two visits, it was moved to a call list. If a residence had a locked gate, no trespassing signs, or a scary dog present, it was also sent to the call list.

Initially, we created field guide maps (Figure 5) that included all businesses in the sample. After the first research trip, it became apparent that many businesses were remotely located and that visiting all of these distantly located businesses was not realistic. ArcGIS (ESRI 2009) was used to create one mile buffers (Figure 6:) on each side of the major roads in the Willits/Ukiah area, while a two mile buffer was used on each side of the major roads in the coastal area of the county in order to cover a similar number of square miles being covered on the interior area. Any businesses that fell outside of these buffers were relegated to the call list. Surveys with these remotely located businesses were attempted via phone rather than in person. A color coding system was used on the business spreadsheet in order to organize our progress. Completed surveys were assigned new identification numbers for the coding process.



**Figure 5: Sample Field Work Map: Business names and addresses have been removed from this map to maintain confidentiality.**



**Figure 6: Example of one mile buffer about major roads in Ukiah, California used to determine businesses to visit in person versus placing on call list to contact by phone.**

### ***Measures of Success***

We considered two measures of entrepreneurial success: profit and growth. Successful businesses will experience more years of profit. Success can be defined as growth in the size of the business as measured by the number of employees. Profit is a good measure of business success. Profit maximization is taken as the primary goal in economic models of firm behavior, and profit should be correlated with other business goals such as growth of firm size and compensation for employees. Unprofitable firms will have a difficult time surviving. We asked our entrepreneurs a simple question that could be reliably reported: “Over the last five years, how many years did your business make a profit?” Having the actual dollar amount of profits, as reported on income tax forms for example, would have been desirable, but such data were not available. We believed that business owners would not provide reliable dollar estimates of annual profit for each of the last five years since our survey did not ask them to review their records. Owners should reliably be able to indicate in how many of the last five years they made a profit.

If a business grows in size, then it may also be considered more successful, and one measure of size is the number of employees. We ask “How has the number of employees working for your business changed since 2004?” We believe that this information is straightforward, and that recollection by owners would be very close to actual amounts. The dollar amount of payroll would also be a nice measure to have, but since we did not ask our owners to review records, we suspect that owner-reported payroll data would have been unreliable.

We also note that successful entrepreneurs run businesses that still operate five years after starting, and looking at characteristics of businesses no longer in operation would be helpful. But it was difficult to collect data on “failed” businesses that started five years ago. We were able to reach a very small handful of business that no longer existed, but the owners were largely unresponsive, making it difficult to obtain useful data.

### ***Theory of Entrepreneurship***

Many factors are expected to influence business success. Among them are experience and education, funding opportunities, use of planning, and access to networks. Entrepreneurs who exhibit these factors, or who have more of these factors, are predicted to have more business success. We also consider the influence of ethnicity in determining business success.

Experience and education variables include whether this is the first business that the entrepreneur has owned, whether the business was started or acquired, the number of years as owner, whether the owner is a college graduate, and whether the owner graduated from high school. Funding variables include whether or not a bank business loan was used to start the company, and whether or not various specific funding sources were used such as a credit union, an economic development agency, family and friends, credit cards, personal savings, or a home equity loan. Planning variables include whether or not the business was started with a business plan, whether an accountant does the bookkeeping, and whether the owner does the bookkeeping. Network variables include whether or not the owner is a member of a business network, whether the business engages in barter trade with other companies, and whether the owner is foreign born. We also ask whether the owner receives business advice from various sources, such as a bank or credit union, the Internet, or an economic development agency.

Ethnicity refers to the self reported ethnicity of the business owner. The categories were Latino, White, Native American, Asian American, Asian, and “other.” Ethnic entrepreneurs are defined as those who chose Latino, Native American, Asian American, Asian, or “other,” while non-ethnic are those who chose White. The data is analyzed to determine if ethnic entrepreneurs are more or less likely to be successful.



## ***Spatial Analysis***

In order to investigate the spatial components of the data it must first be transformed in a way that can be utilized in a GIS. All 134 completed surveys contained an address associated with the business. These addresses were geocoded with [www.batchgeo.com](http://www.batchgeo.com) (Holmstrand 2010) to generate a text file with the latitude and longitude location. This text file was exported with a column rating the accuracy of the business point location. These codes were then used to determine if position adjustment would need to be performed for each business location. An accuracy code of either rooftop or range-interpolated prompted no further adjustment. Rooftop accuracy implies the geocoder had exact location, or rooftop accuracy, for the address given and is the most accurate (Holmstrand 2010). A code of range-interpolated creates a location that is interpolated between known points and is generated when rooftop location is unavailable. For this study it was determined that range-interpolated accuracy was well within the needed accuracy constraints for analysis. Any accuracy code of geometric center or approximate implied the resulting location was created in the center of a known road or zip code and had the lowest accuracy. Because this has potential to place a point well away from its true location, other tools were used to more accurately locate the point.

Google Earth has the ability to search for businesses available in their business directory. Businesses that received a low accuracy rating in the geocoding process were then searched for using Google Earth. Latitude and longitude information was then gathered in Google Earth and corrected on the text file exported from the geocoder. Once all 134 businesses had accurate spatial location, they were brought into ESRI ArcMap and positioned with the latitude and longitude information. This file was projected into the UTM zone 10 using the 1983 North American Datum (NAD) and imported into a file geodatabase.

During the PPGIS meetings community activity, or civic engagement points, and community strengths and weaknesses were gathered and placed on paper maps. Using ESRI ArcMap, these points were digitized using base layers such as local roads, and parcels as location references. Civic engagement points were classified into one of the following categories: interaction, professional organization, service group, volunteer, or other support. Community strengths and weaknesses were simply categorized as such. These layers were also projected into the UTM zone 10 using NAD 1983, and imported into a file geodatabase for organization and storage.

Because we are interested in business owner ethnicity, it was appropriate to gather census data around business locations. Many of the businesses were close in distance to one another so obtaining census data at the smallest level was important. Block level data is the highest resolution product that the U.S. Census Bureau distributes. Using the U.S. Census Bureau website, [www.census.gov](http://www.census.gov), summary file one block level census data was compiled for Mendocino County (U.S. Census Bureau). Demographic data including population, race, gender, age, household, and housing information was downloaded from the American Factfinder section of the website. This data was joined to the TIGER/Line

block level boundary shapefiles for Mendocino County, projected to UTM coordinates, and imported into a geodatabase with ArcMap (U.S. Census Bureau).

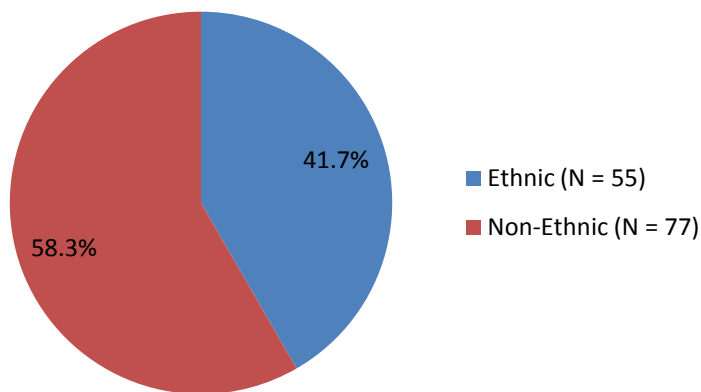
County parcel and land use data can also help characterize the space around a business location. The most current parcel data (December, 2008) was received from the Information Services division of Mendocino County. The parcel attributes characterized land use, parcel size (acres), land value, improvement value, and listed owner information.

## ***SAMPLE DESCRIPTION***

The following sections provide a description of the results from the 134 surveys that were collected for this project.

### ***Ethnicity***

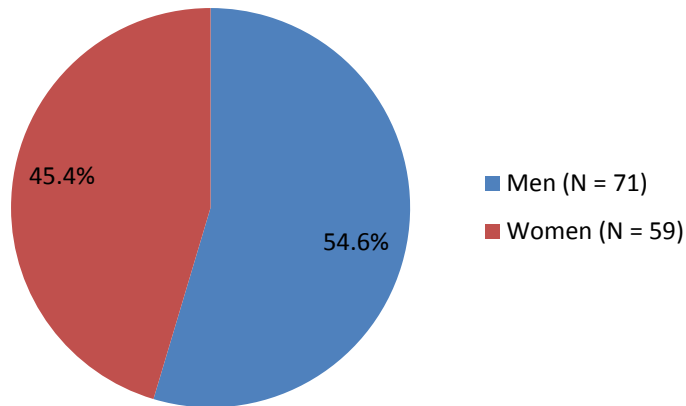
In this project, ethnicity is the primary independent variable used for analysis. Ethnicity was assigned a binary classification of ethnic or non-ethnic (Figure 7). Caucasian was the basis of the 'non-ethnic' category whereas Latino, Asian, Native American, African American, and 'other' were included in the 'ethnic' classification. The sample is comprised of 58.3% non-ethnic and 41.7% ethnic participants.



**Figure 7: Ethnicity of Study Participants (N = 132)**

## Gender

The sample consisted of 45.4% males and 54.6% females (Figure 8).



**Figure 8: Gender of Study Participants (N = 130)**

## Age

The mean age of study participants is 46 years old, while the median age is 45 years old. For ethnic participants, the mean age is 45 years old and the median age is 44 years old. The mean and median age of non-ethnic respondents is 49 years old (Table 14).

**Table 14: Age of Study Participants**

Sample Population	Mean Age (Years)	Median Age (Years)
Whole (N = 132)	46	45
Ethnic (N = 54)	45	44
Non-Ethnic (N = 77)	49	49

## Education

Participants were asked, “What is your level of education?” Answers were classified into eight categories (Figure 9).

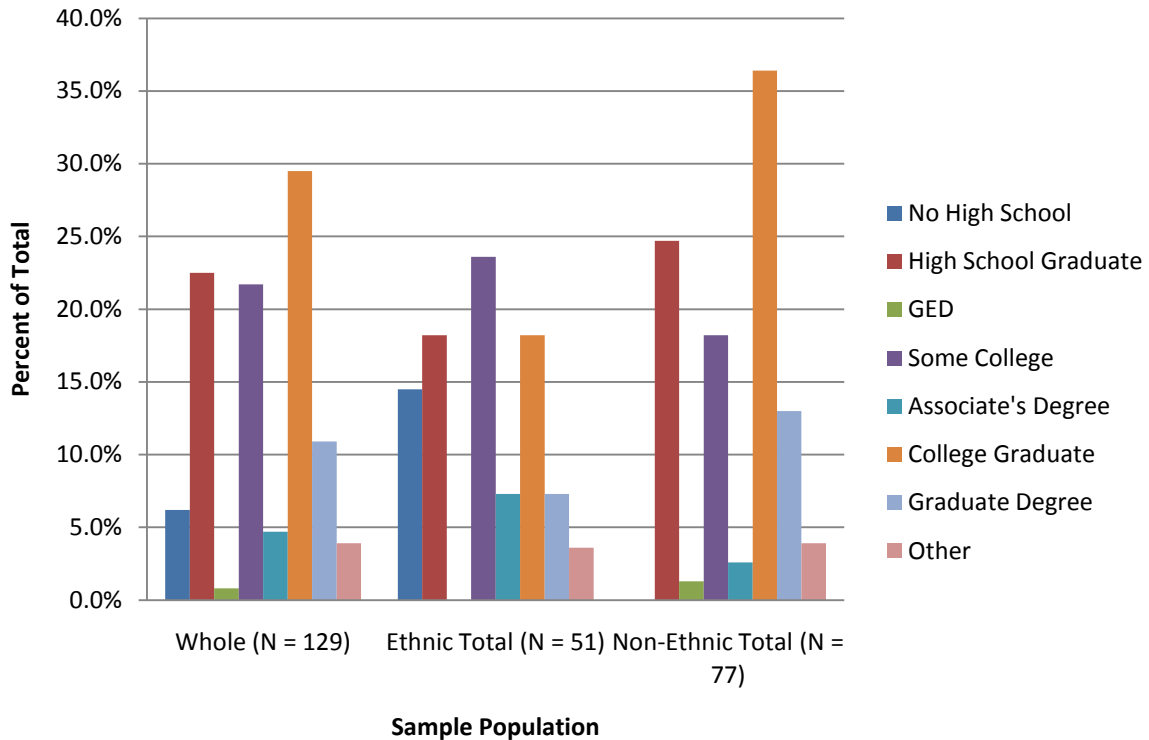
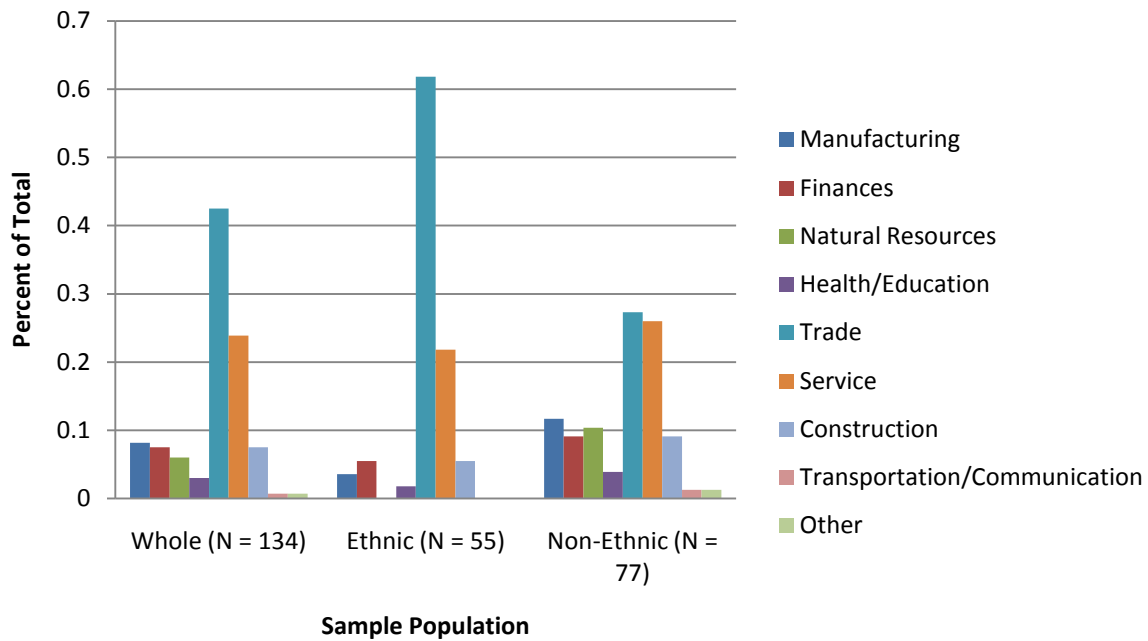


Figure 9: Education Levels of Study Participants

## Industry Classification

While analyzing the data, it became apparent that respondents had classified their businesses under industry categories that do not align with the Department of Labor’s (DOL) classification system. In order to analyze industry classifications of businesses in the sample, responses were reclassified based on the DOL North American Industry Classification System (Occupational Safety and Health Administration 2008). This classification system details which types of businesses fall into certain categories. For example, some respondents classified their restaurant business in the service industry, when they should be classified in the trade industry according to the DOL system. This section shows the recoded industry classifications for the different sample populations (Figure 10).



**Figure 10: Industry Classification of Study Participants' Businesses**

### ***Place Born***

The survey asked respondents, “Where were you born?” This question was then given a binary code indicating if the entrepreneur was born in the United States or abroad. The literature indicates that immigrant entrepreneurs have different experiences than U.S. born entrepreneurs do (Table 15).

**Table 15: Place Born of Study Participants**

<b>Sample Population</b>	<b>Foreign Born</b>	<b>U.S. Born</b>
Whole (N = 133)	31.6%	68.4%
Ethnic (N = 55)	74.5%	25.5%
Non-Ethnic (N = 77)	1.3%	98.7%

### ***Length of Residence***

The survey asked, “How many years have you lived in the local area?” (Table 16). Length of residence is a form of human capital, as longer length of residence can positively influence entrepreneurial success. Length of residence tends to shape community involvement and levels of networking, as longtime residents are more likely to be involved in the local community and have denser networks (more social capital) than short term residents (Wang and Li 2007). Shields (2005) discusses long term residents as possessing a unique sense of place, tradition, reputation, and history that positively influence the way they do business.

**Table 16: Study Participants’ Mean Length of Residence in Mendocino County**

<b>Sample Population</b>	<b>Mean Length of Residence in Mendocino County (Years)</b>
Whole (N = 133)	20.3
Ethnic (N = 55)	17.6
Non-Ethnic (N = 77)	22.2

### ***Business History and Background***

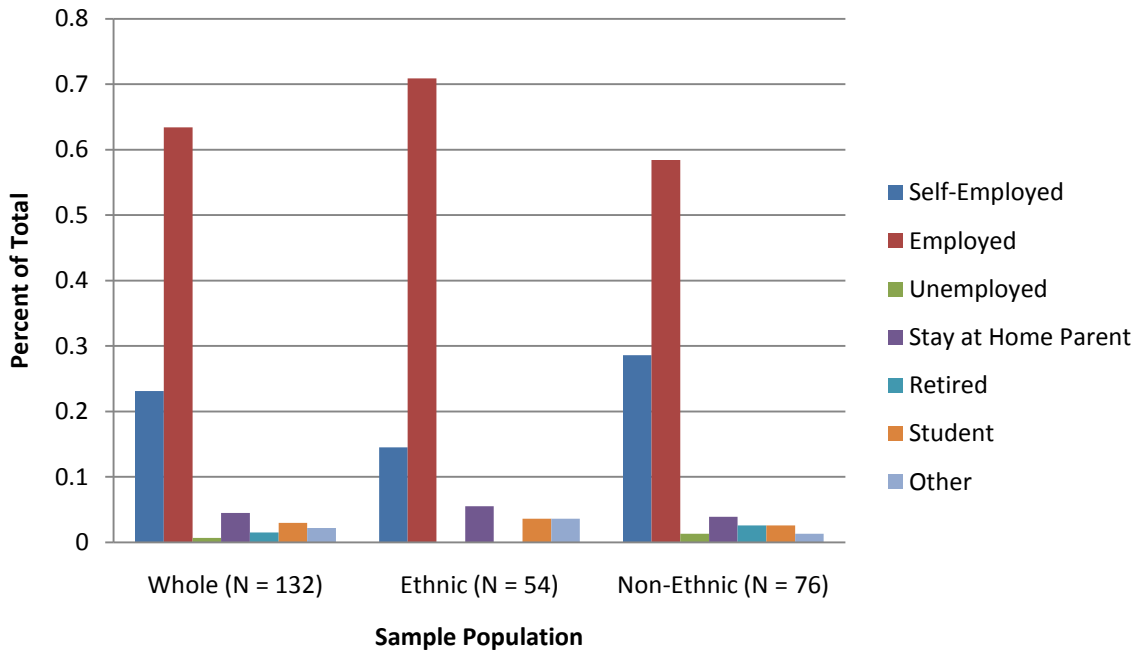
The survey asked various questions in order to investigate the history and background of study participants’ businesses.

Participants were asked, “Is this the first business that you have owned?” (Table 17).

**Table 17: Prior Business Ownership of Study Participants**

<b>Sample Population</b>	<b>Yes</b>	<b>No</b>
Whole (N = 134)	55.2%	44.8%
Ethnic (N = 55)	54.5%	45.5%
Non-Ethnic (N = 77)	55.8%	44.2%

We were also interested in learning about activities entrepreneurs participated in before establishing a new business. The question was asked, “What were you doing immediately before starting this business?” (Figure 11).



**Figure 11: Study Participants’ Occupation Prior to Self-Employment**

To further investigate business history and background, respondents were asked, “Did you start or acquire this business?” (Table 18).

**Table 18: Founding Status of Study Participants’ Businesses**

Sample Population	Start	Acquire
Whole (N = 133)	72.2%	27.8%
Ethnic (N = 54)	70.4%	29.6%
Non-Ethnic (N = 77)	72.7%	27.3%

To follow up on the previous question, the question was asked, “In what year did you start or acquire your business?” (Table 19).

**Table 19: Year in Which Study Participants’ Businesses Were Started or Acquired**

Sample Population	Mean	Median
Whole (N = 134)	2001	2004
Ethnic (N = 55)	2001	2004
Non-Ethnic (N = 77)	2002	2004



In order to learn more about an entrepreneur’s human capital, the question was asked, “Before you started this business, how many years of experience did you have in this line of work?” (Table 20).

**Table 20: Mean Years of Experience in Current Line of Work of Study Participants**

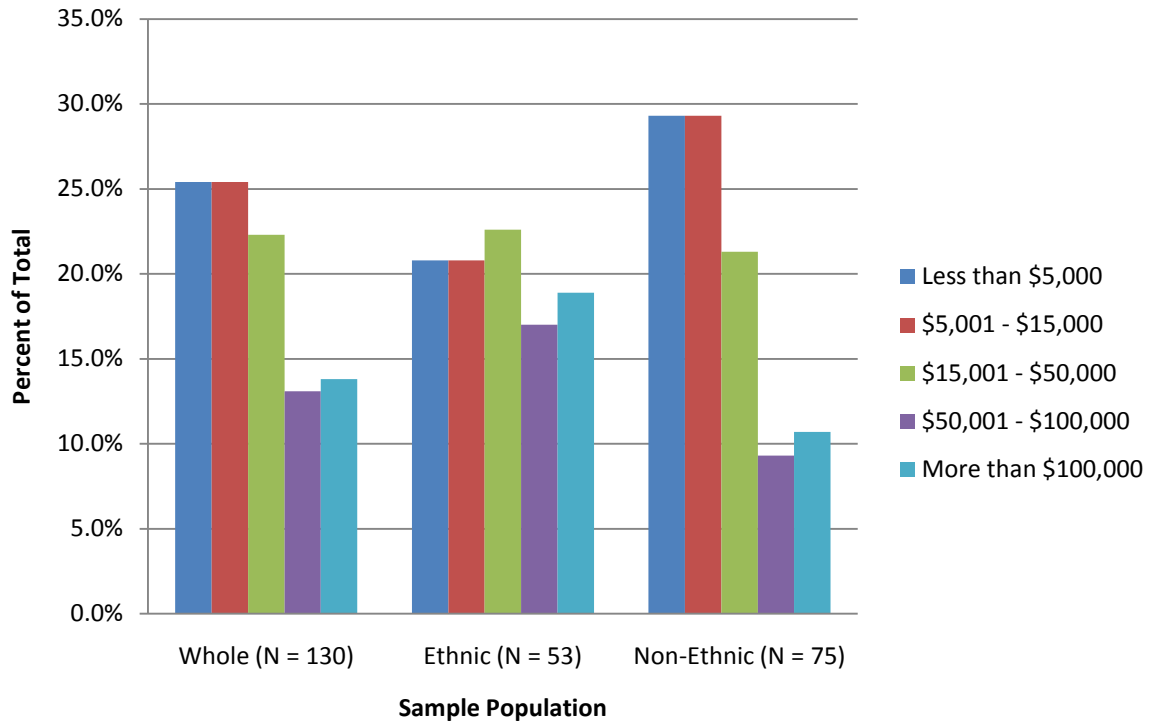
<b>Sample Population</b>	<b>Mean Years of Experience in Current Line of Work (Years)</b>
Whole (N = 133)	10.4
Ethnic (N = 54)	8.9
Non-Ethnic (N = 77)	11.5

Participants were asked, “Did you have a business plan before you started this business?” (Table 21).

**Table 21: Use of a Business Plan for Study Participants**

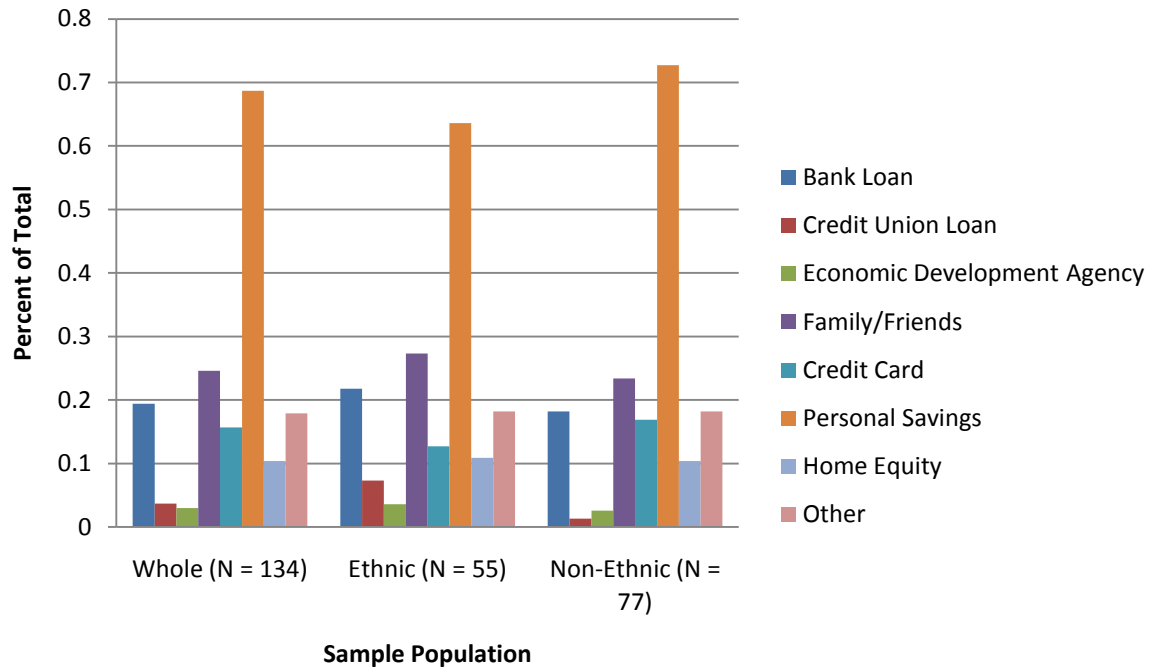
<b>Sample Population</b>	<b>Yes</b>	<b>No</b>
Whole (N = 133)	41.4%	58.6%
Ethnic (N = 55)	49.1%	50.9%
Non-Ethnic (N = 76)	35.5%	64.5%

To better understand an entrepreneur’s initial available capital, the question was asked, “What was your total start up cost for this business?” (Figure 12).



**Figure 12: Study Participants’ Total Business Start Up Costs**

To further explore an entrepreneur’s initial available capital, the question was asked, “How did you fund the start up of your business?” (Figure 13).



**Figure 13: Study Participants’ Sources of Initial Funding**

Interviewees were asked, “How many people currently own this business?” (Table 22).

**Table 22: Number of Current Owners for Study Participants’ Businesses**

Sample Population	Mean Number of Owners	Median Number of Owners
Whole (N = 130)	1.6	1
Ethnic (N = 53)	1.8	2
Non-Ethnic (N = 75)	1.6	1

In order to gain insight into an entrepreneur’s familial resources, the question was asked, “Did your family help you in getting your business started?” (Table 23).

**Table 23: Family Help in Getting Study Participants’ Businesses Started**

Sample Population	Yes	No
Whole (N = 134)	44.8%	55.2%
Ethnic (N = 55)	50.9%	49.1%
Non-Ethnic (N = 77)	40.3%	59.7%

To further investigate an entrepreneur’s familial resources, we asked, “Are any of your family members also business owners?” (Table 24).

**Table 24: Number of Study Participants’ Family Members Who Are Also Business Owners**

<b>Sample Population</b>	<b>Average Number of Family Members Who are Business Owners</b>	<b>Median Number of Family Members Who are Business Owners</b>
Whole (N = 131)	1.2	1.0
Ethnic (N = 52)	1.6	1.0
Non-Ethnic (N = 77)	1.0	1.0

The survey asked participants, “Why did you start this business?” Answers to this question were coded according to emergent themes. (Table 25 and Figure 14).

The following sample quotes reflect study respondents’ thoughts on reasons for starting a business:

*Tired of dealing with bosses. Wanted to do something else but seemed stupid to start back at the bottom, beginning level. Took my experience and started my own business. – 28 year old non-ethnic male*

*Tired of working for someone else. – 36 year old non-ethnic male*

*Because I wanted to get the American Dream, to make money. If I make money, the family is better, better shape, better schools. – 38 year old ethnic male*

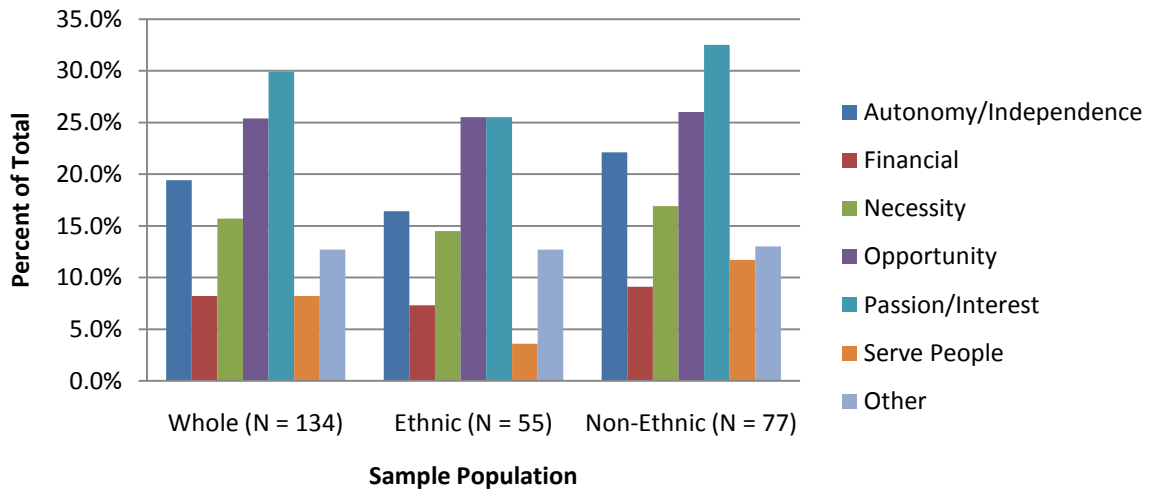
*Opportunity. – 35 year old ethnic male*

*We are single mothers, and we wanted to have flexible times and be our own owners. We are bilingual and we can serve our Hispanic and Anglo-Saxon community. – 41 year old ethnic female*

*Passion for building things correctly – extension of personal passion. – 55 year old non-ethnic male*

**Table 25: Themes for Responses to the Question, “Why did you start this business?”**

Themes	Coded Description of Themes
Passion or Interest	Hobby, passionate about business, love what I do, like to be immersed in culture, it was a dream, something I wanted to do
Serve People	Part of community mission statement, to support community, to serve people, to educate people, to help people reconnect, to organize citizens' voice of dissent, to help people/community
Opportunity	Had the resources, was passed down, had the skills, had knowledge, had the experience, it's what I'm good at, there was a need, given the opportunity
Financial	Money, extra income, added revenue to family business, tax advantages
Necessity	For necessity, no available jobs, needed something to keep me out of retirement, for employment, life style change, wanted to do something else, wanted a change, lost other business, to help/take care of my kids
Autonomy or Independence	To have autonomy, set own roles at own leisure, for flexible hours, personal freedom, wanted to stay home, no boss, to be self-employed, tired of working for someone else
Other	Location, needed something to keep busy/to do, revenge, continued business in memory of other person



**Figure 14: Business Start Up Motivations of Study Participants**

## ***Current Business Information***

Respondents were asked, “How many days per week is your business open?” (Table 26).

**Table 26: Days Per Week Study Participants’ Businesses Are Open**

<b>Sample Population</b>	<b>Average Number of Days Open Per Week</b>	<b>Median Number of Days Open Per Week</b>
Whole (N = 127)	5.9	6.0
Ethnic (N = 53)	6.3	7.0
Non-Ethnic (N = 72)	5.6	5.0

To follow up on the previous question, the question was asked, “For each day that your business is open, how many days is an owner present?” (Table 27).

**Table 27: Days Per Week Study Participants Are Present at Their Business**

<b>Sample Population</b>	<b>Average Number of Days an Owner is Present Per Week</b>	<b>Median Number of Days an Owner is Present Per Week</b>
Whole (N = 127)	5.7	6.0
Ethnic (N = 52)	6.0	6.0
Non-Ethnic (N = 73)	5.6	5.0

To determine business size, the question was asked, “Not including yourself, how many people work for your business?” (Table 28).

**Table 28: Study Participants’ Mean Number of Employees**

<b>Sample Population</b>	<b>Mean Number of Employees</b>
Whole (N = 134)	4.3
Ethnic (N = 55)	5.0
Non-Ethnic (N = 77)	3.9

To further explore familial resources, the question was asked, “Not including yourself, how many family members work for your business?” (Table 29).

**Table 29: Study Participants’ Mean Number of Family Member Employees**

<b>Sample Population</b>	<b>Mean Number of Family Member Employees</b>
Whole (N = 134)	0.9
Ethnic (N = 55)	1.5
Non-Ethnic (N = 77)	0.5

To analyze an entrepreneur’s formal and informal capital, the question was asked, “What forms of payment does your business accept?” (Table 30).

**Table 30: Types of Payment Accepted by Study Participants’ Businesses**

Sample Population	Cash	Checks	Credit Cards	In-Store Tab	Other
Whole (N = 134)	94.0%	77.6%	53.7%	11.9%	9.0%
Ethnic (N = 55)	92.7%	56.4%	65.5%	10.9%	7.3%
Non-Ethnic (N = 77)	94.8%	93.5%	46.8%	13.0%	10.4%

To further delve into an entrepreneur’s formal and informal capital, the question was asked, “Who does your bookkeeping?” (Table 31).

**Table 31: Bookkeeping for Study Participants’ Businesses**

Sample Population	Self	Family Member	Employee	Accountant	Other
Whole (N = 134)	48.5%	18.7%	6.7%	38.1%	6.0%
Ethnic (N = 55)	30.9%	9.1%	3.6%	54.5%	10.9%
Non-Ethnic (N = 77)	62.3%	26.0%	9.1%	24.7%	2.6%

### ***Business Market Information***

To explore a business’ reliance on the local Latino community, participants were asked, “To what extent do you agree or disagree with the statement, ‘Latino people play an important role in supporting my business?’” (Table 32).

**Table 32: Role of Latino People in Study Participants’ Businesses**

Sample Population	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
Whole (N = 132)	25.0%	22.0%	31.8%	15.9%	5.3%
Ethnic (N = 54)	37.0%	14.8%	31.5%	13.0%	3.7%
Non-Ethnic (N = 76)	17.1%	27.6%	31.6%	17.1%	6.6%

To follow up on the previous question, the survey asked, “To what extent do you agree or disagree with the statement, ‘Non-Latino people play an important role in supporting my business?’” (Table 33).

**Table 33: Role of Non-Latino People in Study Participants’ Businesses**

Sample Population	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
Whole (N = 133)	36.8%	32.3%	22.6%	6.8%	1.5%
Ethnic (N = 55)	36.4%	29.1%	25.5%	5.5%	3.6%
Non-Ethnic (N = 76)	36.8%	35.5%	19.7%	7.9%	0.0%

Participants were asked, “What percentage of the products used in your business are from outside Mendocino County?” (Table 34).

**Table 34: Use of Local Products in Study Participants’ Businesses**

Sample Population	0%	1% - 10%	11% - 50%	51% - 100%
Whole (N = 130)	8.5%	16.2%	17.7%	57.7%
Ethnic (N = 54)	7.4%	5.6%	14.8%	72.2%
Non-Ethnic (N = 74)	8.1%	24.3%	20.3%	47.3%

To elaborate on the previous question, respondents were asked, “What percent of your business sales are to people outside Mendocino County?” (Table 35).

**Table 35: Local Business Sales of Study Participants’ Businesses**

Sample Population	0%	1% - 10%	11% - 50%	51% - 100%
Whole (N = 134)	16.4%	33.6%	28.4%	20.9%
Ethnic (N = 54)	16.4%	32.7%	29.1%	20.0%
Non-Ethnic (N = 77)	15.6%	33.8%	28.6%	22.1%

### ***Business Success and Advice***

To gauge an entrepreneur’s level of success, the question was asked, “How has the number of employees working for your business changed since 2004?” (Table 36).

**Table 36: Change in Number of Employees for Study Participants’ Businesses**

Sample Population	Stayed the Same	Increased	Decreased
Whole (N = 125)	65.6%	20.0%	14.4%
Ethnic (N = 47)	68.1%	14.9%	17.0%
Non-Ethnic (N = 76)	63.2%	23.7%	13.2%

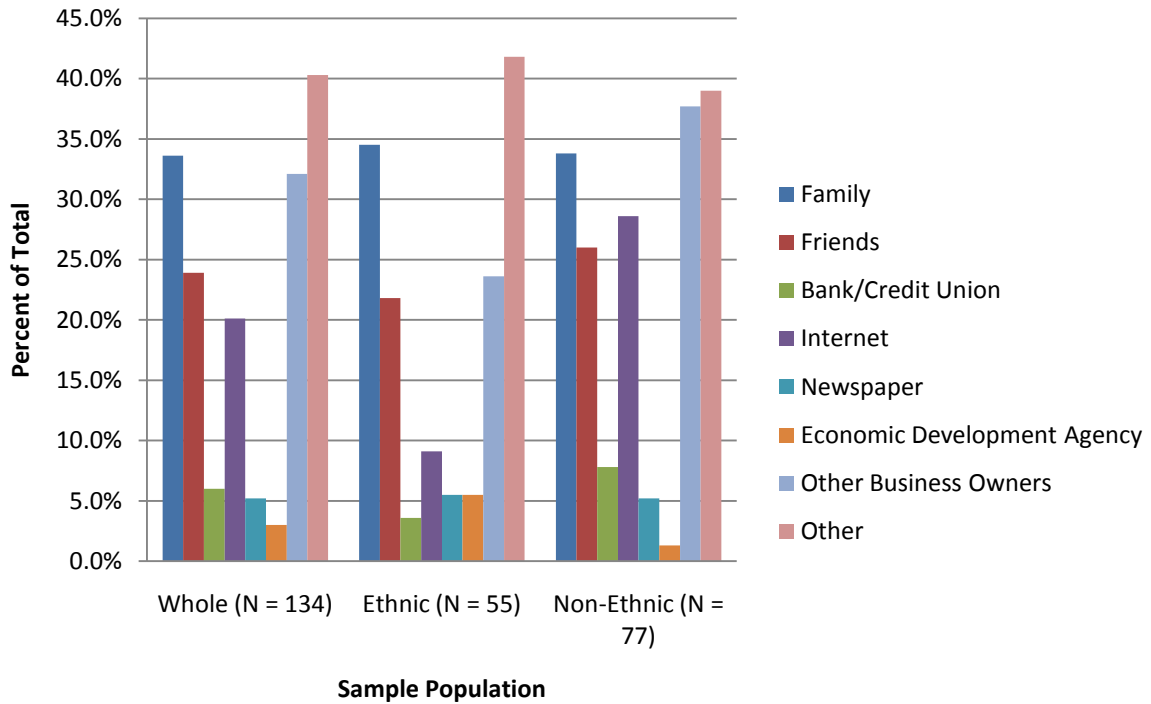
To further investigate an entrepreneur’s level of success, the survey asked, “Over the last five years, how many years did your business make a profit?” (Table 37).

**Table 37: Years of Profit for Study Participants’ Businesses**

Sample Population	0 Years	1 Year	2 Years	3 Years	4 Years	5 Years
Whole (N = 124)	15.3%	12.1%	12.9%	11.3%	6.5%	41.9%
Ethnic (N = 46)	19.6%	10.9%	17.4%	13.0%	2.2%	37.0%
Non-Ethnic (N = 76)	11.8%	13.2%	9.2%	10.5%	9.2%	46.1%



The survey asked, “Whom do you go to for business advice?” (Figure 15).



**Figure 15: Sources of Business Advice for Study Participants**

Respondents were asked, “In your opinion, what is your biggest success as a business owner?” Answers were classified according to emergent themes. (Table 38 and Figure 16).

The following sample quotes reflect project participants’ thoughts on entrepreneurial success:

*Satisfying customers, having them say I did a good job and was honest. – 28 year old non-ethnic male*

*Survival. – 59 year old ethnic female*

*Be my own boss. – 44 year old ethnic male*

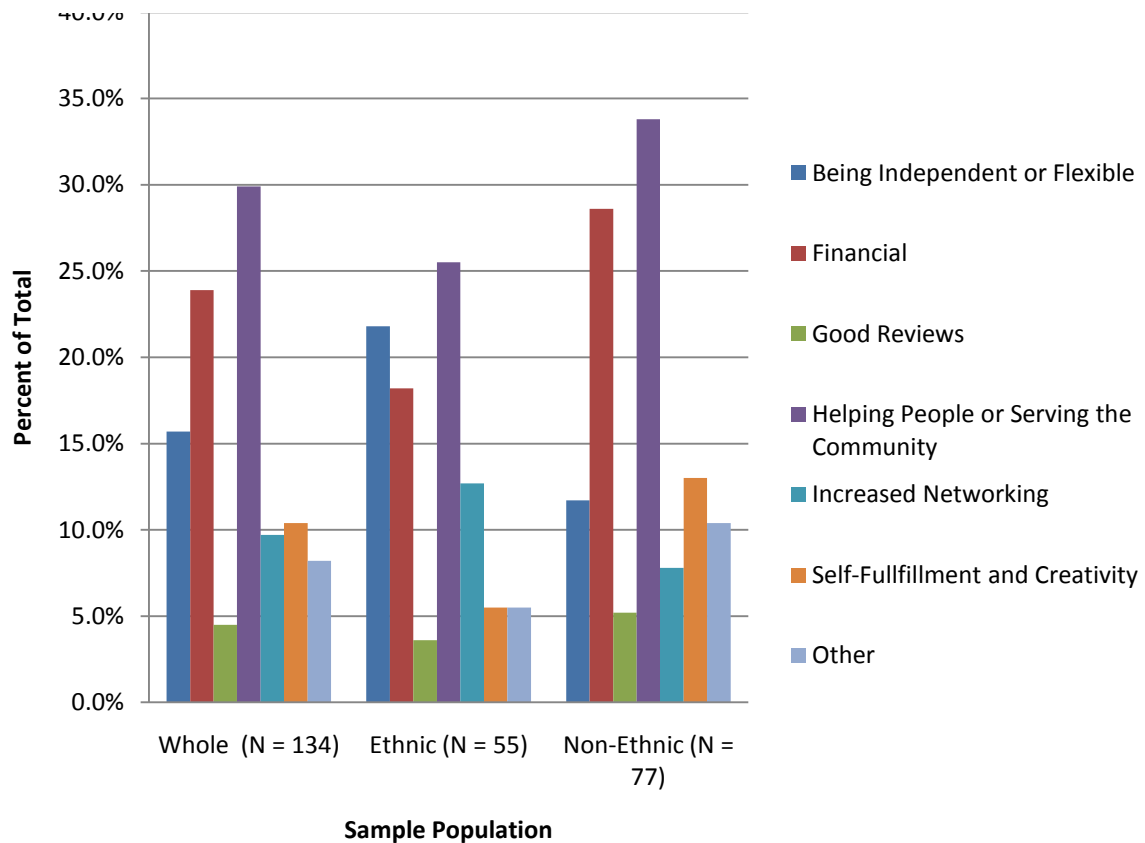
*Being able to serve the community. – 31 year old ethnic female*

*Profit and steady growth and supplying a needed quality product. – 64 year old non-ethnic female*

*Make money, for the business to grow, buy another one. – 47 year old ethnic male*

**Table 38: Themes of Responses to the Question, “In your opinion, what is your biggest success as a business owner?”**

<b>Themes</b>	<b>Coded Description of Themes</b>
Helping People/ Serving Community	Satisfying customers, making people happy, educating people, creating products people love, establishing good relations with customers, help bring about a movement or change in the community, bringing families closer together
Increased Networking	Having a large following of customers, having connections with other suppliers, having referrals, having made friends
Good Reviews	Having positive feedback, having products that have gotten good review, having people feel like they get their value
Being Independent/ Flexible	Having autonomy, control, freedom, flexibility, being able to work for myself, being able to employ people, being independent, more time to spend with family, being able to help family, being able to use business to keep family close
Financial	Financial security, having available money, being able to pay off bills, profitable business, wage increase, having a steady growth, being part of the economy, longevity of business, still doing better than some businesses, proud to keep business going
Self- Fulfillment/Creativity	Having rewarding work, having eye-catching products, having gains into an industry with no previous background/knowledge in, having new experiences and challenges, having taken the risk in areas where people say it can't be done, having the beautiful experience, having self realization
Other	Having the knowledge to make business successful, having dedicated employees, moving to a new location/facility, taking business forward little by little



**Figure 16: Study Participants Definitions of Entrepreneurial Success**

Participants were asked, “What was the biggest challenge that you faced in starting this business?” Answers were classified according to emergent themes. (Table 39 and Figure 17).

The following sample quotes reflect study respondents’ thoughts on entrepreneurial challenges:

*Finding customers has always been a challenge. – 66 year old non-ethnic male*

*Integrating family into business. – 37 year old non-ethnic male*

*Always money. I started with little money helping other people to understand. It’s not easy for Hispanic people to trust. For the people to trust in one. It is difficult to have the confidence of the Latin people. – 47 year old ethnic male*

*Racism. – 44 year old ethnic male*

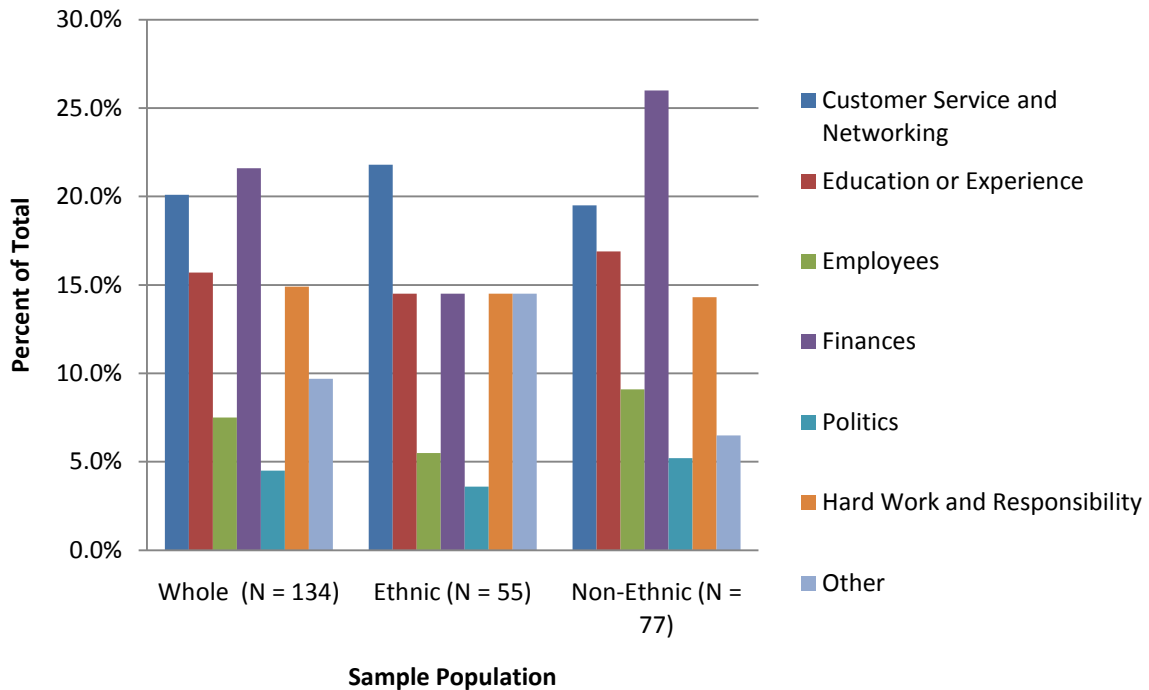
*I did not have money, racism, I was not in my territory. – 39 year old ethnic male*

*Becoming an expert. -46 year old non-ethnic female*

*Learning all the internet technology. -48 year old non-ethnic male*

**Table 39: Themes of Responses to the Question, “What was the biggest challenge that you faced in starting this business?”**

<b>Themes</b>	<b>Coded Description of Themes</b>
Hard Work	Having energy to continue, keeping it going, keeping up with business, working hard, putting in effort, work and not win, working to make the business better
Learning Curve or Transition	Didn't know anything, learning how to do be a business owner, learning everything without help, learning technology, finding the right location, becoming locals, fitting in to what was here, disconnecting from regular employment
Finances/ Cost	Finances, making a living, making ends meet, keeping money in the bank, having no start-up money, having a lot of upfront costs, funding, profit margins, living on a small budget, making less money, not having money, waiting for business to make a profit
Responsibility	Responsibility, depending on yourself, staying on top of things, putting in a lot of effort, putting in uncompensated hours, maintaining a focus on creating products, being at work 8 - 10 hours a day
Gaining Clientele	Building clientele, having what people want and buy, don't know what to expect from customers, establishing identity, becoming known, keeping people happy, other people's perceptions, gaining trust, being a new face, competition, getting business recognized, dealing with people, not knowing anyone in community
Employees	Dealing with staff, dealing with employees, employees from previous business, bad employees, finding good labor, knowing how to spread out employees efficiently
Government or Bureaucracy	Dealing with politics of business, government regulations, restrictions, paperwork, lawsuits, city permits, licensing, bureaucracies, not knowing where to go ask for permits
Other	Racism, lack of support, everything, lack of necessary resources



**Figure 17: Study Participants’ Biggest Entrepreneurial Challenges**

Participants were asked, “What advice do you have for people who are just starting a business?” Answers were classified according to emergent themes. (Table 40 and Figure 18).

The following sample quotes reflect study participants’ thoughts on entrepreneurial advice:

*You have to love it, because you’re going to work a lot more than 40 hours a week...at least to start. – 56 year old non-ethnic male*

*Be creative, think outside the box. – 58 year old non-ethnic female*

*Be realistic about costs – will take twice as long and cost more than expected – need a good marketing plan. – 53 year old non-ethnic female*

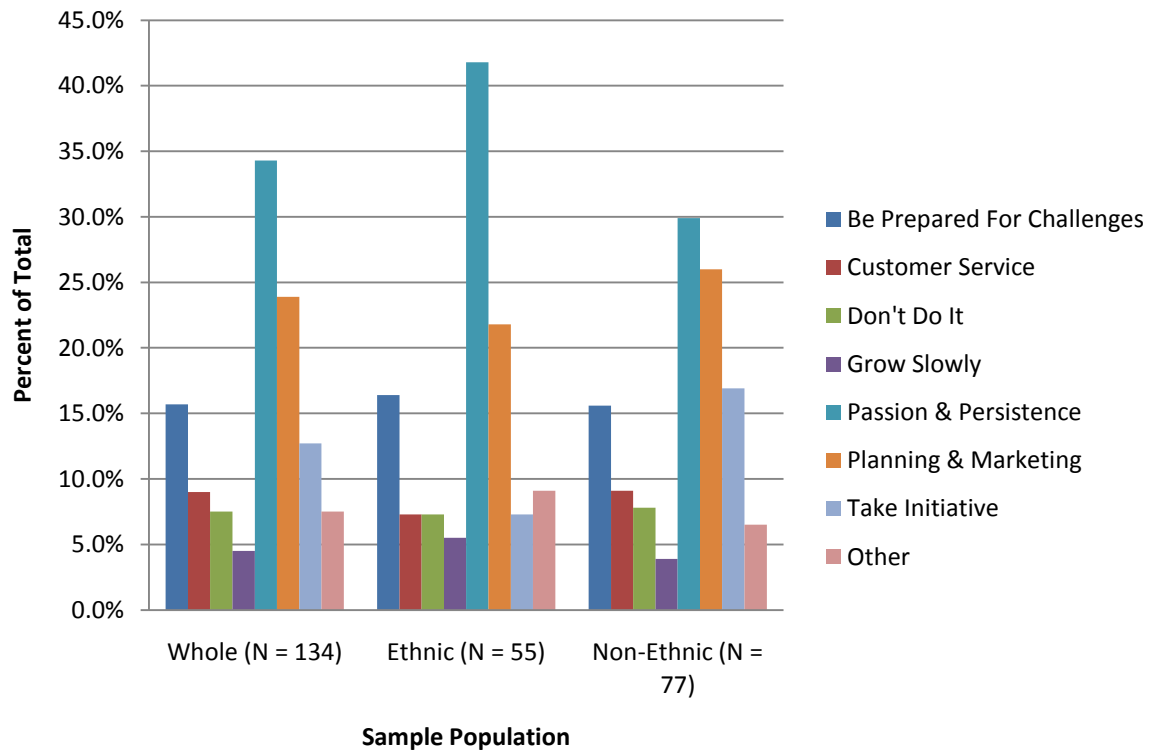
*You have to work it, be involved with your community and you have to give. – 51 year old ethnic male*

*Don’t give up, go for it. – 40 year old ethnic male*

*Talk to other business owners in the area about start up mistakes and what worked. – 46 year old non-ethnic female*

**Table 40: Themes of Responses to the Question, “What advice do you have for people who are just starting a business?”**

<b>Themes</b>	<b>Coded Description of Themes</b>
Planning/ Marketing	Put a written plan together, have a clear sales plan, marketing and promoting are key, do your own research, plan and do a study to see if there is a need for your business, talk to people that are already doing it, be really familiar with your product or service, get some practical experience, know your market, choose your location well, investigate level of competition, research local economy, find someone who knows how to do taxes
Passion/ Persistence	Do what you love, need passion to succeed, you will only succeed if your heart is in it, got to want it, go for your dream, keep at it, lots of hard work, don't give up, be diligent at making it successful, stay positive, never get discouraged, have a lot of faith and patience
Be Prepared for Many Challenges	Be ready to do everything, prepare for the worst, being prepared for "what ifs", be prepared to not have days off, it's not easy, take training and have personal savings, start with your own money, don't start with credit, have enough money for one year
Don't Do It	Don't do it in this economy, don't do it unless you have the money, work for someone else
Grow Slowly	Do it carefully, don't expand too fast, don't expand unrealistically, go slow, grow as you go, do what you can afford, start very small, know that you might not keep growing but remain just comfortable
Be Creative	Be creative, think outside the box, carve out a niche, be unique
Customer Service	Be easy to get along with, provide good service, clients' referrals mean everything, be involved with your community, pick employees very carefully - their integrity is key to the success of business, keep up your networks - as a small business you depend on others to spread the word
Other	Don't be afraid to jump in with both feet, depend on yourself before any employees, always start with a quality product, focus on sustainability



**Figure 18: Study Participants' Advice for Nascent Entrepreneurs**

*The Data*

We wanted to explore characteristics of the entrepreneurs who started new businesses five years ago. We felt that it would be difficult to distinguish between successful and unsuccessful if the businesses is in operation less than five years, and if we looked at firms that had been in existence for more than five years, we may not be looking at firms that are considered new making it difficult to determine the characteristics of the entrepreneur that contribute to successful new businesses. In order to give us meaningful results on business success, we placed two limitations on the data. First, we generally focused on owners that had owned the business for five to six years. We did this because it was difficult to collect data on the original entrepreneur if we were interviewing a subsequent owner. We include six years ago since some owners may respond that they have owed the business for six years if they count the years 2004, 2005, 2006, 2007, 2008, and 2009 (Table 41). Second, we focused on owners who started rather than acquired their business, in order to understand newly formed businesses. For the following analysis, we note when we considered the full data set including owners who acquired the business and who have owned for more than five years. Below are some of the characteristics of the data.

**Table 41: Breakdown of Founding Status for Study Participants Who Have Owned Their Business for 5 or 6 Years**

	<b>Owned for 5 or 6 Years</b>	<b>Total</b>
Started	43	96
Acquired	14	38
Total	57	134

The full dataset includes 134 businesses. Ninety-six businesses were started by the current owner, while 38 were run by someone other than the founder. Fifty-seven businesses in our dataset are owned by the present owner for five or six years, while 77 businesses are owned by the present owner for a different number of years. There are 43 businesses in which both the current owner started the firm and has been in place for five or six years.

Owners in our survey were asked to identify their ethnicity. There were two missing ethnicity values, and in the remaining data set of 132 responses, 39 (30%) were Latino, 77 (58%) were White, 1 (<1%) was Native American, 1 (<1%) was Asian American, 4 (3%) were Asian, and 10 (8%) described themselves as “other.” Thus, 55 (42%) were ethnic and 77 (58%) were non-ethnic. Of the 94 business owners who started the business rather than acquire the business and reported ethnicity, 38 (40%) are ethnic, and of the 56 valid ethnic responses for businesses that have been owned five to six years, 13 (23%) are ethnic. Of the 42 valid responses for businesses that have been owned five to six years and that were started by the present owner, 10 (24%) are ethnic.

Years of profitability can take on the values of 0, 1, 2, 3, 4 or 5. Table 42 shows reported profitability for owners who started their business and who have owned it for five to six years. The data reveal that there was a fair distribution of businesses that reported being in each of the six possible responses—zero, one, two, three, four, or five years of profit. Slightly over half of businesses report being profitable in every year, while about 41% report a profit for two or fewer years. Twelve percent experienced no profit.



**Table 42: Reported Profitability for Study Participants Who Started Their Business and Have Owned It for 5 to 6 Years**

<b>Years of Reported Profit</b>	<b>Frequency</b>	<b>Percent</b>
0	5	11.9%
1	6	14.3%
2	6	14.3%
3	1	2.4%
4	2	4.8%
5	22	52.4%
Total	42	100.0%

Table 43 shows the change in the number of employees since 2004 for owners who started their business and who have owned it for five to six years. The range in responses is between -6 and 7.5. Most (60.5%) businesses report no change in the number of employees hired and about one sixth report a small increase of one or two employees. We also ask how many people the firm currently employs.

**Table 43: Change in Number of Employees Since 2004 for Study Participants Who Started Their Business and Have Owned It for 5 or 6 Years**

<b>Change in Number of Employees</b>	<b>Frequency</b>	<b>Percent</b>
-6	1	2.3%
-2	1	2.3%
-1	2	4.7%
0	26	60.5%
1	4	9.3%
2	3	7.0%
3	2	4.7%
4	1	2.3%
5	2	4.7%
7.5	1	2.3%
Total	43	100.0%

## ***Business Service to the Community***

The survey asked respondents, “Does your business cash payroll checks?” (Table 44).

**Table 44: Payroll Check Cashing By Study Participants**

<b>Sample Population</b>	<b>Yes</b>	<b>No</b>
Whole (N = 132)	11.4%	88.6%
Ethnic (N = 53)	15.1%	84.9%
Non-Ethnic (N = 77)	9.1%	90.9%

To explore an entrepreneur’s community involvement, the question was asked, “To what extent do you agree with this statement: ‘My business supports or gives back to the local community.’” (Table 45).

**Table 45: Community Support of Study Participants’ Businesses**

<b>Sample Population</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neither Agree Nor Disagree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Whole (N = 134)	51.5%	40.3%	8.2%	0.0%	0.0%
Ethnic (N = 55)	45.5%	47.3%	7.3%	0.0%	0.0%
Non-Ethnic (N = 77)	55.8%	36.4%	7.8%	0.0%	0.0%

## ***Participation in the Financial System***

To investigate an entrepreneur’s formal business activity with financial institutions, the question was asked, “Do you have an account at a bank?” (Table 46).

**Table 46: Bank Account Status of Study Participants**

<b>Sample Population</b>	<b>Yes</b>	<b>No</b>
Whole (N = 134)	96.3%	3.7%
Ethnic (N = 55)	98.2%	1.8%
Non-Ethnic (N = 77)	94.8%	5.2%

In order to examine difficulties in accessing traditional business financing that an entrepreneur has experienced, the survey asked, “Have you ever applied for a loan at a bank or credit union and been denied?” (Table 47).

**Table 47: Loan Denial Experienced By Study Participants**

<b>Sample Population</b>	<b>Yes</b>	<b>No</b>
Whole (N = 134)	22.4%	77.6%
Ethnic (N = 55)	25.5%	74.5%
Non-Ethnic (N = 77)	20.8%	79.2%

## ***Networks***

Networks are a form of social capital that entrepreneurs access in order to facilitate entrepreneurial success. We assessed and evaluated entrepreneurs' network connections in order to determine how they influence entrepreneurial success. Points were assigned to each entrepreneur for their number of community networking, business networking, familial networking, formal networking, and informal networking connections. A high number of points indicate that the entrepreneur is highly networked. Highly networked entrepreneurs are believed to be more successful than less networked entrepreneurs.

### ***Familial Networks***

Familial network connections (Table 48) were explored by asking respondents if their family helped them start their business, if any of their family members are business owners, and how many family members work for their business. Participants were also asked if their family helped with initial funding to get their business started, if a family member does their bookkeeping, and if they go to family for business advice.

**Table 48: Familial Network Connections of Study Participants**

<b>Sample Population</b>	<b>Mean Familial Network Connections</b>
Whole	3.4
Ethnic	4.2
Non-Ethnic	2.8

### ***Business Networks***

Participants were asked if they are a member of any business networking groups and which other businesses they work with in order to assess their level of business networking (Table 49).

**Table 49: Business Network Connections of Study Participants**

<b>Sample Population</b>	<b>Mean Business Network Connections</b>
Whole	3.4
Ethnic	3.5
Non-Ethnic	3.3

## *Community Networks*

Respondents were asked if they are a member of any church or school groups, Rotary, 4-H, Elks, Soroptomist, Kiwanis, Moose Lodge, or Big Brothers/Big Sisters. Involvement in these service groups was examined as an indicator of an entrepreneur's level of social networking and community involvement (Table 50).

**Table 50: Community Network Connections of Study Participants**

<b>Sample Population</b>	<b>Mean Community Network Connections</b>
Whole	1.7
Ethnic	1.9
Non-Ethnic	1.6

## *Formal and Informal Capital*

Formal and informal capital is also evaluated using a point system. Formal capital is based on agreements and contracts and is organizational, legally binding, and intentional, while informal capital refers to resources attained through friends, family, social, or personal connections. Types of payment accepted by a business were grouped according to formal (cash, check, credit card) or informal (in-store tab). Funding sources were also classified as either formal (bank or credit union loan, economic development organization) or informal (family/friends, credit card, personal savings, home equity). Business owners provided information about who does their bookkeeping and whom they go to for business advice. Using an employee or accountant as a bookkeeper is a formal resource, while using a family member or themselves as a bookkeeper indicated an informal resource. Going to a bank or credit union, economic development agency or organization, or other business owners for business advice is classified as a formal resource, while going to family or friends for business advice is considered an informal resource. Participants received points for formal capital if they responded 'yes' to having a business plan before starting their business, if they responded 'yes' when asked if they are a member of any business networking groups, and if they responded 'yes' to applying for a loan. Points were given for informal capital if the participant responded 'yes' to their family helping them start their business, if they answered 'yes' to whether or not they cash payroll checks, if they replied 'no' to having a bank account, and if they responded 'yes' to trading goods or services with other businesses (Table 51).

**Table 51: Formal and Informal Capital Connections of Study Participants**

Sample Population	Mean Formal Capital Connections	Mean Informal Capital Connections
Whole	4.4	5.0
Ethnic	4.6	4.8
Non-Ethnic	4.3	5.2

*International Networks*

Respondents were asked, “Do you send money to anyone outside the United States?” (Table 52).

**Table 52: International Networking of Study Participants**

Sample Population	Yes	No
Whole (N = 132)	16.7%	83.3%
Ethnic (N = 53)	30.2%	69.8%
Non-Ethnic (N = 77)	6.5%	93.5%

*Business Technology Connectedness*

The survey asked, “How important is a computer to your business?” (Table 53).

**Table 53: Importance of Computer for Study Participants’ Businesses**

Sample Population	Essential	Very Important	Moderately Important	Minimally Important	Not Used
Whole (N = 133)	42.1%	27.8%	11.3%	10.5%	8.3%
Ethnic (N = 54)	29.6%	38.9%	5.6%	13.0%	13.0%
Non-Ethnic (N = 77)	50.6%	20.8%	15.6%	9.1%	3.9%

To expand on the previous question, participants were asked, “How important is the Internet to your business?” (Table 54).

**Table 54: Importance of Internet for Study Participants’ Businesses**

Sample Population	Essential	Very Important	Moderately Important	Minimally Important	Not Used
Whole (N = 132)	37.9%	22.0%	17.4%	10.6%	12.1%
Ethnic (N = 54)	25.9%	29.6%	14.8%	11.1%	18.5%
Non-Ethnic (N = 76)	47.4%	15.8%	19.7%	10.5%	6.6%



## PRIMARY DATA ANALYSIS

For primary data analysis, chi-squares and ANOVAs were carried out using SPSS 18.0 (SPSS 2001). The following section summarizes statistically significant findings for this study.

### *Business History and Background*

In order to investigate an entrepreneur’s business history and background, we tested the following hypotheses:

**Hypothesis: Ethnic entrepreneurs are prior business owners.** No significant difference was found.

**Hypothesis: Ethnic entrepreneurs used informal financial channels to get money to start their business.** There was a somewhat statistically significant difference found at  $p=.076$ , as only one non-ethnic participant used a credit union loan to fund the start up their business, while four ethnic participants used a credit union loan to fund the start up their businesses (Table 55).

**Table 55: Comparison of Use of a Credit Union Loan for Start-Up Costs for Ethnic and Non-Ethnic Study Participants**

Start-Up Cost Source	Non-Ethnic		Ethnic	
	N	%	N	%
Credit Union Loan**	1	1.3%	4	7.3%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic entrepreneurs have different motivations for starting businesses than non-ethnic entrepreneurs.** No significant differences were found.

**Hypothesis: Ethnic participants are more likely than non-ethnic participants to have family members who are also business owners.** This test was significant at  $F(1, 127) = 4.41$ ,  $p=.038$ ,  $\eta^2=.034$ . Non-ethnic participants ( $M=1.01$ ,  $SD=1.31$ ) reported fewer family members were business owners than ethnic participants ( $M=1.60$ ,  $SD=1.88$ ). (Table 56).

**Table 56: Comparison of Mean Number of Family Members Who Are Also Business Owners for Ethnic and Non-Ethnic Study Participants**

Non-Ethnic	Ethnic
1.006*	1.596*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

## ***Entrepreneur Background***

In order to further explore an entrepreneur's background, we tested the following hypotheses:

***Hypothesis: Entrepreneurs who have lived in the area longer are more networked than those who have not.*** This was only statistically significant with entire sample, not ethnic versus non-ethnic entrepreneurs.

***Hypothesis: Non-ethnic entrepreneurs have lived in Mendocino County for longer than ethnic entrepreneurs.*** Ethnic entrepreneurs (M= 17.62, SD=11.03) have lived in the area longer than non-ethnic entrepreneurs (M=22.16, SD=14.54),  $F(1, 130) = 3.79, p = .054$ , partial  $\eta^2 = .02$ , power = .50. (Table 57).

**Table 57: Comparison of Mean Length of Residence in Mendocino County for Ethnic and Non-Ethnic Study Participants**

<b>Non-Ethnic</b>	<b>Ethnic</b>
22.2 years*	17.6 years*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

***Hypothesis: Ethnic entrepreneurs will have less of a commute to work.*** No statistically significant differences were found.

***Hypothesis: Non-ethnic entrepreneurs are older than ethnic entrepreneurs*** (Table 58). Statistical significance was found at  $p = .056$ . Non-ethnic participants (M=1960, SD=12.24) were on average four years older than ethnic participants (M=1964, SD=11.03).

**Table 58: Comparison of Mean Age of Ethnic and Non-Ethnic Study Participants**

<b>Non-Ethnic</b>	<b>Ethnic</b>
49 years old**	45 years old**

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.



**Hypothesis: Ethnic entrepreneurs were more likely to be born outside the United States than non-ethnic entrepreneurs.** A statistically significant difference was found at  $p < .001$ , as only one non-ethnic participant was born outside the United States, while 74.55% of ethnic participants were born outside the United States (Table 59).

**Table 59: Comparison of Place Born of Ethnic and Non-Ethnic Study Participants**

Place Born	Non-Ethnic		Ethnic	
	N	%	N	%
U.S. Born*	76	98.7%	14	25.5%
Foreign Born*	1	1.3%	41	74.5%
Total	77	100.0%	55	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Non-ethnic entrepreneurs were more educated than ethnic entrepreneurs.** Statistical significance was also found when investigating an entrepreneur's high school education ( $p < .001$ ), as 96.10% of non-ethnic participants and 74.55% of ethnic participants were high school graduates. Statistical significance was found at  $p = .003$ , with 49.35% of non-ethnic participants and 23.45% of ethnic participants possessing a college diploma (Table 60 and Table 61).

**Table 60: Comparison of High School Education Levels Among Ethnic and Non-Ethnic Study Participants**

Education Level	Non-Ethnic		Ethnic	
	N	%	N	%
No High School*	0	3.9%	8	14.5%
High School Diploma*	74	96.1%	41	74.5%
Total	74	100.0%	49	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Table 61: Comparison of College Education Levels Among Ethnic and Non-Ethnic Study Participants**

Education Level	Non-Ethnic		Ethnic	
	N	%	N	%
No College*	39	50.6%	37	67.3%
College Diploma*	38	49.4%	14	25.5%
Total	77	100.0%	51	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

## Current Business Information

With the purpose of investigating an entrepreneur's business information, we posed the following hypotheses:

**Hypothesis: Ethnic entrepreneurs have more family working for them than non-ethnic entrepreneurs** (Table 62). Ethnic entrepreneurs (M=1.51, SD=1.56) have more family member as employees than non-ethnic entrepreneurs (M=.54, SD= .97),  $F= (1, 129)=19.37$ ,  $p<.001$ , partial  $\eta^2= .13$ , power =.992.

**Table 62: Comparison of Mean Number of Family Member Employees for Ethnic and Non-Ethnic Study Participants' Businesses**

Non-Ethnic	Ethnic
0.54*	1.50*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic owned businesses accept fewer types of payment options than non-ethnic owned businesses** (Table 63). Statistical significance was found at  $p<.001$  when looking at checks as a form of payment. 93.51% of non-ethnic participants accepted checks as a form of payment, while 56.36% of ethnic participants accepted checks as a form of payment. Statistical significance was also found at  $p=.033$  when analyzing credit cards as a form of payment. 46.75% of non-ethnic participants accepted credit as a form of payment while 64.45% of ethnic participants accepted credit as a form of payment.

**Table 63: Comparison of Types of Payment Accepted By Ethnic and Non-Ethnic Study Participants' Businesses**

Payment Type	Non-Ethnic		Ethnic	
	N	%	N	%
Checks*	72	93.5%	31	56.4%
Credit Cards*	36	46.8%	36	65.5%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic owned businesses are open more days per week than non-ethnic owned businesses** (Table 64). A somewhat significant difference is found in the data at  $p=.091$ , as 54.54% of non-ethnic participants and 40% of ethnic participants closed their business on Sunday. Somewhat significant difference was also found in the data at  $p=.07$  when looking at businesses open on Thursday. This means 83.11% of non-ethnic participants opened their business on Thursdays, while 94.54% of ethnic participants opened their business on Thursdays. Statistical significance was found at  $p=.001$  when analyzing businesses open on Saturday, as 48.05% of non-ethnic participants opened their businesses on Saturdays, whereas 80% of ethnic participants opened their businesses on

Saturday, with 2 more Ethnic respondents answering that it varies whether or not they are open on Saturday.

**Table 64: Comparison of Days Business Open for Ethnic and Non-Ethnic Study Participants' Businesses**

Day Business Is Open	Non-Ethnic		Ethnic	
	N	%	N	%
Thursday**	64	83.1%	52	94.5%
Saturday*	37	48.1%	44	80.0%
Sunday**	29	37.7%	31	56.4%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: An owner is present more days per week at ethnic owned businesses than at non-ethnic owned businesses** (Table 65). Statistical significance was found only when testing businesses in which owners are present on Saturday. This test was significant at  $p=.041$ , with 47.37% of non-ethnic participants responded that an owner was present at their business on Saturday while 69.09% of ethnic participants responded that an owner was present at their business on Saturday.

**Table 65: Comparison of Ethnic and Non-Ethnic Study Participants' Businesses in Which an Owner is Present on Saturdays**

Non-Ethnic		Ethnic	
N	%	N	%
36	46.8%*	38	69.1%*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic business owners are more likely to use informal connections for their bookkeeping than non-ethnic business owners** (Table 66). Statistical significance was found at  $p<.001$ , with 62.34% of non-ethnic participants do their own bookkeeping while 30.91% of ethnic participants do their own bookkeeping. Statistical significance was also found at  $p=0.15$ , with 25.97% of non-ethnic participants reporting that their family does their bookkeeping, while 9.09% of ethnic participants reported that their family does their bookkeeping. When investigating the use of an accountant for bookkeeping, statistical significance was found at  $p<.001$ , as 24.67% of non-ethnic participants and 54.54% of ethnic participants reported that an accountant does their bookkeeping.

**Table 66: Comparison of Bookkeepers of Ethnic and Non-Ethnic Study Participants' Businesses**

Bookkeeper	Non-Ethnic		Ethnic	
	N	%	N	%
Self*	48	62.3%	17	30.9%
Family*	20	26.0%	5	9.1%
Accountant*	19	24.7%	30	54.5%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

A statistically significant difference was found between ethnic and non-ethnic respondents in terms of their business' type of industry [ $\chi^2(8, N = 132) = 20.63, p = .008$ ]. (Table 67).

**Table 67: Comparison of Industry Types for Ethnic and Non-Ethnic Participants' Businesses**

Industry Type	Non-Ethnic		Ethnic	
	N	% of Total	N	% of Total
Manufacturing*	9	6.81%	2	1.00%
Finances*	7	5.30%	3	2.27%
Natural Resources*	8	6.06%	0	0.00%
Health and Education*	3	2.27%	1	0.76%
Trade*	21	15.91%	34	25.76%
Service*	20	15.15%	12	9.09%
Construction*	7	5.30%	3	2.27%
Transportation and Communication*	1	0.75%	0	0.00%
Other*	1	0.75%	0	0.00%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

### ***Business Market Information***

With the intention of examining an entrepreneur's business market information, the following hypothesis was developed:

***Hypothesis: Ethnic people play an important role in sustaining ethnically owned businesses*** (Table 68). A somewhat significant difference was found in the data at  $p=.088$ , with 17.1% of non-ethnic participants strongly agreeing that Latino people play an important role in supporting their business, while only 36.4% of ethnic participants strongly agreed.

**Table 68: Comparison of Role of Ethnic People in Sustaining Study Participants' Businesses**

Latino People Play an Important Role in Supporting Business?	Non-Ethnic		Ethnic	
	N	%	N	%
Strongly Agree**	13	17.1%	20	36.4%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic business owners are more likely than non-ethnic business owners to use products from within Mendocino County** (Table 69). This test was significant at  $p=.014$ . It appears that a greater number of ethnic participants use products from outside Mendocino County (72.22%) than non-ethnic participants (47.30%).

**Table 69: Comparison of Use of Local Products in Ethnic and Non-Ethnic Study Participants' Businesses**

Percentage of Products	Non-Ethnic		Ethnic	
	N	%	N	%
No Products	6	8.1%	4	7.4%
1% - 10% of Products	18	24.3%	3	5.6%
11% - 50% of Products	15	20.3%	8	14.8%
51% - 100% of Products*	35	47.3%	39	72.2%
Total	74	100.0%	54	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic respondents will have lower percentages of business sales to people outside Mendocino County than non-ethnic respondents.** Not significant.

### **Business Success and Advice**

In order to more fully understand an entrepreneur's business success and advice, we explored the subsequent hypotheses:

**Hypothesis: Ethnic entrepreneurs are more likely to make a profit than non-ethnic entrepreneurs.** No statistically significant differences.

**Hypothesis: Ethnic entrepreneurs define success differently than non-ethnic entrepreneurs.** No statistically significant differences.

**Hypothesis: Ethnic business owners are less likely than non-ethnic business owners to use the Internet for business advice** (Table 70). This test was significant at  $p=.006$ , as 28.6% of non-ethnic participants and 9.1% of ethnic participants reported using the Internet for business advice.

**Table 70: Comparison of Use of Internet for Business Advice for Ethnic and Non-Ethnic Study Participants' Businesses**

Non-Ethnic		Ethnic	
N	%	N	%
22	28.6%*	5	9.1%*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic and non-ethnic business owners will both go to other business owners for business advice** (Table 71). Statistical significance was found at  $p=.088$ , as 37.7% of non-ethnic participants reported they go to other business owners for advice, while 23.6% of ethnic participants reported they utilize other business owners for advice.

**Table 71: Comparison of Use of Other Business Owners for Business Advice for Ethnic and Non-Ethnic Study Participants**

Source of Business Advice	Non-Ethnic		Ethnic	
	N	%	N	%
Other Business Owners**	29	37.7%	13	23.6%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Both ethnic and non-ethnic entrepreneurs will provide the same type of advice for aspiring entrepreneurs.** Responses for this question were similar for both ethnic and non-ethnic entrepreneurs. No statistically significant differences were found.

### *Years of Profitability*

Table 72 shows the mean number of years of profitability over the last five years by characteristics of the business or owner. Also shown is the number of observations with the given characteristic and whether or not the average years of profitability were statistically significant between having and not having that characteristic. Statistical significance was tested by comparing sample means using independent samples t-tests and reported at the five percent and ten percent 2-tailed levels with equal variances assumed. The sample size is 43 respondents, but the number having/not having each characteristic may not sum to 43 if there are missing data. The mean number of years of profit is 3.31.

**Table 72: Mean Number of Years of Profit Over the Last Five Years: Businesses That Were Started and Owned for Five or Six Years by the Current Owner**

Question	Yes		No	
	Frequency	Mean	Frequency	Mean
Is this the first business you own?	22	3.45	20	3.15
Graduated college?	15	4.20*	27	2.81*
Graduated high school?	36	3.39	3	3.67
Did you start your company using a business loan?	7	4.00	35	3.17
Start with credit union business loan?	1	1.00	41	3.37
Economic development agency funds used?	2	4.50	40	3.25
Start with family/friends funds?	11	3.82	31	3.13
Start with credit card funds?	8	3.25	34	3.32
Start with personal savings?	30	3.47	12	2.92
Start using home equity loan?	1	5.00	41	3.27
Start using other funding?	8	2.63	34	3.47
Business plan?	16	3.75	25	2.96
Does accountant do your bookkeeping?	12	3.83	30	3.10
Do you do your bookkeeping?	24	2.92	18	3.83
Did family help start business?	21	3.14	21	3.48
Are you a member of any business network group?	13	4.08*	27	2.81*
Do you trade goods or services with any business?	22	3.27	20	3.35
Get advice from bank/credit union?	4	4.00	38	3.24
Get advice from Internet?	11	3.18	31	3.35
Get advice from economic development agency?	1	0.00**	41	3.39**
Foreign born?	5	3.20	37	3.32
Ethnic?	9	3.00	32	3.44

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

Years of profit can take values of 0, 1, 2, 3, 4, or 5.

Among the experience and education variables, only having a college education was statistically significant (at the five percent level). Graduating college is associated with 1.39 more years of profitability over the first five years of the business (4.20 average years versus 2.81). The great majority of the sample graduated high school, but there was no significant difference in years of profit compared to not graduating. Interestingly, prior business experience was not significantly correlated with profitability.

Among the funding variables, the greatest number of entrepreneurs funded their business with personal savings (30 out of 42 respondents). A very small percent of entrepreneurs started with a loan from a credit union, home equity loan, or an economic development agency. About one in three entrepreneurs relied on family and friends for

funding, while about one in five relied on banks, credit cards, and other funding sources. While some of the sources were more likely to be correlated with extra profit, such as a business loan and family and friends, none of the funding sources demonstrated a statistically significant impact.

About 39%, or 16 out of 41, of entrepreneurs had a business plan before they started their business. Having a business plan and having an accountant do the bookkeeping show higher years of profit, but these results were not statistically significant.

Being a member of a business network was significantly associated with 1.27 more years (4.08 versus 2.81) of profit. This association does not imply causality. It may be that being part of a business network leads to more years of profit, or it may be that more profitable entrepreneurs feel more inclined to join business networking groups. Taking advice from an economic development agency is associated with 3.39 fewer years of profitability, but only one owner reported taking such advice. The other network variables were not statistically significant. It is interesting to note that half of owners reported receiving help from their family when starting the business, and more than half trade goods or services (barter) with other businesses. About one in four (11 out of 42) entrepreneurs obtains business advice from the Internet.

Finally, while being ethnic is associated with fewer years of profit, this result is not statistically significant. To summarize, the only variables that are statistically significantly associated with more years of profit were having a college degree, being a member of a business network, and not seeking advice from an economic development agency. This does not mean that these factors lead to more years of profit, only that they are correlated with more years of profit.

We also explored the data by considering entrepreneurs who acquired or started the business and who have owned the business for five or six years. This increases the sample size to 57 and mean years of profit to 3.35 (Table 73). We then considered all businesses in our sample, which increases the sample size to 134 and had 3.07 mean years of profit (Table 74).



**Table 73: Mean Number of Years of Profit Over the Last Five Years: Businesses That are Owned for Five or Six Years by the Current Owner**

Question	Yes		No	
	Frequency	Mean	Frequency	Mean
Did you start this business?	42	3.31	13	3.46
Is this the first business you own?	29	3.38	26	3.31
Graduated college?	20	3.90	35	3.03
Graduated high school?	49	3.41	3	3.67
Did you start your company using a business loan?	11	3.73	44	3.25
Start with credit union business loan?	1	1.00	54	3.39
Economic development agency funds used?	2	4.50	53	3.30
Start with family/friends funds?	15	3.40	40	3.33
Start with credit card funds?	8	3.25	47	3.36
Start with personal savings?	37	3.49	18	3.06
Start using home equity loan?	5	4.80**	50	3.20**
Start using other funding?	10	2.90	45	3.44
Business plan?	20	3.55	34	3.18
Does accountant do your bookkeeping?	18	3.56	37	3.24
Do you do your bookkeeping?	30	3.01	25	3.06
Did family help start business?	23	3.04	32	3.56
Are you a member of any business network group?	21	4.00*	32	2.81*
Do you trade goods or services with any business?	28	3.00	27	3.70
Get advice from bank/credit union?	5	3.40	50	3.34
Get advice from Internet?	13	3.38	42	3.33
Get advice from economic development agency?	1	0.00**	54	3.41**
Foreign born?	7	3.29	48	3.35
Ethnic?	11	3.09	43	3.44

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

Years of profit can take values of 0, 1, 2, 3, 4, or 5.

**Table 74: Mean Number of Years of Profit Over the Last Five Years in Mendocino County Business Survey: All Businesses**

Question	Yes		No	
	Frequency	Mean	Frequency	Mean
Did you start this business?	89	3.19	35	2.77
Is this the first business you own?	68	3.13	56	3.00
Graduated college?	48	3.48**	74	2.88**
Graduated high school?	109	3.20	8	3.00
Did you start your company using a business loan?	22	2.95	102	3.10
Start with credit union business loan?	3	3.33	121	3.07
Economic development agency funds used?	4	2.75	120	3.08
Start with family/friends funds?	31	3.23	93	3.02
Start with credit card funds?	19	3.21	105	3.05
Start with personal savings?	85	3.11	39	3.00
Start using home equity loan?	13	4.31**	111	2.93**
Start using other funding?	23	3.13	101	3.06
Business plan?	50	3.24	73	2.93
Does accountant do your bookkeeping?	45	3.11	79	3.05
Do you do your bookkeeping?	63	2.98	61	3.16
Did family help start business?	53	2.81	71	3.27
Are you a member of any business network group?	45	3.69*	73	2.66*
Do you trade goods or services with any business?	63	2.86	61	3.30
Get advice from bank/credit union?	8	3.63	116	3.03
Get advice from Internet?	27	3.07	97	3.07
Get advice from economic development agency?	4	3.00	120	3.08
Foreign born?	33	2.48*	90	3.32*
Ethnic?	46	2.78	76	3.30

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

Years of profit can take values of 0, 1, 2, 3, 4, or 5.

These changes did not substantially change our findings. There was no significant profit difference between starting and acquiring a business. As before, being a member of a business network was significantly associated with more years of profit. There also continued to be support for the finding that not seeking advice from an economic development agency and a college education were statistically significantly associated with more years of profit. Two new factors emerged. First, foreign born entrepreneurs appeared to show fewer years of profit in the largest sample. Second, using a home equity loan was significantly positively associated with more years of profit. Non-ethnic business owners report higher average years of profit, but this result was not statistically significant in any sample.

While ethnicity is not significantly associated with average years of profit, we next considered only ethnic entrepreneurs and ask what factors affect their profitability. The sample of ethnic entrepreneurs who started their business five or six years ago is only nine owners, which is very small, and did not yield any significant differences between factors when explaining years of profit.

We next considered all ethnic entrepreneurs which increases the sample size to 46 and has mean years of profit equal to 2.78. Only two variables were statistically significant, and both of those were funding variables (Table 75). Using a home equity loan was associated with higher average years of profit. Using a business loan was associated with lower average years of profitability (1.63 versus 3.03 years). This counter-intuitive result may be due to differences between ethnic owners who seek a business loan and those who don't. Importantly, 31% (13 out of 42) ethnic owners are part of a business network group, but this is not associated with greater years of profitability for ethnic entrepreneurs. It is important to remember that this ethnic sample included entrepreneurs who have owned their businesses for more or less than five years.

We attempted to isolate the impact of key factors on years of profitability after controlling for the impact of other factors. For example, college graduates may be more likely to join business networks, and the fact that graduating college is correlated with profitability may simply be picking up the impact of business networks and not the impact of a college education. We first used ordinary least squares regression with the natural logarithm of the years of profit plus one regressed on our independent variables. We add one because some businesses report zero years of profit and taking the natural logarithm often produces a better fit with these data. We also explored two non-linear models that may be better suited with our dependent variable, years of profits, which only takes on a limited number of values. We estimated an ordered Probit model that asked how the independent variables change the probability of profit taking on values zero through five. We then estimated a standard Logit model by transforming years of profitability into a binary variable that takes on the value of one if profits are 3, 4, or 5 years, and a value of zero in all other cases. The only variable that is consistently significant in these regressions is being part of a business network, which increases years of profit. However, in all three cases the fit of the models is very weak, so these results are not presented here.

**Table 75: Mean Number of Years of Profit Over the Last Five Years: Ethnic Owned Businesses**

Question	Yes		No	
	Frequency	Mean	Frequency	Mean
Did you start this business?	32	2.91	14	2.50
Is this the first business you own?	24	2.58	22	3.00
Graduated college?	11	2.91	34	2.79
Graduated high school?	35	2.80	8	3.00
Did you start your company using a business loan?	8	1.63**	38	3.03**
Start with credit union business loan?	2	3.00	44	2.77
Economic development agency funds used?	2	1.00	44	2.86
Start with family/friends funds?	13	2.54	33	2.88
Start with credit card funds?	5	3.40	41	2.71
Start with personal savings?	29	2.72	17	2.88
Start using home equity loan?	5	4.40*	41	2.59*
Start using other funding?	9	2.78	37	2.78
Business plan?	23	2.87	23	2.70
Does accountant do your bookkeeping?	24	3.17	22	2.36
Do you do your bookkeeping?	16	2.50	30	2.93
Did family help start business?	21	2.38	25	3.12
Are you a member of any business network group?	13	3.46	29	2.48
Do you trade goods or services with any business?	22	2.73	24	2.83
Get advice from bank/credit union?	2	3.50	44	2.75
Get advice from Internet?	5	2.60	41	2.80
Get advice from economic development agency?	3	2.33	43	2.81
Foreign born?	32	2.56	14	3.29

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

Years of profit can take values of 0, 1, 2, 3, 4, or 5.

### *Increase in Employees*

We next looked at the change in employees since 2004 for entrepreneurs that started the business and who owned it for five or six years (Table 76). The sample size was 43 businesses and had an average increase in employees equal to 0.64.

**Table 76: Change in the Number of Employees since 2004 in Mendocino County Business Survey: Businesses That Were Started and Owned for Five or Six Years by the Current Owner**

Question	Yes		No	
	Frequency	Mean	Frequency	Mean
Is this the first business you've owned?	22	0.909	21	0.357
Graduated college?	15	1.267	28	0.303
Graduated high school?	37	0.689	3	0.667
Did you start your company using a business loan?	8	1.938*	35	0.343*
Start with credit union business loan?	2	3.750*	41	0.488*
Economic development agency funds used?	2	1.000	41	0.622
Start with family/friends funds?	12	1.625*	31	0.258*
Start with credit card funds?	9	1.389	34	0.441
Start with personal savings?	31	0.855	12	0.083
Start using home equity loan?	2	3.250**	41	0.512**
Start using other funding?	8	0.000	35	0.786
Business plan?	17	1.147	25	0.280
Does accountant do your bookkeeping?	13	1.346	30	0.333
Do you do your bookkeeping?	25	1.020	18	0.111
Did family help start business?	22	1.068	21	0.191
Are you a member of any business network group?	14	2.179*	27	-0.148*
Do you trade goods or services with any business?	22	0.636	21	0.643
Get advice from bank/credit union?	4	1.250	39	0.577
Get advice from Internet?	11	1.273	32	0.422
Get advice from economic development agency?	1	4.000**	42	0.560**
Foreign born?	6	1.917	37	0.432
Ethnic?	10	1.250	32	0.469

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

While the mean change in the number of employees was greater with more experience and education, none of these factors variables were statistically influential. Four funding variables made a statistically significant contribution to increase in the number of employees hired. Using a bank loan or using a credit union loan was correlated with a greater increase in the number of employees hired. Access to funds from family and friends also was associated with a greater increase in employees, and this funding source was the

second most reported source of funds (12 out of 43). A home equity loan was used by two owners, and on average they increased the number of employees more than those who did not use a home equity loan.

Having a business plan or choice of bookkeeper was not significantly associated with increasing the number of employees. Being a member of a business network group was significantly correlated with hiring more employees, and about one third of our owners are members of a business network group. Taking advice from an economic development agency was significantly associated with hiring more employees, although only one respondent use an economic development agency.

Ethnic entrepreneurs reported a greater increase in the number of employees, but this result was not statistically significant. When we expand the sample to include all businesses (134 businesses), then we find that no factors are associated with an increase in the number of employees since 2004, even the factors that were significant when using the smaller (43 businesses) data set.

### ***Business Service to the Community***

With the intention of further investigating an entrepreneur's business service to the community, we formed the following hypotheses:

***Hypothesis: Ethnic owned businesses cash payroll checks more than non-ethnic owned businesses.*** No statistically significant differences were observed.

***Hypothesis: Ethnic entrepreneurs give back/ support the community more than non-ethnic entrepreneurs.*** There were no statistically significant differences.

### ***Participation in Financial System***

In order to look into an entrepreneur's participation in the financial system, we pose the following hypotheses:

***Hypothesis: Ethnic entrepreneurs have been denied loans more than non-ethnic entrepreneurs.*** We found no significance.

***Hypothesis: Non-ethnic entrepreneurs are more likely to have an account at a bank than ethnic entrepreneurs.*** There were no significant findings.

### ***Networks***

To more fully understand an entrepreneur's level of networking, we advanced the following hypotheses:

**Hypothesis: Ethnicity affects access to different types of networks.** Ethnic entrepreneurs have a greater number of familial networks ( $M=4.24$ ,  $SD=3.32$ ) than non-ethnic entrepreneurs ( $M=2.78$ ,  $SD=2.29$ ),  $F(1, 130)=8.9$ ,  $p=.003$ , partial  $\eta^2=.064$ , power=.842. Multiple statistically significant findings occur when analyzing an entrepreneur's level of community networking (Table 77). When asked if they are a member of a church, 18.18% of non-ethnic participants and 40% of ethnic participants responded yes ( $p=.006$ ). On a similar note, 19.48% of non-ethnic participants were members of a school group while 40% of ethnic participants were members of a school group ( $p=.010$ ). When looking at membership with Nuestra Casa, statistical significance is found at  $p < .001$  as only one non-ethnic participant is a member of Nuestra Casa and 25.45% of ethnic participants are members. Analysis of membership in 4-H and Kiwanis also yielded statistically significant results. Six non-ethnic participants were members of 4-H while no ethnic participants reported being members ( $p = .034$ ). No non-ethnic-participants reported being members of Kiwanis while two ethnic participants reported being members ( $p = .092$ ).

**Table 77: Comparison of Participation in Community Networking Groups for Ethnic and Non-Ethnic Study Participants**

Community Group	Non-Ethnic		Ethnic	
	N	%	N	%
Church*	14	18.2%	22	40.0%
School*	15	19.5%	22	40.0%
Nuestra Casa*	1	1.3%	14	25.5%
4-H*	6	7.8%	0	0.0%
Kiwanis*	0	0.0%	2	3.6%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic entrepreneurs are more likely to send money outside the U.S.** (Table 78). Ethnic entrepreneurs send more money outside the United States than non-ethnic entrepreneurs. ( $1, N = 130$ ) = 13.01,  $p < .001$ .  $ps$

**Table 78: Comparison of Ethnic and Non-Ethnic Study Participants Who Send Money Outside the U.S.**

Non-Ethnic		Ethnic	
N	%	N	%
5	6.5%*	16	30.2%*

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Hypothesis: Ethnic business owners are less likely to be a member of business networking groups.** No statistically significant differences were found.

**Hypothesis: Ethnic business owners are more likely to have informal networks than formal business networks.** There were no statistically significant differences.

## ***Business Technology Connectedness***

In order to further explore an entrepreneur’s business technology connectedness, we explored the following hypothesis:

***Hypothesis: The Internet and a computer are not as important for ethnic owned businesses as they are for non-ethnic owned businesses*** (Table 79 and Table 80). Statistical significance was found at  $p=.008$ , with 50.64% of non-ethnic participants reporting that a computer was essential to their business, while 29.63% of ethnic participants reported the same. When examining the importance of the Internet for business owners, statistical significance was found at  $p=.027$ , as 47.37% of non-ethnic participants and 25.95% of ethnic participants reported that the Internet was essential to their business.

**Table 79: Comparison of Importance of a Computer for Ethnic and Non-Ethnic Study Participants’ Businesses**

Level of Importance	Non-Ethnic		Ethnic	
	N	%	N	%
Not Used	3	3.9%	7	13.0%
Minimally Important	7	9.1%	7	13.0%
Moderately Important	12	15.6%	3	5.5%
Very Important	16	20.8%	21	38.9%
Essential*	39	50.6%	16	29.6%
Total	77	100.0%	54	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.

**Table 80: Comparison of Importance of the Internet for Ethnic and Non-Ethnic Study Participants’ Businesses**

Level of Importance	Non-Ethnic		Ethnic	
	N	%	N	%
Not Used	5	6.6%	10	18.5%
Minimally Important	8	10.5%	6	11.2%
Moderately Important	15	19.7%	8	14.8%
Very Important	12	15.8%	16	29.6%
Essential*	36	47.4%	14	25.9%
Total	76	100.0%	54	100.0%

Note: \* at the 5%, 2-tailed level and \*\* at the 10%, 2-tailed level.



## ***SPATIAL ANALYSIS***

The main objective with spatial analysis was to investigate spatial differences between ethnic and non-ethnic business owners; our hypothesis being that a difference does exist. We tested many variables from collected PPGIS data and secondary data including census, parcel and transportation data. In order to determine if differences exist between ethnic and non-ethnic business owners, a number of spatial analyses were conducted. We used two-tailed t-tests for ethnic and non-ethnic owned businesses. Because some business owners did not include ethnicity information in their survey responses, only those surveys which included business owner ethnicity were used in the comparisons.

Networking proved to be a very important part of business success as mentioned previously. Part of this success may be, in part, due to the location of community civic engagement points near the businesses. Not only were distances to civic engagement points measured, but the density of these points as well. Our tests investigated business surveys and PPGIS data collected specifically for the project. Variables were created by measuring distances between the businesses and civic engagement points. These were tested for significant differences using two-tailed t-tests. The first distance variable represents a measured Euclidean distance between each business point and the nearest civic engagement point. The objective was to see if a significant distance existed between ethnic and non-ethnic owned businesses to these engagement points. A significant difference was found between the businesses with a p-value of  $< 0.01$ . The test showed that the mean distance from ethnic owned businesses to civic engagement points was significantly closer than non-ethnic owned businesses.

Walking distance buffers and service area polygons, also known as Thiessen polygons, were also tested for differences between the two groups. We were interested in the number of civic engagement points (density) that existed within these boundaries and whether this number changed significantly between the groups. For walking distance buffers we chose a quarter mile radius around each business point. Thiessen polygons have the unique property that each polygon contains only one input point (business), and any location within a polygon is closer to its associated point than to the point of any other polygon (ESRI 2009). Civic engagement points within each boundary were then summed and t-tests ran to determine differences. There was a significant difference between groups in both polygon boundaries with a p-values of  $< 0.01$  for quarter mile buffers and 0.048 for Thiessen boundaries. In both cases the number of civic engagement points within the boundary was larger for ethnic owned businesses.

We were also interested in business locations and their proximity to major highways, a possible indicator for success due to business access. Since no large metropolitan areas exist within Mendocino County it was assumed that traffic issues were very minimal. Because of this, it was unnecessary to calculate road network travel times from each business to the

closest major road, and instead a straight line distance was used. A t-test showed a significant difference between business distances to highways with a p-value of < 0.01, where ethnic owned business' average distance was significantly closer to highways than non-ethnic owned businesses.

To investigate local demographic knowledge we looked at the business locations within census blocks. For each business point a spatial join was executed in order to associate the census block level demographic data for each business to the block that business was located in. Variances between census variables were then explored for ethnic and non-ethnic owned businesses. A few significant variables were found mostly related to Latino population quantities. These included total Latino population, population in houses with Latinos, and population in family with Latinos. Each were significant with p-values <0.01, signifying that ethnic owned businesses in Mendocino County tend to have businesses on census blocks with a larger Latino population. A significant difference was also found of businesses on census blocks with houses of 5-7 occupants, where ethnic businesses existed more often on these blocks than did non-ethnic businesses (p-value 0.015).

County parcel data can also help characterize the space around a business location. Similar to the census process, parcel data was absorbed into the business points through a spatial join in ArcMap. Upon close inspection, there are a few points with a land use designation of transportation easement (roads). This issue originated from the geocoding process mentioned above, and since businesses do not exist on transportation easements another step needed to be done. All transportation easement parcels were removed from the parcel layer, and a spatial join was done between the business points and the nearest parcel boundary. If the point had been within an easement it now was related to a different land use designation. A significant difference was found with parcel size between ethnic and non-ethnic owned businesses, with ethnic owned businesses having a much smaller parcel acreage (p-value < 0.01). Table 81 shows spatial variables tested that were significant.

**Table 81: Comparison of Ethnic and Non-Ethnic spatial variables.**

Variable	P-value	Mean Ethnic	Mean non-Ethnic
House 5-7 occupants	0.016	6.20	2.39
Total Latino Population	<0.01	47.33	8.91
Population in house with Latino	<0.01	45.45	7.84
Population in family with Latino	<0.01	41.85	6.84
Distance to civic engagement	<0.01	1053.22	7162.93
Number of civic engagement points within 0.25 mile	<0.01	3.04	0.61
Distance to major highway	<0.01	521.44	1228.64
Civic engagement points within Thiessen polygons	.047	1.13	0.57
Business parcel acreage	<0.01	0.51	15.86

Note: All variables above were significant at the 5%, 2-tailed level.

## ***CONCLUSIONS AND RECOMMENDATIONS***

Rural communities are unique for a number of environmental and social reasons. First, rural areas are often situated in expansive geographies with limited infrastructure. This may make travel distances prohibitive or limit access to essential telecommunications, raw materials or large markets. Rural areas also lack access to the same variety of resources that entrepreneurs in urban or suburban areas may have. Given these factors, a successful assessment of rural community development must consider multiple factors. Research on ethnic entrepreneurs in rural areas tends to take either a conceptual or a spatial focus, but does not include both conceptual and spatial together. While the literature on rural economic development, ethnic entrepreneurship, and networks is extensive, literature examining a combination of these elements is not. This project contributes important new information to the research on rural ethnic entrepreneurs. By understanding types of networks which are important for successful entrepreneurship and how resources and information are shared, economic developers can more effectively work with and build these networks.

The rural environment presents genuine challenges to success for rural entrepreneurs. Success can be enhanced for rural entrepreneurs by drawing on their networks. Given the importance of rural networks it behooves economic developers to take a culturally appropriate approach that focuses on the social aspect of ethnic entrepreneurs communities prior to trying to engage them in the “work” of economic development. An increased understanding of the dynamics of all entrepreneurs and particularly ethnic entrepreneurs and their networks will help economic developers avoid top down practices. Considering all aspects of the people and place where business can develop and thrive is essential to successful entrepreneurship and economic development.

### ***Importance of social networks***

Social networks play an extremely important role in connecting people to one another and in both ethnic and non-ethnic entrepreneur’s businesses, especially in rural areas. So in other words, networks directly link to business success. Our study found that for the entire sample of entrepreneurs, being a member of a business network was significantly associated with more years of profit. We also found that length of residence plays a role-entrepreneurs who have lived in the area longer are more networks than those who have lived there a shorter time.

Networks often vary by socioeconomic background, ethnicity and culture. In our study we particularly examined the role of ethnicity. We found that ethnicity affected people’s access to different types of networks. In specific, Ethnic entrepreneurs have more family working for them than non-ethnic entrepreneurs. Ethnic entrepreneurs also draw substantially upon their informal networks to sustain their businesses. For example ethnic

entrepreneurs are more likely to use informal connections for their bookkeeping than non-ethnic entrepreneurs.

Additionally, ethnic entrepreneurs were more likely to be engaged in various aspects of community networking, such as church or school group, more so than the non-ethnic entrepreneurs. Furthermore, ethnic entrepreneurs are more likely to have other family who are entrepreneurs than non-ethnic entrepreneurs. This increases the chance for mentorship and assistance between family members.

We found some differences in the social networks between ethnic and non-ethnic entrepreneurs. Non-ethnic groups were more likely to be a member of groups such as Kiwanis and 4-H than ethnic groups. Why does this matter? Determining the types of networks that a certain group most often participates in is something to consider when economic developers create a strategy for engaging with ethnic entrepreneurs and people from different socioeconomic backgrounds. In our study the non-ethnic entrepreneurs had lived in the area for a longer period of time than the ethnic entrepreneurs. Our study also found that local ethnic people play an important role in sustaining ethnically owned-businesses.

### ***Business type, motivation and owner characteristics***

A number of key similarities and differences exist between ethnic and non-ethnic entrepreneurs. Some similarities were that most entrepreneurs funded their business with personal savings. This is important since access to financial capital through banks or other financial institutions is not as important as we originally hypothesized and our expectation was that ethnic or socioeconomically disadvantaged individuals would have less access to that sort of capital.

When we investigated why people chose to begin their businesses, we found that ethnic entrepreneurs and non-ethnic entrepreneurs have similar motivations for starting a business. This was surprising and suggests more similarity than difference. One major similarity between ethnic and non-ethnic entrepreneurs is that they will both go to other business owners for advice. This is an important finding and suggests a great opportunity for mentorship relationships as a means to achieving rural economic development success across ethnicity, culture and social class.

Our study found some interesting differences in the types of businesses owned by ethnic and non-ethnic entrepreneurs. Ethnic entrepreneurs are most likely to own businesses in trade followed by businesses classified as service. Some differences we found are that ethnic entrepreneurs are more likely to be born outside of the U.S. than non-ethnic entrepreneurs and are more likely to send money outside of the U.S. than non-ethnic entrepreneurs.

Non-ethnic entrepreneurs are generally older than ethnic entrepreneurs and have a higher level of education. Additionally, technology was more important for non-ethnic

entrepreneurs than for ethnic entrepreneurs. In terms of day-to-day work environment we found that ethnic entrepreneurs are open more days a week than non-ethnic entrepreneurs and that ethnic entrepreneurs are more likely to be present at the business on a weekend than the non-ethnic entrepreneurs. Ethnic entrepreneurs are less likely than non-ethnic entrepreneurs to use the internet for business advice.

### ***Entrepreneurial Success***

We compared the average number of years of profit for a number of different variables, including those related to experience and education, funding, planning, networking, and ethnicity. The factor most often associated with profit is being a member of a business network. Other significant factors include being a college graduate, using a home equity loan, and not using an economic development agency. Ethnic business owners do not significantly differ in average years of profit from white entrepreneurs. When we considered only ethnic entrepreneurs, home equity loans are associated with more years of profit, while entrepreneurs that used a business loan reported fewer years of profit. Belonging to a business network did not affect years of profit for ethnic entrepreneurs.

We also considered success as measured by an increase in the number of employees and found that firms using formal funding sources such as a bank, credit union, or home equity loan or funding from family and friends were associated with a greater average increase in employees. Business networks are also positively correlated with increasing the number of employees.

Surprisingly, we found that across the entire sample (ethnic and non-ethnic entrepreneurs) prior business experience was not significantly correlated with profitability. We had assumed that a person's level of prior experience would affect their profitability but this did not occur. Foreign born entrepreneurs appeared to show fewer years of profit in the larger sample. Many of our ethnic entrepreneurs were foreign born, so that could imply that they have not reached the level of profitability of their non-ethnic counterparts.

Ethnic entrepreneurs and non-ethnic entrepreneurs do not define success differently. This was surprising because we believed given different cultural backgrounds these groups would have different perceptions of what constitutes success, but that did not emerge. Thirty-one percent (13 of 42) ethnic owners are part of a business network group, but this is not associated with greater years of profitability for ethnic entrepreneurs. This could be explained by the fact that the ethnic entrepreneur sample included business owners who had owned their businesses for less than 5 years.

### ***Spatial Differences***

In this study we conducted a variety of spatial analyses to investigate any spatial differences between ethnic and non ethnic entrepreneurs businesses. Some interesting findings are that ethnic entrepreneurs are more likely to use products from within

Mendocino County than non-ethnic entrepreneurs. Geography again played a role in terms of positioning one's business. Ethnic entrepreneurs' businesses were located closer to points of civic engagement than non-ethnic entrepreneurs businesses. This means that businesses were in closer proximity to places where people interact and engage with one another.

Ethnic owned businesses were found to be located closer to highways than non-ethnic businesses. This means that transportation and ease of access to the business was increased for the ethnic entrepreneurs. Furthermore, the role of ethnically clustered neighborhoods played a role. Ethnic owned businesses tend to be located on census blocks with a larger Latino population indicating that proximity of an ethnic population is related to ethnically owned business placement.

### ***Recommendations***

Our recommendations stand on the notion that most communities have a wealth of untapped social and human capital. The approaches that we developed earlier, and our Biz Tool, are geared towards identifying and effectively involving these groups in community economic development.

Based upon this research we provide the following recommendations to community economic developers:

- ♦ **Expand the notion of who an entrepreneur is.** Ethnic and poor populations may not classify themselves as “entrepreneurs” due to cultural or socioeconomic differences. Individuals of these populations are often engaged in entrepreneurial activity, but may not self-identify it as entrepreneurship.
- ♦ **Adopt an approach to community economic development that moves beyond one size fits all.** Various cultural and ethnic groups have different norms that govern their patterns of interaction. These must be respectfully considered when attempting to engage with members of these communities.
- ♦ **Identify the group or groups who are not at the economic development table.** It is dangerous to simply assume that because a token member from a particular community is there that the whole community is represented. An individual member from a particular group may or may not truly speak for the whole, or may already be participating as a member of the majority group.
- ♦ **Develop trust and to engage socially with members from all sectors of the community.** Involving the full range of socioeconomic and ethnic groups present in a community in economic development efforts requires ongoing time and effort. Approaching traditionally disengaged members of a community takes time, trust and understanding. This must begin before the short-term cycles

often associated with grants or political cycles, but rather represent a sustained and ongoing effort to build and maintain strong networks.

- ♦ **Understand that family is very important to the ethnic entrepreneur.** Making economic development outreach efforts and events, family-friendly, and fun and inclusive is essential for the participation of ethnic and socioeconomically limited individuals. Seminars held in the evening when potential entrepreneurs have home and family obligations may discourage their engagement.
- ♦ **Develop increased links between ethnic and non-ethnic rural entrepreneurs.** Our study found that ethnic people play a role in supporting ethnic owned businesses. If a positive link can be established between ethnic and non-ethnic entrepreneurs, patronage of non-ethnic businesses could increase from ethnic consumers.
- ♦ **Ethnic entrepreneurs have a strong work ethic.** Economic and community developers should recognize that ethnic entrepreneurs bring important skills to the community, including a strong work ethic. This is a community strength that can be highlighted and drawn upon as bridges are built between members of the ethnic and non-ethnic business.
- ♦ **Ethnic entrepreneurs are well integrated into certain areas of the community.** Networks are essential to business success. As a result the greater the involvement entrepreneurs and prospective entrepreneurs have, the greater likelihood of success.
- ♦ **Develop opportunities for interaction and mentorship between non-ethnic and ethnic entrepreneurs.** We found that non-ethnic entrepreneurs tended to be older and have a longer length of residence in the community than ethnic entrepreneurs. This suggests that these entrepreneurs are well-positioned to provide mentorship to newer, ethnic entrepreneurs who don't have the level of experience or time spent in the community. Additionally, we found that many ethnic entrepreneurs desire advice or assistance in running their businesses.
- ♦ **Recognize the passion for entrepreneurship and success between ethnic and non-ethnic entrepreneurs.** We found no difference in motivation for starting a business and no difference in the definition of success between these two groups. This suggests both groups have similar intents and goals for becoming a business owner. This provides another reason to foster the links between the ethnic and the non-ethnic entrepreneurs. Ideas could be shared as well as strategies for success.
- ♦ **Consider space in economic development for all entrepreneurs.** We found that geography plays an important role in business and social networks. For example we found that ethnic owned businesses were located closer to points of civic

engagement, to highways and located in neighborhood characterized by higher percentages of particular ethnic populations. So future economic development efforts should carefully examine the spatial context of business placement and location in relation to local social groups and places of local social interaction important to certain ethnic or cultural groups.

- ♦ **Determine needs of local entrepreneurs.** We found that many ethnic entrepreneurs would welcome business advice and guidance on running a successful business. However, this may be an unknown to local community economic developers due to language and cultural barriers. Thus, engaging with key members of the ethnic or cultural community early in planning for community and economic development is essential and will lead to better results later on.
- ♦ **Good ideas are enough to start with.** We found that prior business experience was not a necessity to run a profitable business. This suggests entrepreneurs can begin down the path of developing a business simply with a good idea.
- ♦ **Encourage participation in business networks.** Economic and community developers should encourage participation in business networks. We found that the factor most often associated with profit was being more highly networked. Also in our study we found that participation in business networks was positively correlated with increasing the number of employees in a business, which could be viewed as a measure of business success.
- ♦ **Begin collecting data on ethnic entrepreneur's presence and ownership patterns now.** We found that data on ethnic entrepreneurs was lacking at the community, regional and state level. If local agencies and organizations could start collecting that data now, that would benefit future efforts to engage with these populations and create successful entrepreneurship in the region.

### ***Study Limitations***

Future research would benefit from a larger dataset. Collecting additional data for Mendocino County, and collecting data from other rural counties would add to this dataset and give more precise estimates of variable means and would allow models to be estimated that control for outside factors. One significant limitation of our study was the lack of data on ethnic entrepreneurs at the regional and local level. There was no list available of ethnically owned businesses, which demanded we put extensive resources into collecting this information. Additionally, tracking rural entrepreneurs via an ongoing annual survey would be extremely informative. By following the same entrepreneurs from business creation and tracking whether their business still existed over time as well as the interactions in business and social networks, number of employees, and the amount of profit would be very useful.



### ***Final Products***

In addition to this report, outcomes of this project included a website, [www.peopleplaceandbiz.org](http://www.peopleplaceandbiz.org) that contains detailed information on the project and an economic development tool with suggestions for engaging the entire community in local and regional economic development efforts including previously uninvolved populations. The “Biz Tool” includes key steps in the process, along with examples of survey and mapping approaches, which may be helpful to local economic developers.



## **WORKS CITED**

- Acs, Zoltan J. and Edward J. Malecki. 2003. "Entrepreneurship in Rural America: The Big Picture," in M. Drabenstott, ed. *Main Streets of Tomorrow: Growing and Financing Rural Entrepreneurs*. Kansas City: Center for the Study of Rural America, Federal Reserve Bank of Kansas City 21-29.
- Aldrich, Howard E. and Roger Waldinger. 1990. *Ethnicity and Entrepreneurship*. *Annual Review of Sociology* 16: 111-135.
- Alvord, Sarah H., L. David Brown, and Christine W. Letts. 2004. "Social Entrepreneurship and Societal Transformation." *The Journal of Applied Behavioral Science* 40(3): 260-282.
- Andersson, David Emanuel. 2005. "The Spatial Nature of Entrepreneurship." *The Quarterly Journal of Austrian Economics* 8(2): 21-34.
- Austin, James, Howard Stevenson, and Jane Wei-Skillern. 2006. "Social and Commercial Entrepreneurship: Same, Different, or Both?" *Entrepreneurship Theory and Practice* 30 (1): 1-22.
- Beaulieu, Lionel J. 2002. "Creating Vibrant Communities and Economies in Rural America." *Southern Rural Development Center*. Publication #225.
- Bielefeld, Wolfgang. 2006. "Issues in Social Enterprise and Social Entrepreneurship." *Journal of Public Affairs Education* 15(1): 69-86.
- Boschee, Jerr and Jim McClurg. 2003. "Toward a Better Understanding of Social Entrepreneurship: Some Important Distinctions." Unpublished Manuscript. <centerpointinstitute.com> Accessed 3 Jan 2010.
- Bosma, Niels, Mirjam van Praag, and Gerrit de Wit. 2000. "Determinants of Successful Entrepreneurship." Research report 0002/E. EIM, Zoetermeer 1-35.
- Boyd, Robert L. 2008. "Trends in the Occupations of Eminent Black Entrepreneurs in the United States." *The Journal of Socio-Economics* 37: 2390-2398.
- Butler, John Sibley and Cedric Herring. 1991. "Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-Employment." *Sociological Perspectives* 34(1): 79-94.
- California Center for Regional Leadership. 2005. "Innovation, Entrepreneurship, and Collaboration: An Economic Agenda for Rural California."
- California Department of Finance. 2009a. E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2008 and 2009. Sacramento, CA: State of California.
- . 2009b. E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark. Sacramento, CA: State of California.

- California Employment Development Department. 2010a. California Labor Market Information, Data Library, Annual Measures of Income for California and Mendocino County 2003-2007. Sacramento, CA: State of California.
- . 2010b. Labor Force and Unemployment Rate for Cities and Census Designated Places, Mendocino County. Sacramento, CA: State of California.
- . 2010c. Labor Market Information, Monthly Industry Employment Data for Mendocino County, California. Sacramento, CA: State of California.
- . 2010d. Survey of Business Owners Data – 2001to Present, California Labor Market Information, Size of Business Data By County, Number of Employees by Size Category: 2004 and 2008. Sacramento, CA: State of California.
- . 2010e. Survey of Business Owners Data - 2001-Present, California Labor Market Information, California Size of Business Data, Number of Employees by Size Category, 2004 and 2008. Sacramento, CA: State of California.
- . 2010f. *Unemployment Rates (Labor Force) Data Library*. Sacramento, CA: State of California.
- Canzano, Daniela and Michele Grimaldi. 2004. "Knowledge Management and Collaborations: Knowledge Strategy and Processes in the Knowledge Networks." *Paper Presented at I-KNOW, Graz, Austria* 175-183.
- Center for Economic Development, CSU Chico. 2008. Mendocino County Economic and Demographic Profile.
- Chaganti, Radha and Patricia G. Greene. 2002. "Who Are Ethnic Entrepreneurs? A Study of Entrepreneurs' Ethnic Involvement and Business Characteristics." *Journal of Small Business Management* 40(2): 126-143.
- Collaborative Economics, Inc. 2005. "Patterns of Entrepreneurship in Rural California: An Overview." *2005 California Regional Economies Project*.
- Dabson, Brian. 2001. "Supporting Rural Entrepreneurship." *Exploring Policy Options for a New Rural America*. Proceeding of a conference sponsored by Federal Reserve Bank of Kansas City, Center for the Study of Rural America 35-48.
- Dimara, Efthalia, Alexandra Goudis, Dimitris Skuras, and Kyriaki Tsegenidi. 2003. "Business Networks and Performance: A Spatial Approach." *Paper Presented at the 43<sup>rd</sup> European Regional Science Association Congress*, University of Jyvaskyla, Finland.
- Elkington, John. 1998. *Cannibals With Forks: The Triple Bottom Line of 21<sup>st</sup> Century Business*. New Society Publishers: Gabriola Island, BC.
- Emery, Mary, Milan Wall, and Don Macke. 2004. "From Theory to Action: Energizing Entrepreneurship (E2), Strategies to Aid Distressed Communities Grow Their Own." *Journal of the Community Development Society* 35(1): 82-96.

- Fadahunsi, Akin, David Smallbone, and Salinder Supri. 2000. "Networking and Ethnic Minority Enterprise Development: Insights From a North London Study." *Journal of Small Business and Enterprise Development* 7(3): 228-240.
- Fairlie, Robert W. and Christopher Woodruff. 2008. "Mexican-American Entrepreneurship." Discussion Paper No. 3488.
- Farmer, Jane and Sue Kilpatrick. 2009. "Are Rural Health Professionals Also Social Entrepreneurs?" *Social Science and Medicine* 69: 1651-1658.
- Fawbush, Wayne and Shanna Ratner. 2009. "The Triple Bottom Line Approach." <stlouisfed.org/exploringinnovation/2009/assets/summaries/Triple\_Bottom\_Line.pdf> Accessed 20 Sept. 2009.
- Gartner, William B. and Sue Birley. 2002. "Introduction to the Special Issue on Qualitative Methods in Entrepreneurship Research." *Journal of Business Venturing* 17: 387-395.
- Giddens, Anthony, Mitchell Duneier, Richard P. Appelbaum, and Deborah Carr. 2008. *Essentials of Sociology*. New York: W.W. Norton and Co., Inc.
- Gladwin, C.H., B. F. Long, E. M. Babb, L. J. Beaulieu, A. Moseley, D. Mulkey and D. J. Zimet. 1989. "Rural Entrepreneurship: One Key to Rural Revitalization." *American Journal of Agricultural Economics*, Vol. 71 No. 5, Proceedings Issue 1305-1314.
- Granovetter, Mark. 1973. "The Strength of Weak Ties." *The American Journal of Sociology* 78(6): 1360-1380.
- Grey, Mark A. and Maureen Collins-Williams. 2006. "A Rural Service Provider's Guide to Immigrant Entrepreneurship." University of Northern Iowa.
- Haugh, Helen. 2005. "A Research Agenda for Social Entrepreneurship." *Social Enterprise Journal* 1 (1): 1-12.
- Heberer, Thomas. 2004. "Ethnic Entrepreneurs as Agents of Social Change Entrepreneurs, Clans, Social Obligations and Ethnic Resources: The Case of the Liangshan Yi in Sichuan." *Duisburg Working Papers on East Asian Studies* No. 54.
- Henderson, Jason. 2002. "Building the Rural Economy with High-Growth Entrepreneurs," Federal Reserve Bank of Kansas City, *Economic Review*, 3<sup>rd</sup> quarter 45-70.
- Henslin, James. 2000. *Essentials of Sociology: A Down to Earth Approach*. Boston: Allyn and Bacon.
- Herbert, Rand F., Alan M. Paterson, Stephen R. Wee. 1979. "The Historical Development of Interior Sections of Humboldt and Mendocino Counties: a Documentary Report Prepared for United States Department of the Interior, Bureau of Land Management, Ukiah District." Davis, California: California-Pacific Research Associates.
- Holmstrand, Phillip. 2010. *Accuracy Codes*. Batchgeo. <<http://batchgeo.com>> Accessed. 27 January, 2010.

- Hoover, Mildred B., Hero E. Rensch, and Ethel G. Rensch. 1958. *Historic Spots in California*. Stanford University Press.
- Industrial Survey Associates. 1951. "Mendocino County, Its Economic Assets, Needs and Prospects; A report prepared for the Mendocino County Chamber of Commerce." San Francisco.
- Jack, Sarah and Alistair R. Anderson. 2002. "The Effects of Embeddedness on the Entrepreneurial Process." *Journal of Business Venturing* 17: 467-487.
- Janjuha-Jivraj, Shaheena. 2003. "The Sustainability of Social Capital within Ethnic Networks." *Journal of Business Ethics* 47: 31-43.
- Kalantaridis, Chrsitoa and Zografia Bika. 2006. "Local Embeddedness and Rural Entrepreneurship: Case-Study Evidence from Cumbria, England." *Environment and Planning* 38: 1561-1579.
- Klay, Ariel. "Learning at Nuestra Casa." *Ukiah Daily Journal*. 23 Jan. 2009.
- Kloosterman, Robert and Jan Rath. 2001. "Immigrant Entrepreneurs in Advanced Economies: Mixed Embeddedness Further Explored." *Journal of Ethnic and Migration Studies* 27(2): 189-202.
- Korsching, Peter F. and John C. Allen. 2004. "Locality Based Entrepreneurship: A Strategy for Community Economic Vitality." *Community Development Journal* 39(4): 385-400.
- Lammers, Phyllis A. 1997-2004. "The Mendocino County Economic and Demographic Almanac." Eureka, CA : North Coast Almanacs.
- Levitte, Yael. 2004. "Bonding Social Capital in Entrepreneurial Communities – Survival Networks or Barriers?" *Journal of the Community Development Society* 35(1): 44-60.
- Lichtenstein, Greg A., Thomas S. Lyons, and Nailya Kutzhanova. 2004. "Building Entrepreneurial Communities: The Appropriate Role of Enterprise Development Activities." *Journal of the Community Development Society* 35(1): 5-24.
- Lounsbury, Michael and Mary Ann Glynn. 2001. "Cultural Entrepreneurship: Stories, Legitimacy, and the Acquisition of Resources." *Strategic Management Journal*, Special Issue: Strategic Entrepreneurship: Entrepreneurial Strategies for Wealth Creation 22(6/7): 545-564.
- Low, Sarah, Jason Henderson, and Stephan Weiler. 2005. "Gauging a Region's Entrepreneurial Potential." Federal Reserve Bank of Kansas City, *Economic Review*, 3<sup>rd</sup> quarter 61-89.
- Mair, Johanna and Ignasi Marti. 2006. "Social Entrepreneurship Research: A Source of Explanation, Prediction, and Delight." *Journal of World Business* 41: 36-44.
- Marger, Martin N. 2005. *Social Inequality: Patterns and Processes*. Boston: McGraw-Hill.
- Martin, Larry and Kate Stiefelmeyer. 2001. "Strategic Alliances and Cooperatives Aiding in Rural Development in North America." *Exploring Policy Options for a New Rural*

- America*, a conference sponsored by the Center for the Study of Rural America, Federal Reserve Bank of Kansas City: 87-101.
- Martin, Roger L. and Sally Osberg. 2007. "Social Entrepreneurship: The Case for Definition." *Stanford Social Innovation Review* Spring: 28-39.
- McEachern, Menzie and Susan Hanson. 2008. "Socio-Geographic Perception in the Diffusion of Innovation: Solar Energy Technology in Sri Lanka." *Energy Policy* 36: 2578-2590.
- McKibben, Bill. 2007. *Deep Economy*. Holt Paperback Times Books: New York.
- Mendocino County Historical Society. 1967. "History of Mendocino County, California, Comprising Its Geography, Geology, Topography, Climatography, Springs and Timber." San Francisco: Alley, Bowen, and Co. 1880 [Fort Bragg, Calif., Mendocino County Historical Society].
- Menzies, Teresa V., Louis Jacques Filion, Gabrielle A. Brenner, and Susan Elgie. 2007. "Measuring Ethnic Community Involvement: Development and Initial Testing of an Index." *Journal of Small Business Management* 45(2): 267-282.
- Moller, Kristian and Senja Svahn. 2002. "Role of Knowledge in the Value Creation in Business Nets." *A Competitive Paper submitted to the IMP 2002 in Dijon*.
- Moller, Kristian, Arto Rajala, and Senja Svahn. 2002. "Strategic Business Nets – Their Types and Management." (Draft) Submitted to the *Journal of Business Research*.
- Moller, Kristian and Senja Svahn. 2004. "Crossing East-West Boundaries: Knowledge Sharing in Intercultural Business Networks." *Industrial Marketing Management* 33: 219-228.
- Munoz, Sarah-Anne. 2009. "Towards a Geographical Research Agenda for Social Enterprise." *Royal Geographical Society* 1-11.
- Murphy, Patrick J. and Susan M. Coombes. 2008. "A Model of Social Entrepreneurial Discovery." *Journal of Business Ethics* 87: 325-336.
- Ndoen, Marthen, Kees Gorter, Peter Nijkamp, and Piet Rietveld. 2002. "Entrepreneurial Migration and Regional Opportunities in Developing Countries." *The Annals of Regional Science* 36: 421-436.
- Neck, Heidi, Candida Brush, and Elaine Allen. 2009. "The Landscape of Social Entrepreneurship." *Business Horizons* 52: 13-19.
- Norman, Wayne and Chris MacDonald. 2004. "Getting to the Bottom of 'Triple Bottom Line'." *Business Ethics Quarterly* 12: 243-262.
- Occupational Health and Safety Administration. 2008. *North American Industry Classification System*. Washington D.C. <[www.osha.gov](http://www.osha.gov)> Accessed 30 Aug 2009.
- Pallares-Barbera, Montserrat, Antoni F. Tulla, and Ana Vera. 2004. "Spatial Loyalty and Territorial Embeddedness in the Multi-Sector Clustering of the Bergueda Region in Catalonia (Spain)." *Geoforum* 35: 635-649.

- Peredo, Ana Maria and Murdith McLean. 2006. "Social Entrepreneurship: A Critical Review of the Concept." *Journal of World Business* 41: 56-65.
- Pessar, Patricia. 1995. "The Exclusive Enclave: Ethnicity, Class, and Nationality Among Latino Entrepreneurs in Greater Washington D.C." *Human Organization* 54(4): 383-392.
- Phillipson, Jeremy, Matthew Gorton, and Lutz Laschewski. 2006. "Local Business Co-Operation and the Dilemmas of Collective Action: Rural Micro-Business Networks in the North of England." *Sociologia Ruralis* 46(1): 40-60.
- Quadrini, Vincenzo. 1999. "Entrepreneurship, Saving, and Social Mobility." Ph.D. Dissertation, University of Pennsylvania.
- Quinn, Laura and Jessica Baltes. 2007. "Leadership and the Triple Bottom Line: Bringing Sustainability and Corporate Social Responsibility to Life." A Center for Creative Leadership Research White Paper. <<https://www.ccl.org/leadership/pdf/research/tripleBottomLine.pdf>> Accessed 20 Sept. 2009.
- RAND California. 2009. *Population Projections by Race/Ethnicity*. Santa Monica, CA: Rand Corporation.
- Razin, Eran. 1989. "Relating Theories of Entrepreneurship among Ethnic Groups and Entrepreneurship in Space -The Case of the Jewish Population in Israel." *Geografiska Annaler. Series B, Human Geography* 71(3): 167-181.
- Robles, Barbara J. and Hector Cordero-Guzman. 2007. "Latino Self-Employment and Entrepreneurship in the United States: An Overview of the Literature and Data Sources." *The Annals of the American Academy of Political and Social Science* 613: 18-31.
- Rochín, Refugio I., Rogelio Saenz, Steve Hampton, and Bea Calo. 1998. "Colonias and Chicano/a Entrepreneurs in Rural California," *JSRI Research Report #16*, The Julian Samora Research Institute, Michigan State University, East Lansing, Michigan.
- Roper, Juliet and George Cheney. 2005. "Leadership, Learning, and Human Resource Management: The Meanings of Social Entrepreneurship Today." *Corporate Governance* 5 (3): 95-104.
- Rosenfeld Stuart A. 2001. "Networks and Clusters: The Yin and Yang of Rural Development." *Exploring Policy Options for a New America*. Proceeding, a conference sponsored by the Center for the Study of Rural America, Federal Reserve Bank of Kansas 103-120.
- Ryder, David W. 1966. *Memories of the Mendocino Coast*. Taylor and Taylor: San Francisco.
- San Diego County Recorder's Office. 2009. "Fictitious Business Names." <[arcc.co.sandiego.ca.us](http://arcc.co.sandiego.ca.us)> Accessed 20 Aug. 2009.
- Sayavedra, Gloria, Ron Strohlic, and Bertha Sarmina Garcia. 2008. "If We Don't Speak, Our Voices Won't Be Heard: Organizing Farmworkers through Poder Popular." *California Institute for Rural Studies*.



- Schutjens, Veronique and Erik Stam. 2003. "The Evolution and Nature of Young Firm Networks: A Longitudinal Perspective." *Small Business Economics* 21: 115-134.
- Scott, Allen J. 2006. "Entrepreneurship, Innovation, and Industrial Development: Geography and the Creative Field Revisited." *Small Business Economics* 26: 1-24.
- Seelos, Christian and Johanna Mair. 2005. "Social Entrepreneurship: Creating New Business Models to Serve the Poor." *Business Horizons* 48: 241-246.
- Senge, Peter M. and John D. Sterman. 1992. "Systems Thinking and Organizational Learning: Acting Locally and Thinking Globally in the Organization of the Future." In Thomas A. Kochan and Michael Useem (ed.) *Transforming Organizations*. Oxford University Press: New York.
- Shaw, Eleanor and Sara Carter. 2007. "Social Entrepreneurship: Theoretical Antecedents and Empirical Analysis of Entrepreneurial Processes and Outcomes." *Journal of Small Business and Enterprise Development* 14(3): 418-434.
- Shields, Jeffrey S. 2005. "Does Rural Location Matter? The Significance of a Rural Setting for Small Business." *Journal of Developmental Entrepreneurship* 10(1): 49-63.
- Sirolli, Ernesto. 1999. *Ripples from the Zambezi*. New Society Publishers.
- SPSS for Windows, Rel. 18.0 2001. Chicago: SPSS Inc.
- Steinberg, Sheila L. and Steven Jud Steinberg. 2009. "A Sociospatial Approach to Globalization: Mapping Ecologies of Inequality." In Samir Dasgupta (ed.) *Understanding the Global Environment*. Pearson Longman: Delhi, India.
- Steinberg, Sheila L., Strong, M., Yandell, N., and Guzman, A. 2008. *CCRP Rural Latino Final Report*. Humboldt State University: California Center for Rural Policy, Arcata, CA.
- Strauss, A. and J. Corbin, 1994. "Grounded Theory Methodology," In: N.K. Denzin and Y.S. Lincoln (editors). *Handbook of Qualitative Research*. Thousand Oaks, Calif.: Sage, pp. 273-285.
- Strochlic, Ron, Lisa Kresge, Don Villarejo, and Cathy Wirth. 2008. "An Assessment of the Demand for Farm Workers Housing and Transportation in Mendocino County." *California Institute for Rural Studies*.
- Thompson, Heather. 2009. "Discover Mendocino County." *Hypehouse, Inc.* <gomendo.com> Accessed 10 Feb 2009.
- Thompson, John L. 2002. "The World of the Social Entrepreneur." *The International Journal of Public Sector Management* 15 (4/5): 412-431.
- Ukiah Daily Journal*. "Community Briefs." 23 Jan. 2009.
- U.S. Census Bureau: U.S. Bureau of the Census. 2000a. *Summary File 3*. Washington, DC: U.S. Government Printing Office.
- . 2000b. *State and County QuickFacts*. Washington, DC: U.S. Government Printing Office.

- . 2000c. *Population Estimates by California County*. Washington, DC: U.S. Government Printing Office.
- . 2000d. *Survey of Business Owners Data - Statistics for Minority-Owned Firms by State, Selected Metropolitan Statistical Area, and Kind of Business: 2002*. Washington, DC: U.S. Government Printing Office.
- . 2001. *Hispanic or Latino Origin for California: 2000*. Washington DC: U.S. Government Printing Office.
- . 2002a. *Survey of Business Owners - Statistics for Selected Places With 100 or More Minority-Owned Firms*. Washington, DC: U.S. Government Printing Office.
- . 2002b. *Survey of Business Owners: Estimates of Business Ownership by Gender, Ethnicity, and Race*. Washington, DC: U.S. Government Printing Office.
- . 2008. *American Community Survey Three-Year Estimates, Mendocino County Profile of Selected Economic Characteristics, 2006-2008*. Washington, DC: U.S. Government Printing Office.
- Verdaguer, M. Eugenia and Steven P. Vallas. 2008. "Barriers to Ethnic Entrepreneurship: The Latino Experience in Northern Virginia." *Paper presented at the annual meeting of the American Sociological Association, New York, New York City Online* from <[http://www.allacademic.com/meta/p184057\\_index.html](http://www.allacademic.com/meta/p184057_index.html)>.
- Wang, Qingfang and Wei Li. 2007. "Entrepreneurship, Ethnicity, and Local Contexts: Hispanic Entrepreneurs in Three U.S. Southern Metropolitan Areas." *GeoJournal* 68: 167-182.
- Weerawardena, Jay and Gillian Sullivan Mort. 2006. "Investigating Social Entrepreneurship: A Multidimensional Model." *Journal of World Business* 41: 21-35.
- Weinberg, Adam S. 2000. "Sustainable Economic Development in Rural America." *Annals of the American Academy of Political and Social Science* 570: 173-185.
- Willard, B. 2002. *The Sustainability Advantage: Seven Business Case Benefits of a Triple Bottom Line*. New Society Publishers: Gabriola Island, BC, Canada.
- Williams, Colin C. 2007. "Socio-Spatial Variations in the Nature of Entrepreneurship." *Journal of Enterprising Communities* 1(1): 27-37.
- Wilner, Frank N. 1998. "Safety Derails NW Pacific." *Traffic World* 256(10): 14-15.
- Wortman, Max S. 1990 "Rural Entrepreneurship Research: An Integration into the Entrepreneurship Field." *Agribusiness* 6(4): 329-344.
- Zarrugh, Laura. 2007. "From Workers to Owners: Latino Entrepreneurs in Harrisonburg, Virginia." *Human Organization* 66(3): 240-248.
- Zhou, Min. 2004. "Revisiting Ethnic Entrepreneurship: Convergencies, Controversies, and Conceptual Advancements." *International Migration Review* 38(3): 1040-1074.

## ***APPENDIX***

### ***The California Center for Rural Policy***

The California Center for Rural Policy (CCRP) conducts applied rural policy research on a issues related to community, health and the environment. The CCRP is housed at Humboldt State University located in Arcata, California. Its mission is to conduct rural research for rural people and environments. The CCRP was created in 2005 with the goal of conducting rural research for rural people throughout the state of California. Initial funding for the creation of the CCRP was supplied by the California Endowment. The CCRP was envisioned as a center that could empower rural people and places by conducting relevant, applied community-based research that reflects the mission and ideals of rural California communities. The vision for the center emerged from a larger network of rural, diverse constituents.

### ***The Institute for Spatial Analysis***

The Humboldt State University Institute for Spatial Analysis (ISA) is a focal point for the advancement of spatial research, innovation and application. The ISA is dedicated to the expansion of spatial analysis methodologies across disciplines and the full spectrum of real world issues. We work closely with the public and private sector entities to achieve this goal. The institute was originally established in 1995 as part of the Klamath bioregional assessment research project. Since that time the ISA has grown to support a wide range of projects and activities for research on spatial analysis and modeling. The facility serves as the focal point for graduate students and faculty from across campus to effectively apply geospatial sciences, including Geographic Information Systems (GIS) and image processing technologies for a wide variety of projects and research.