

Sharing Economy Participation as a Function of Generational Cohort

by

Ivy Katherine Wagner

Appalachian State University

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Approved by:

Tanga Mohr, Ph.D., Thesis Director

Pia A. Albinsson, Ph.D., Second Reader

Lori Medders, Ph.D., Departmental Honors Director

Jefford Vahlbusch, Ph.D., Dean, The Honors College

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Abstract

The sharing economy expands over a variety of industries and service types and has the capability to reach any number of individuals for a variety of uses and needs. The three generations discussed in this work (Millennials, Generation Xers, and Baby Boomers) come from different times in history and are all currently at different stages of their lives, meaning they have different preferences and different current needs that could potentially be met by the sharing economy. This paper attempts to indicate how individuals participate (as either a user, facilitator, or both), with what type of items they are willing to contribute or share in the sharing economy, and what need the sharing economy may be fulfilling through each generations' participation.

1.Introduction

These days, if you need a ride, want to find an affordable place to spend the night somewhere out of town, or have an item you want to keep from collecting dust in your attic between the few times a year you use it, it is likely you turn to some form of the sharing economy. The sharing economy is an economic market that focuses on the peer-to-peer selling, buying, and sharing of an endless variety of goods and services for a small fee or an exchange, usually through an internet service. The sharing economy encompasses a variety of product and service sharing options on an even larger variety of platforms.

In 2016, 44.8 million Americans participated in the sharing economy, and it is projected that this number will almost double by 2020 to 86.5 million (Statistica.com). According to CNBC, sharing economy workers make an average of \$299 per month participating in the sharing economy, ranging from an average of \$924 per month (Bloom, 2017) for those that rent out either their home/vacation home, in its entirety or partially by room, through AirBnB, to an average of \$98 per month for those that offer their vehicle to others through the Getaround platform in the form of taxi-service-like rides or through allowing others to rent out the use of their personal vehicle for a period of time.

There are many people who use different variations of the sharing economy, for different reasons and purposes. Some people drive Ubers to help ease the burden of their car payment. Others rent out their services in household projects such as constructing IKEA furniture through the sharing economy as part of their retirement income. And others turn to the sharing economy to borrow items such as lawn-trimming tools to avoid having to purchase the machinery themselves.

Depending on the function an individual wishes to perform in their participation of the sharing economy, they could be on either side of the transaction. Participants could be either a facilitator, defined in this research as a worker who offers up their services or goods through the sharing economy, or a user, defined as one who uses the products or services offered by others through the sharing economy. For example, in terms of Uber, a peer-to-peer ride sharing application,

the facilitator would be the Uber worker that performs taxi services in their personal vehicle for the user who has requested and pays for a ride in the facilitator's car. These roles are not static, however, and one may be a facilitator of a service one day and a user in the same platform the next by the simple touch of an on-screen button.

In this paper we attempt to predict the participation type performed by different generational cohorts and discuss the reasons for participation based on generational preferences and the current life stage of the generation. In section 2 we will describe the consistencies between the traditional needs and preferences of each generational cohort represented in the data and the offerings of the sharing economy to its consumers. Section 3 describes the methods of the study. Our survey results are presented in Section 4, accompanied by a discussion of how the results line up with the expectations of the research. Section 5 describes some of the limitations of our study and Section 6 concludes.

2. Background

This research is based on the division of individuals into generational cohorts and the assumption that individuals of a generational cohort share specific preferences and habits in their consumption and work place expectations. This section will discuss the justification of these assumptions and outline our expectations about generational preferences for consumption and employment.

2.1 Why Cohorts Matter

Generational cohorts are a natural way to group individuals. While birth date is an easy and common method of segmentation, this is not the only commonality individuals born at similar times share. Those in the same generational cohort were born and matured during the same period, and thus experienced culture changes and international events during similar stages of development. When impactful changes occurred, the impacts of those events followed the individuals of each cohort for the rest of their life in similar ways to others in that cohort (Ryder 1985 & Parment 2013), but

perhaps in a different way than those in a different cohort. For example, the millennial generation grew up with the proliferation of technology and thus are considered incredibly tech-savvy and value convenience at the touch of a button more than other generations. Differences can be seen in the motivation of various generations to go to work (Hansen, J., & Leuty, M., 2012), shop, and make purchases (Parment, 2013) and it may be assumed that these differences are related to developmental events.

With the sharing economy being a culmination of consumer and worker practices, it leads to the question of whether general consumer and employee preference behavior demonstrated by these generations is consistent with and can indicate a generation's likelihood to use the sharing economy. In order to draw conclusions, this paper will discuss existing consumer and worker preferences of each generation, along with projections of our own made about these generations based on their current usage and stage of life. This information will then be compared to survey data to determine if there is support for our hypotheses.

2.2 Expected Use of the Sharing Economy

Dhanapal, Vashu, and Subramaniam (2015) found that the three most preferred online purchase items for all three generations (Baby Boomer, Generation X, and Millennial generations) were cinema tickets, airline/railway tickets, and holiday packages. This result represents entertainment, transportation, and travel/tourism purchases, which are three big components of sharing economy services offered. We believe that this shows an existing preference toward the consumption of these items online, which leads to the assumption that consumers already have a preference for purchasing these types of items online. This could point to a likely transition from online shopping to the sharing economy by these generations for these items.

It is important to note that though there are formal platforms for sharing economy use, there is a plethora of options for informal sharing economy participation, such as community bartering sites

or ride-sharing groups. Godelnik (2017) found the proliferation of these types of participation in their study, where over 40% of students' reported sharing economy activities for their "Buy Nothing Share Everything Month" were through some sort of informal sharing.

Hamari et al (2016) found a positive correlation between perceived economic benefits of participating in the sharing economy and intention to participate. This is an understandable motive (and one that is supported by the findings of other studies of sharing economy usage, including Godelnik, 2017, Neilson, 2014, and Hayzlett, 2018) for participation in the sharing economy, as it encompasses saving money as well as a reduction in spending. This is something we expect to see as a common expected motive for the various generations researched, even if perhaps in different contexts, as well as a motivation we hypothesize will be commonly cited by survey respondents.

2.3 Use vs. Facilitation vs. Both

We believe the distinction between being solely a user or facilitator of the sharing economy, versus participation in both aspects, is an important one because these three aspects of the sharing economy offer different requirements of and interpersonal interactions for the participants. The willingness to participate as solely a user could indicate an individual, or generational cohort, a) does not already have access to the resources they are accessing through their use of the sharing economy, b) is potentially reliant on the sharing economy for goods or services for reasons such as an inability to otherwise afford these things or an inability to perform tasks or chores themselves or c) is potentially unwilling or uncomfortable with sharing their resources with others.

In contrast, participating solely as a facilitator of the sharing economy may indicate that individuals a) have resources others value and would pay or exchange to use, b) are willing to share these items with others for reasons that could include an attempt to fill a need for income, or a desire to stay busy through work. Meanwhile, participation in the sharing economy as both a facilitator and

a user could indicate any combination of preferences between those that are solely users or facilitators, or even create a separate preference niche.

2.4 Discussion of Generational Cohorts

2.4.1 The **Baby Boomer** generation is defined as those born between the years of 1946 and 1964 (Gursoy & Karadag, 2013). The individuals of this generation seek meaningfulness in their life from their work and are seen as workaholics who value material success (Hansen & Leuty, 2012 and Gursoy & Karadag, 2013).

Boomers are not considered to be as technologically savvy as younger generations, due to the adaptation of technology later in their lives in comparison to the others (Parment, 2013). Some in this generation are easily overwhelmed with too much technological information at one time. The majority of sharing economy platforms require a specific level of technological savvy from the participant to navigate the potentially overwhelming amount of information provided in these platforms. Hamari et al (2016) discuss the importance of established norms and community in individuals' actions, along with the possibility that a lack of said established norms and community can sometimes point to a lack of participation by individuals. Since technology and the sharing economy both proliferated later in this generation's lifetime, it is likely Baby Boomers have fewer established norms with sharing economy participation, and thus also do not have an established community on which to rely in their participation. Since the Baby Boomer generation lacks both important components of participation as outlined by Hamari et al (2017), it would follow that they would be expected to be less comfortable with the sharing economy and their participation in it. From this finding, we think there is a smaller likelihood of the Baby Boomer generation actively participating in sharing economy services either as users or facilitators.

However, the Baby Boomer generation's value of material success, along with a longer lifetime to obtain wealth and consumer goods, leads to an indication away from being a user of the

sharing economy. If these findings are in fact consistent with the preferences of this generation, we would expect to find through survey that they would avoid participation in favor of simply purchasing items they need to satisfy their desire for material things. On the other hand, since this generation is defined as workaholics, the sharing economy could offer a unique opportunity to the aging and retired individuals in this generation to continue working and earning a living even after they have retired. In fact, research shows that Baby Boomers are increasingly engaging in the sharing economy as facilitators (Nielson, 2014 & Hayzlett, 2018). One motivation is to delay receiving Social Security and ultimately increasing their received benefits. This is an example showing that the sharing economy allows these individuals the opportunity to fulfill their desire, and in some cases financial need, to work during retirement.

When shopping, this generation prefers the ability to ask for assistance in stores and appreciates a retailer they can trust the opinion of to consult in their purchase decisions (Parment, 2013). Because of the general inability to do this in the sharing economy, which is more based on the ability of the consumer to shop around and make their own decisions, we expect to see a smaller percentage of Baby Boomers as users in the sharing economy.

On the other hand, this generation is the oldest we are researching here, representing those ages 55 to 73, with many reaching or already past retirement age. With age tasks such as driving to appointments and stores, or completing certain house-hold chores, become more difficult, or even dangerous for some individuals, and the sharing economy could fill these needs through services such as ride-share or task-share platforms.

Given the background on this generation, we hypothesize that the Baby Boomer generation will represent the smallest percentage of participation overall. Though there is a potential need for sharing services by this generation in their older age, the suspected lack of technological savvy and comfort with these services indicates away from a prevalence of participation as users. This

generation will participate mainly as facilitators for the ability to fill time with work during retirement and any earnings from participation will be classified as a primary source of income.

2.4.2 Generation X is made up of those born between 1965 and 1980 (Gursoy & Karadag,2013).

This generation is seen as being cynical and skeptical, which Hansen & Leuty (2012) suggest is related to them witnessing a variety of negative events during maturity, such as the Persian Gulf War, increases in the divorce rate, and the spread of AIDS. This was the first generation where both parents usually worked and are thus defined as 'latchkey kids' used to caring for themselves for hours at a time. As a cohort, this has led them to be incredibly independent (Hansen & Leuty, 2012 and Jurkiewicz & Brown, 1998) and value family time, flexible working hours, and freedom from supervision (Gursoy & Karadag,2013). This generation is made up of resourceful self-starters who are less loyal to organizations than their parents in the Baby Boomer generation after watching them sacrifice so much for their companies. Due to this preference for independence and flexibility in their work, it would follow that those in this cohort would value the opportunity for work in the sharing economy, since it offers opportunities for independence and flexibility.

According to Dhanapal, Vashu, and Subramaniam (2015), Generation X dominates the online shopping market compared to its fellow cohorts, with 83% of GenX stating they have online shopped compared to 81% of the Millennial generation and 73% of the Baby Boomer generation surveyed. Generation X is found to be technologically savvy (Gursoy & Karadag,2013), but this is a particularly interesting finding, given that the Millennial generation matured with this technology and it could otherwise be assumed they were the most comfortable with its use. However, it was also found by Dhanapal, Vashu, and Subramaniam (2015) that on 10 types of products surveyed for online purchase by generation, ranging from groceries to clothing to computers/mobiles, a greater percentage of Generation X preferred online shopping to retail shopping compared to the Millennial generation for 6 of the 10 products, and out-online-shopped the Baby Boomer generation on every product category. This preference for online shopping shows that this generation is comfortable with the format, feel,

and level of savvy needed in an online-shopping experience. Sharing services are largely based online and the platforms share similar characteristics with online retail platforms. Due to this, we expect Generation X to be comfortable with and highly likely to use the sharing economy as users or facilitators.

This generation is middle-aged, made up of individuals ranging from 39 to 54 years old. Most of this generation is expected to be employed and at a time in their life when they have the resources to own items they need to frequently use. This would indicate away from a necessity to use the sharing economy as a means of gaining access to items they could otherwise not afford or simply do not currently own since they have had time in their life to accumulate these items and funds.

Our hypothesis is that this generation will participate in the sharing economy more frequently than the Baby Boomer generation and, given indicators about their comfort with online shopping, will mainly participate as users. This participation as users will be less frequent than that of the Millennial generation, however, due to GenX's greater chance of resource accumulation. Since this generation is in prime career age, we believe that if this generation participates as a facilitator of the sharing economy, it will be relatively infrequent, and the income will be classified as secondary income on the side of a full-time income.

2.4.3 Born between 1981 and 2000, the **Millennial generation** was the first to grow up with technology readily available (Gursoy & Karadag, 2013). They are seen as “multitaskers who use their mobile phones for just about everything” and are thus comfortable with a constant and overwhelming flow of information, as is common with online platforms (Parment, 2013).

This generation is highly influenced by the social aspects of their purchases and have a high degree of image awareness in their purchases (Parment, 2013 and Abraham & Harrington, 2014). Millennials place high value on how their consumption is perceived and take strong consideration of celebrity endorsements of products (Parment, 2015). In a study that asked Millennials to participate in

the sharing economy as exclusively as possible for a month, Godelnik (2017) found that the second most common revealed motivation for participants in the sharing economy activities they participated in were socially related. Based on this information, we hypothesize that one reason for this generation's participation in the sharing economy is to fit in with social norms, to 'do what your friends are doing', and to be seen as someone that is staying up with trends.

Hamari et al (2016) found that perceived enjoyment of sharing economy service participation had a positive effect on attitude and behavior in sharing economy participation. In extension of this finding, it is concluded that some people may take part in sharing economy services "simply because it is fun and provides a meaningful way to interact with other members of the community". We expect the Millennial generation will respond in a way that falls into this category of participation for enjoyment.

Even less so than earlier generations, millennials are not likely to be committed to their place of work, preferring to view it as a 'thing' they do rather than a 'place' they do things that cannot earn their commitment simply by providing satisfaction in their work (Stewart et al, 2017). We believe that this shift could point to a preference toward earning in the sharing economy, which would allow millennials to trade one static place to earn an income for an expanse of options for where, when, and how individuals earn.

Work-life balance and independence was considered most important by the Millennial generation, with figures decreasing dramatically in importance as generational cohort age increased. Consistent with a lack of respect for workplace hierarchical leadership for the sake of hierarchy in comparison to older generations, Millennials require freedom and the flexibility to be creative in their tasks to avoid them simply 'checking the box' of task completion at the minimum level of effort. Research suggests (e.g. Hansen & Leuty, 2012) that the Baby Boomer generation and Generation X valued autonomy at relatively similar frequencies as one another but fell below expectations of the Millennial generation. This could suggest a preference for the extreme flexibility of work in the

sharing economy by those in the Millennial generation, which allows them to work how and when they want using materials individuals already own and without the presence of a superior to report to.

This generation is fairly young, ranging in age from 19 to 38 years old. A good portion of Millennials are at the beginning of their careers and most likely have not accumulated many resources – physical or monetary, and therefore may turn to the sharing economy to fill this need of access to certain items, such as cars, large scale equipment (e.g. lawncare items), and hobby equipment, for a relatively low cost.

We hypothesize that the Millennial generation will be the most active participants of the sharing economy among all generations. Millennials have an existing preference for convenience and completing tasks on their phones, and with the proliferation of this type of sharing through their maturity it would suggest they are the generation most comfortable with the sharing economy. If this generation does participate in the sharing economy as facilitators, we believe they will classify their earnings as secondary income on top of a primary income if they are older members of working age, or just some extra income for those in college. Due to the normalization of these sharing practices during this generation's maturity, we believe this generation has a higher likelihood of sharing items considered more personal to them, such as their cars, vacation homes, or homes, than other generations that did not mature with this normalization.

Comfort with sharing can come from any stage or experience in life, as seen in responses given in a study by Godelnik (2017). When asked about their experience in the “Buy Nothing New Share Everything month” project, a response given was “I don't usually spend much unless I really need something and am very used to the concept of sharing things. Coming from a very big family I have always had to share most of my things.”. This shows that an individual from any generation has the possibility to be comfortable – or uncomfortable – with participating in the sharing economy, but with the proliferation of the sharing economy through the developmental years of the Millennial

generation's lifetime, we expect they will be the most commonly comfortable with these specific services.

3. Methods

Prior to the study, we conducted a pilot survey study using an online convenience sample administered through Google Forms. It began as a direct email to many, then participants were encouraged to share the survey with anyone else they cared to contact. The original respondents range from high-to-mid income individuals living in urban cities in the eastern portion of the United States, to University students in the same area of the United States. Responses were not connected to recipient identity at any time during the survey process.

The pilot study gathered 116 responses in about a week's time. The majority of respondents to this pilot survey were from the Millennial generation, however, and preliminary regression analysis showed insignificant variation in all main outcome variables.

The survey administered for this research consisted of 34 questions, mainly in the form of multiple choice, matrix, and ranking questions, that asked survey recipients about their behavior as a general consumer, as well as their participation in the sharing economy and a few questions leading the recipient to make a connection between the two behaviors. The full survey is reproduced in Appendix 1. The study uses a number of variables to determine how individuals' usage of the sharing economy interacts with the needs typical of their generational cohort. These variables include recipients' participation in the sharing economy, value of product ownership, reasons for purchases, and their comfort levels of sharing items with others.

3.1 MTurk and Why its use is a viable option

To increase the diversity of the sample, the survey was then redistributed using MechanicalTurk from Amazon (MTurk) resulting in the addition of 398 responses to the survey. These responses form the basis for our data analysis.

MTurk is a crowdsourcing service that allows individual “workers” to complete small human-intelligence related tasks, called “Human Intelligence Tasks”, or “HITs” published by “requesters” for a wage or “reward” usually between \$0.01 and \$1.00 per HIT (Paolucci et al, 2010). The survey published for this research consisted of the same 34 questions used in the pilot study and rewarded workers \$0.50 for their response.

There have been some questions aired about the validity of MTurk results and whether the data collected accurately represent the population. However, Paolucci et al. (2010) claim that online survey responses tend to be more consistent with the general populations than college campus lab – based responses; a 2010 survey of MTurk workers showed consistent age levels, gender distributions, and similar shapes of the income distributions as the overall United States demographics.

Some other concerns about the use of MTurk for survey -based research are based on the motivations of respondents who are being paid per response of these MTurk tasks. In reply, Hauser and Schwarz (2015) discuss that MTurk requesters are constantly learning and adapting to different challenges they may face in their research, and when the risk of MTurk users not paying close enough attention to their tasks first proliferated, requesters began finding ways to ensure the attentiveness of responders. Hauser and Schwarz discuss adding trick questions, called instructional manipulation checks (IMCs), to assess participants’ attentiveness to instructions. In some cases, requesters even use performance on these IMCs and other attention checks as a criterion of compensation, including an MTurk worker profile ‘reputation’ that factors in attentiveness. Hauser and Schwarz (2015) find that online MTurk respondents passed the IMC at higher rates than did those in North American college studies completed in labs and online. This suggests that attentiveness is no worse among MTurk workers relative to other populations that are commonly used for research purposes.

In an additional argument for the use of MTurk, Paolucci et al. (2010) show that on many different factors, MTurk recruiting methods are less susceptible to various sampling errors relative to laboratory studies. For example, MTurk samples tend to be more reflective of the population, so

coverage error is less problematic. MTurk studies also had less heterogeneity of samples, and less subject motivation error compared to lab studies. The risk of dishonest responses, experimenter effects, and a contaminated subject pool were also lower in MTurk studies. MTurk recruiting methods also proved to be less susceptible to error in many ways in comparison to other web-based studies.

3.2 Catch Trials in this Research

To ensure respondents were in fact paying attention to our survey and attempting to answer each question truthfully and thoughtfully, our survey included what Paollicci et al., 2010 refer to as a “catch trial” (p.415) within the survey that asked respondents to solve a simple addition problem and record their results using a slider (Appendix 1, question 21). If the response to this question was too far from the correct answer, indicated as exceeding a range of -2 to +2 of the correct answer, that particular individual’s collected response was not included in the data (n=67). After this filter was created for the data, 322 responses were left.

Each question was also tagged with a response requirement, which did not allow respondents to proceed to the rest of the survey without answering the question they were on, avoiding the issue of a worker skipping through the survey with unanswered questions. To also help avoid the risk of multiple responses by one person, we limited each respondent to one response per each unique MTurk user-identifier.

3.3 Survey Participant Education

In order to ensure our participants were educated on the services and platforms our survey was asking about, we included an introduction to the survey that defined the sharing economy and listed some definitions and examples of a variety of platforms where these services and exchanges take place (Appendix 1, Question 2). We asked participants if they had participated in these types of services in one part of the survey, then applied more generic terms to these services to ask respondents their likelihood to share or borrow particular services or products later in the survey.

4. Results

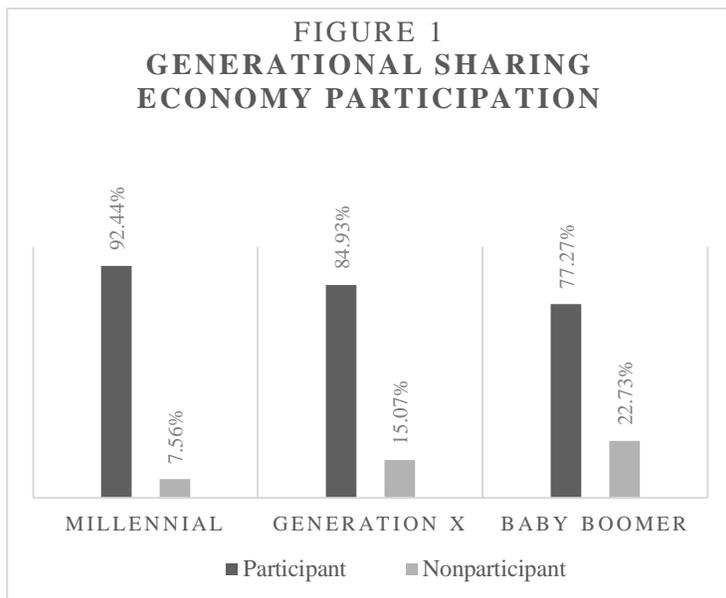
Our survey concluded with a total of 389 respondents, with 322 responses passing the catch trial, and another 11 respondents determined to be a part of Generation Z and not within the scope of this study, leaving a total of 311

RESPONDENT DEMOGRAPHICS			
	Average	Minimum	Maximum
Age	34.79	18	77
Income	\$ 61,951.71	\$ 7,500.00	\$ 150,000.00
College	92.75%	0	1
Employed	86.40%	0	1
Retired	2.11%	0	1
Dependents	50.62%	0	1
Female	41.5%	0	1
Non-white	28.5%	0	1
GENERATIONAL DEMOGRAPHICS			
	N	Percent of Respondents	
Millennial	226	73%	
Generation X	62	20%	
Baby Boomer	23	7%	

viable survey responses. Demographics of respondents can be found in Table 1.

4.1 Participation Trends and Type

In the first question of the survey, respondents were asked whether or not they had ever used the



sharing economy (Appendix 1, question 3). This question was not asking the respondent to be specific about the type of participation they had acted in, but was simply asking for any kind of participation, which from here on will be defined as a simple yes / no of whether the individual had ever participated in

any function of the sharing economy, no matter whether they were a user, facilitator, or both. The results of those responses are depicted in Figure 1. Referring to Table 2, there is a positive correlation between being a member of the Millennial generation and the probability of actively participating in the sharing economy. These findings support the hypothesis that Millennials would be most active participants and that the older generations are less likely to participate. Given their proliferation as participants in the sharing economy, their greater level of response for “I could not otherwise afford items I use” in Table 5 as their primary reason for use, and relatively smaller response rate for “I am not comfortable sharing with others this way” (Table 6) for any reasons against using the sharing economy, our results support the hypothesis that their comfort with the sharing economy and lack of good ownership has impacted this generation’s participation positively.

Regression Table 2											
Participate				Active Participation				Active Participation			
	Coeff.	Std Err	pVal		Coeff.	Std Err	pVal		Coeff.	Std Err	pVal
Age	-.0185	.0089	.039	Age	-.0210	.0074	.005	Millennial	.5521	.1697	.001
Income	.0000	.0000	.045	Income	.0000	.0000	.040	Income	.0000	.0000	.034
College	.8236	.3126	.008	College	1.157	.2860	.000	College	1.2237	.2889	.000
Female	-.3592	.2079	.084	Female	-.3243	.1609	.044	Female	-.2959	.1621	.068
Nonwhite	.0625	.2467	.800	Nonwhite	.1161	.1830	.526	Nonwhite	.1051	.3395	.566

The second and third panels of Table 2 shows the regression results for active participation. Here, active participation equals 1 if the respondent participates in the sharing economy at least once every six months. There were a few differences between the results found for the same regressions for active or simple participation in the sharing economy (Table 2). The difference between these two dependent variables is the frequency of use. In these regressions, independent variables age, income, college, and female are more significant for active use than participation, indicating that these variables may be more important in determining one’s active use than for mere participation. It also

appears that race is not a significant independent variable with participation or active use. Gender, on the other hand, seems to carry some significance with both participation and active participation, with the variable “female” carrying a significant negative correlation in all three regressions, meaning that females are less likely to participate in the sharing economy than males. Regressions were also run for each varying type of participation (user, facilitator, both), but those results were not significant.

The variable college (Table 2) is here defined as those that responded they have at least “some college”, and encompassing those that have obtained a Bachelor’s, Master’s or higher education degree. Most respondents in our data fall into this category, with 93% of respondents qualifying as having “some college” or more. The positive correlation between the college and participation variables indicates that those with a college education are more likely to participate in the sharing economy. This could be because these individuals are more educated and realize the importance of saving money where they can or how much of a money-saving impact sharing a good you already own can cause, or perhaps an increased usage of and comfort with technology.

These findings may also coincide with the correlation between participation and income, by way that those with a college education tend to earn more than those that do not. A higher income may mean these individuals have greater means to purchase and own goods, such as vacation homes or expensive lawn equipment, others would pay or exchange to share, allowing these individuals of higher income to participate as facilitators of the sharing economy. Those with higher incomes may also be more likely to live in a metropolitan area where sharing economy services are more commonly found and used. Given the results in Table 3, our data indicates strong consistencies

Median Household Income	Rural Home Location	Metropolitan Area Home Location
\$ 7,500	45.5%	13.6%
\$ 22,500	33.3%	22.9%
\$ 44,500	18.8%	37.6%
\$ 74,500	23.3%	36.0%
\$ 105,000	18.9%	43.2%
\$ 135,000	7.7%	46.2%
\$ 150,000	7.1%	64.3%
N=	74	114

between higher income and living in a metropolitan area rather than a rural area, as found with question 31 (Appendix 1).

As discussed previously, in our analysis we determined those that had participated as both a user and facilitator of the sharing economy were to be segmented separately and are thus not included in the total accumulation of those deemed solely as ‘users’ or ‘facilitators’. Each participation segment is meant to indicate those that solely participate in the sharing economy in that one functionality. Respondents were asked to indicate how they have participated in the sharing economy in their current or past usage (Appendix 1, Question 7). Our results indicate that all generations are more likely to be users of the sharing economy, with all three generations responding with majority over 56% (Figure 1).

Participating as a user is simply easier than participating as a facilitator for a number of reasons. The participant does not have to provide their own resources for the use of others. They do not have to worry about cleaning their cars or making the bed in their vacation home before someone uses it, they simply have to hit a button and their ride shows up at the curb or their reservation is made with instructions on where to find the house key being sent to their phone. This could point to why all generations overwhelmingly responded they participate as a user with a harsh decline in participation in the other two functions defined by our research. Participation as a user of the sharing economy also does not require the participant to own the goods being shared. This allows a wealth of individuals to participate in this functionality for a variety of reasons between they are unable to afford ownership of a particular item at this time to, though they are capable of purchasing and maintaining a good or performing a service, they would simply prefer to share the good or request the service through the sharing economy.

Our findings (Table 2) suggested there was no significant relationship between the race of respondents. Similarly, in results not reported, we did not find a significant relationship between having dependents at home and participation or between being retired and participation. However, the

data we discuss in section 4.3 does suggest retirement income is one motivating factor for baby boomers who are active in the sharing economy.

4.2 Reasons for Participation

It is obvious that convenience is an important factor to all generations for their use (Table 4), with over half of responses from all three generations as well as the culmination of responses indicating this as the most important factor for their participation. The greater percentage of the Millennial (14%) and Generation X (18%) generations that responded they participate because of the social components of sharing economy usage shows consistency with findings by Parment (2013) and Abraham & Harrington (2014) that these generations are influenced by social behavior in their

Table 4

Primary Reason for Participation by Generation	Millennial	Generation X	Baby Boomers	Total
The convenience and ease of use	56.30%	54.17%	55.56%	55.36%
The ability to earn money on items I already own and am not using / Sharing things I own with other people makes that good less expensive for me to own	14.29%	15.63%	22.22%	15.88%
I could not otherwise afford the use of certain goods and services	7.56%	5.21%	0.00%	15.45%
It's what everyone is doing / allows me to spend time with friends / I always meet people	14.29%	17.71%	11.11%	6.01%
It allows me to work for myself instead of someone else	5.88%	3.13%	0.00%	4.29%
Other	0.00%	2.08%	0.00%	2.58%
Something to do / allows me to fill my time with work	1.68%	2.08%	11.11%	0.86%

purchases and prefer social interaction in their work more so than older generations. This response by Millennials points to a confirmation of our hypothesis that this generation may participate in the sharing economy, in part, to stay up with the times and keep up with their friends and suggests support of the conclusions made by Hamari et al (2016).

An interesting point to mention is the possibility in difference between responded motivation and actionable motivations in sharing economy use which could lead to these responses being even more significant than indicated in these results. In a study by Godelnik (2017), college students were asked to “Buy Nothing New Share Everything” for a month and report their experiences. Godelnik

Table 5

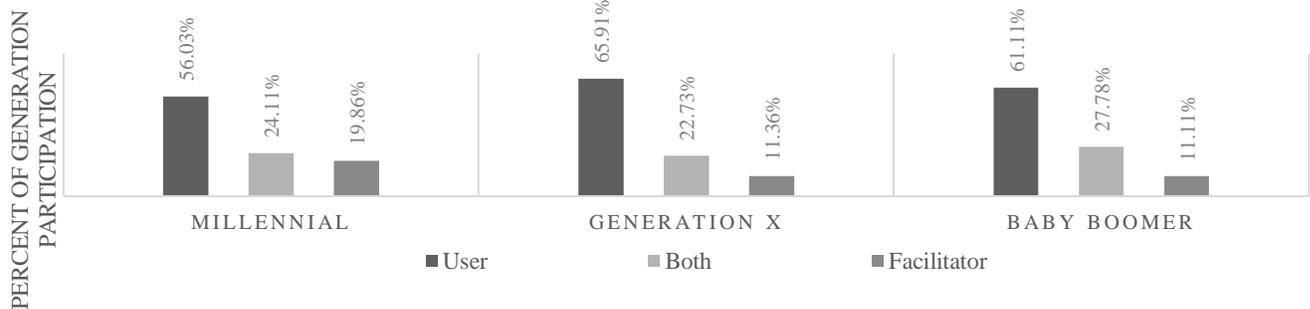
Reported Issues with and Reasons Against Usage of Sharing Economy Services	Millennial	Generation X	Baby Boomer	Total
I have no issues with using the sharing economy	40.97%	56.45%	52.17%	43.42%
I already own or would rather purchase things I need	21.15%	14.52%	17.39%	20.07%
I am uncomfortable sharing with others in this way	11.45%	16.13%	13.04%	12.83%
I am concerned about my privacy	12.78%	6.45%	8.70%	11.51%
I do not know what the sharing economy is	6.61%	1.61%	4.35%	5.59%
I do not believe the sharing economy is available where I live	3.08%	3.23%	0.00%	2.96%
I do not know anyone that uses it / I do not think people my age use it	1.76%	1.61%	4.35%	1.97%
I cannot navigate the technology associated with these services	2.20%	0.00%	0.00%	1.64%

states that though students claimed environmental motivation for their sharing economy use in both surveys, their behavior showed that social motivation was three times more common than environmental. Since this research is solely based on the motivations respondents state in a survey, and we did not have the perspective of viewing the motivations these individuals act upon in their usage, it is possible their social motivations may be even greater than seen here.

4.3 Use by Baby Boomers in Retirement

In our survey, the Baby Boomer generation is the most likely to indicate they participate as a facilitator of the sharing economy, with 28% of the Baby Boomer generation participating as a facilitator, and 11% participating as “both” (Figure 2) resulting in a total of 39% of the total Baby

FIGURE 2
SHARING ECONOMY PARTICIPATION FUNCTION BY GENERATION



Boomer generation that somehow participates as a facilitator in the sharing economy (Figure 1).

These findings indicate (and are supported by those in Table 5 that show no Baby Boomers responded they do not understand the technology associated with the sharing economy) that the Baby Boomer generation is not as intimidated by the extensive use of technology in sharing economy participation as was hypothesized. As discussed previously, we expect this generation to prefer facilitation since they have the longest lifetime of those researched here, and thus the longest time to accumulate goods to share with others. Ownership may be another factor that allows this generation to participate more frequently as a facilitator in comparison to the younger generations.

The type of income individuals classify their earnings through the sharing economy as is of particular interest because it could indicate even more about participant's motivations for usage. 30% of the Baby Boomer generation indicated that the income they earn through the sharing economy is their primary source of income (Table 6). 26% of Baby Boomer generation respondents stated they are currently retired. 22% reported the primary reason they use the sharing economy is for the

Table 6

Qualification of Income Earned through the Sharing Economy by Facilitators

	Millennial	Generation X	Baby Boomer	Total
Primary Source of Income	14.29%	12.12%	30.00%	14.38%
Supplementary Source of Income Along with Income from Primary Source of Income	52.38%	40.91%	20.00%	46.25%
Just Some Extra Money in my Pocket	33.33%	46.97%	50.00%	40.00%

opportunity to earn (Table 4), and 11% responded that the sharing economy serves as “something to do / allows me to fill my time with work”. This leads to a strong indication toward participation in the sharing economy by this generation for the reasons outlined by Nielson (2014) related to retirement income.

4.4 Likelihood of Sharing

Note in this analysis that the question used for these results was posed in the survey as “which of the following are you the most likely to share” (Appendix 1, question 22) and does not differentiate between those that currently own these items and those that do not currently own them who are thus simply stating their intentions (e.g., “if I had a car I would not mind sharing it”).

Table 7

Likelihood of Sharing by Generation

Millennial	% of Generation in Agreement	Generation X	% of Generation in Agreement	Baby Boomer	% of Generation in Agreement
Large Equipment	24.24	Small Items / Other	28.32	Small Items / Other	31.82
Car	30.30	Monetary Funds	11.50	Monetary Funds	27.27
Vacation Home	25.00	Large Equipment	28.32	Car	27.27
Home	18.18	Car	25.66	Large Equipment	22.73
Monetary Funds	14.39	Home	29.20	Vacation Home	22.73
Small items / Other	34.85	Vacation Home	20.35	Home	22.73

Table 7 shows how each generation ranked 6 items they might be willing to share. The first item listed is the one receiving the highest rank by the most respondents from that generation. As hypothesized, Millennial generation responses indicate that they are more likely to share items that are more personal, such as their car, home, and vacation home, than the two older generations. 30% of the Millennial generation ranked their car as the second most likely item they would share with others, with 25% ranking vacation home in third likely, and 18% ranking their home as the fourth most likely item they would share. The car, home, and vacation home are the three least likely items those in Generation X are willing to share. Baby Boomer rankings are similar to those of Generation

X. Cars and homes are the ones people create the biggest relationship with in comparison to the other items on the list – as they are items people spend the most money on, spend the most time in, and consider most private. Someone’s home or vacation home could very well be someone’s largest asset, as well as the place where they hold the most memories with their family, and a car is another place where people spend a particularly large portion of time. These findings, along with the lower percentage of responses of “I am not comfortable sharing with others in this way” from the Millennial generation (Figure 6), supports the hypothesis that the Millennial generation is the most comfortable generation with the sharing economy and the participation function of facilitation.

5. Limitations and Improvements to be Made

The majority of responses to this survey were by members of the Millennial generation (226 Millennials of 311 responses). This in itself is a commentary to the Millennial participation in the sharing economy, which is what participation in MTurk could be qualified as. With a larger sample we could say more about particular preferences of Generation X and Baby Boomers.

The results of this survey indicated measurement error in its data. For example, in question 7 (Appendix 1) users are asked to indicate whether they participate as a user, facilitator, or both. The results for question 7 indicated that 151 respondents were only ever a user of the sharing economy, 165 participated as both, and 11 participated as facilitators. However, the responses to question 8 (Appendix 1), which asks respondents to indicate their ratio of user versus facilitation participation. In these responses, it is indicated that 122 are only ever users, 195 participate as both, and 10 are only ever facilitators. This measurement error could point to inconsistencies in our regression output significance where participation variables are significant, but regressions completed about specific participation type are not.

This survey and paper also did not consider Generation Z in this work. At the time of completion, Generation Z was not quite at maturity and thus there was a lack of available background

information on the expectations for this generation, as well as potential road blocks in gathering responses from minors.

6. Conclusion

Our findings indicate that there are a variety of reasons individuals from different generational cohorts may participate in the sharing economy. The vast majority of Millennial generation respondents participate in the sharing economy; mostly as users, which we hypothesize is due to their young age and lack of resource accumulation in comparison to older generations like the Baby Boomer generation. The Baby Boomer generation responded in a way that shows they are likely to leverage this older age and resource accumulation to mainly participate in the sharing economy as facilitators to boost their income and stay busy during retirement. Generation Xers are very comfortable with online shopping and the majority of this generation's respondents stated they participate in the sharing economy. This generation falls in the middle of the age scale and because of this they fall in the middle of participation frequency and participation function between Millennials, who grew up with these services in prevalence and are thus more comfortable with them, and Baby Boomers, who showed they are the least likely generation to participate in the sharing economy.

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Appendix 1

Generational Usage of the Sharing Economy Qualtrics Survey

- 1) Thank you for taking the time to participate in our survey. You will be asked to complete a series of questionnaires about yourself and the sharing economy. Your participation in completing this survey is voluntary and you may decide to stop at any time for any reason. In order to participate and be compensated for this survey, you must be over 18 years old and be proficient in English. In addition, you must not have participated in the survey before, you will only be compensated for taking the survey one time.

Your careful and honest participation is required in order for the findings of this study to be useful and valid. If it becomes clear that you responded to survey items in a random, careless or inattentive fashion, you will not receive compensation or approval for your participation. Only participate in the study if you are willing to attend to the survey content. Your participation in this research is voluntary. You have the right to withdraw at any point during the study, for any reason, and without any prejudice.

You will receive \$.50 (50 cents) for your completion of the survey, paid through your mTurk worker account. All survey responses will be kept anonymous- and will not be linked to your identifying information (e.g. your name). This survey should not take more than 10 minutes.

This project is for completion of a Senior economics student research paper at Appalachian State University. If you would like to contact the Principal Investigator in the study to discuss this research or share any concerns, please e-mail Dr. David L Dickinson at dickinsondl@appstate.edu

By clicking the button below, you acknowledge that your participation in the study is voluntary, you are 18 years of age, and that you are aware that you may choose to terminate your participation in the study at any time and for any reason.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

- a) I consent, begin the survey
- b) I do not consent, do not continue to survey

- 2) Please read the following statements to ensure you are properly educated to answer the following survey questions accurately.

The sharing economy is defined as an economic market in which goods and services are shared between private individuals either free of charge or in exchange for a fee, usually through an internet service. This market focuses on peer-to-peer selling, buying, and sharing of an endless variety of goods and services. Some areas of the sharing economy, and the names of the platforms where these services are purchased, sold, or shared are listed below. This is not an exhaustive list, keep in mind there may be local systems in your community that mirror these companies' initiatives and goals that are still part of the sharing economy, but feel free to refer to this list through the survey process to help you answer questions.

Peer-to-Peer Lending or Crowdfunding: Individuals lend and borrow money for personal or entrepreneurial use directly from other individuals rather than going through a traditional banking service.

- Examples include: Lending Club, Prosper, SoFi, Kickstarter, Indiegogo

Apartment/House Renting or Couchsurfing: Where people rent out their entire personal home or vacation home, or individual rooms while they are out of town or during times they are not using the house or specific rooms themselves.

- Examples include: Airbnb, VRBO, Couchsurfing

Ridesharing and Car Sharing: Where individuals connect with others to perform taxi services or to rent an individual's personal car for some period of time.

- Examples include: Uber, Lyft, GetAround, Car2Car, ZipCar

Bikesharing: Often seen in large cities where bicycles are open for use from one station to another or from one destination to another by anyone in exchange for a small fee.

- Examples include: Bcycle, Spinlister, other city-run bike sharing entities

Coworking: This system allows professionals to share the cost of office rent, utilities, storage, mail, and office supplies with others.

Reselling and Trading: Online sites where individuals buy, sell, and exchange goods directly with other individuals. This entity includes the exchange of an endless variety of goods.

- Examples include: Craigslist, eBay, Google Marketplace

Knowledge and Talent-Sharing: People lend their skills or knowledge to help others. This may be for small tasks around the house such as assembling furniture or more personal services such as psychological help.

- Examples include: TaskRabbit, Zaarly, LivePerson, Simplist

- 3) Have you ever used any type of sharing economy service?
 - a) Yes
 - b) No

Response logic response b) No auto directs to question number 8

- 4) Where did you first hear of the sharing economy?
 - a) Media
 - b) My children / someone in a younger generation than your own (at least 10 year age difference)
 - c) Internet (I google what I could do with my extra goods)
 - d) Friends / Peers of same general age
 - e) My parents
 - f) Other

- 5) What types of sharing economy services have you used? (Select all that apply)
 - a) Lending/Crowdfunding
 - b) Home or Apartment Sharing
 - c) Ride or Car Sharing
 - d) Bike Sharing
 - e) Coworking
 - f) Buying, Selling, or Trading
 - g) Knowledge or Talent Sharing
 - h) Other
- 6) In your current usage, how often are you likely to participate in the sharing economy?
 - a) Every day, at least once a day
 - b) Once or twice a week
 - c) Every other week
 - d) Once a month
 - e) Once every six months
 - f) Once a year
- 7) In your use of the sharing economy, have you participated as a user (using others' resources for your own purposes), facilitator (offering your resources for others' use), or both?
 - a) User
 - b) Both
 - c) Facilitator
- 8) Of the times you have used the sharing economy, what would you say your ration or use to facilitation is?
 - a) I am always a user – I have never been a facilitator
 - b) I am sometimes a user – I am mostly a facilitator
 - c) I am a user or facilitator $\frac{1}{2}$ of the time. I evenly use the sharing economy as a facilitator and as a user
 - d) I am sometimes a facilitator – I am mostly a user
 - e) I am always a facilitator – I have never been a user of the sharing economy
- 9) Why do you use the sharing economy?
 - a) The convenience and ease of use
 - b) I could not otherwise afford the use of certain goods and services
 - c) Its what everyone is doing / allows me to spend time with friends / I always meet people
 - d) The ability to earn money on items I already own and am not using / Sharing things I own with other people makes that good less expensive for me to own
 - e) It allows me to work for myself instead of someone else
 - f) Something to do / allows me to fill some of my time with work
 - g) Other
- 10) How do you categorize the money you earn through your participation in the sharing economy?
 - a) Primary source of income
 - b) Supplementary income (allows me to earn money on the side of a full-time/part-time job)
 - c) Just some extra money in my pocket (I am a student, stay at home parent, or retiree and am not in the labor force nor intend to be)
 - d) I am only ever a user of the sharing economy - I do not make money through its services.
- 11) Give an estimated average amount of monthly income you make through the sharing economy
 - a) Less than \$100
 - b) \$100 - \$200

- c) \$200 - \$350
 d) \$350-\$500
 e) \$500-\$800
 f) More than \$800
 g) I am only ever a user of the sharing economy – I do not make money through its services
- 12) Give an estimated average amount of money you spend on sharing economy services each month.
- a) Less than \$100
 b) \$100 - \$200
 c) \$200 - \$350
 d) \$350-\$500
 e) \$500-\$800
 f) More than \$800
 g) I am only ever a facilitator of the sharing economy – I do not spend money through its services
- 13) Why don't you use the sharing economy? What reservations or concerns do you have to using the sharing economy?
- a) I don't know what it is
 b) I own everything I need – I would rather own/purchase things I need
 c) It makes me uncomfortable to share things or conduct business directly with people I don't know
 d) I feel my privacy is at risk
 e) I don't think it is available / applies to where I like
 f) I don't know anyone else that does/my friends do not use the sharing economy/I feel that people my age do not use these services
 g) The technology is too complicated for me or in not available to me
 h) I have no issues or problems using the sharing economy
- 14) Do you value ownership of things over simply having access to any items you need? (Likert Scale)

Strongly Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

- 15) In what year were you born? (Please enter a 4-digit birth year, for example, 1985)

Free open-entry response

- 16) I am currently
- a) Employed by a company/university/government
 b) Self-employed / work from home
 c) A student
 d) A stay at home parent
 e) Retired
 f) Unemployed but looking for a job
 g) Unemployed because of a disability
 h) Unemployed and not looking for a job
 i) Other
- 17) What do you value most as a measure of success or achievement among the items listed? (Please rank the following items; only selecting one box per column.) (Grid design ranking scale)

new car rather than a used one or having the trendiest pair of shoes) or I feel like I have to in order to fit in with my friends/peers

- 21) At times, individuals do these surveys without really paying attention (i.e., they go through fast just to get paid). In order to check that you are, in fact, reading through the questions, we ask that you place the slider below on the sum of thirteen and twenty-two (i.e., add those two numbers up, and what you get is where you should place the slider.....be careful that the slider does not move slightly when you make your selection and release your mouse click). If we cannot document that you are paying attention to the questions, then you may not get paid for participation.
- i) Slider scale ranging from 0 to 100
- 22) Rank the following items you own by how likely you would be/are to share that item with others through the sharing economy. (Drag and drop in order of preference design)
- Large Scale Equipment
 - Monetary Funds
 - My Car (driving other people places or letting other people use my car for periods of time)
 - My Home
 - My Vacation Home
 - Other items (such as smaller scale items you may buy/sell/trade)
- 23) Please select a ranking for each of the following items by which items you are more likely to borrow from others through the sharing economy. (Drag and drop into order from most to least likely.)
- Large scale equipment
 - Monetary funds
 - Bike sharing
 - A home / vacation home
 - Ride sharing
 - Car sharing
 - Other / smaller items
- 24) Are you a frugal spender?
- Yes
 - No
- i) Conditional formatting: If “No” selected, skip to question 22
- 25) Do you feel you are a frugal spender because you, or your parents, experienced a serious economic event (depression or recession) that limited your income or spending, which continues to impact your spending habits?
- Yes
 - No
- 26) Please indicate how strongly you value the following in an in-store shopping experience.

	I do not find any extra value in this as part of an in-store experience	I moderately value this in an in-store experience	I value this most highly in an in-store experience
Customer service / Ability to gain advice from the store clerk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Familiarity with a store/Convenience of the store location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ability to browse/Compare prices and quality of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The status of the store or its product(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How reliable their stock of products is - I know they will have what I need and want or the quality of the store's items	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- 27) What is your current marital status?
- Married
 - Single
 - Divorced
 - Widowed
- 28) Do you have dependents in your home?
- Yes
 - No
- 29) What is your gender?
- Female
 - Male
- 30) What is your education level?
- No high school diploma
 - High school diploma
 - Some college
 - Associate's Degree
 - Bachelor's Degree
 - Master's Degree
 - PhD or higher level of education
- 31) How would you describe the area where your home is located?
- Rural
 - Somewhat rural/somewhat city
 - Tourist/Vacation/Seasonal area
 - Small city (no 'big name' or chain companies or stores, but plenty of stores and restaurants)
 - Large city / metropolitan area
- 32) In what city is your home located?
- Free response answer
- 33) What is your race?
- American Indian or Alaska Native
 - Asian
 - Black or African American
 - Native Hawaiian or Other Pacific Islander
 - Hispanic
 - Non-Hispanic White
 - Prefer not to answer
 - Other
- 34) What is your annual household income?

- a) Under \$14,999
- b) \$15,000-\$29,999
- c) \$30,000-\$59,999
- d) \$60,000-\$89,999
- e) \$90,000-\$119,999
- f) \$120,000-\$149,999
- g) More than \$150,000