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The Effect of Marital Status on Male Conspicuous Consumption

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An abstract of a thesis submitted to the Faculty of Emory College of Arts and Sciences of Emory University in partial fulfillment of the requirements of the degree of Bachelor of Sciences with Honors

Department of Economics

Abstract The Effect of Marital Status on Male Conspicuous Consumption By Mingyan Fan

This paper examines the theory that single males use conspicuous consumption as a mating strategy to attract females by comparing the level of quarterly conspicuous consumption made by single males to married males based on the Consumer Expenditure Survey, a national survey that records household-level consumption pattern. According to the result, married males consume less conspicuous goods than single males on average, which confirms the mating strategy theory.

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Introduction

An interesting phenomenon was recently observed at an Israeli public college that 85% of male students attend class carrying a branded coffee while only 64% of female students do the same (Tifferet, Shani, and Cohen 2013). While this sample may be biased, it possibly offers an insightful conclusion: men may use luxury consumption to showcase their wealth and status either consciously or subconsciously.

The term *conspicuous consumption* was first discussed by Thorstein Veblen in his book *The theory of Leisure Class* (1899). In order to attain and maintain social status, he argued that wealth must be made visible. In his days, the majority of the base class could not even afford to consume what is necessary for living. The honorable consumption of "unproductive commodities" (e.g. decorative paintings) was restricted to the superior class. However, the fast improvement of the standard of living has made this act more and more affordable to the general public. Thus, nowadays the definition of conspicuous consumption has broadened to refer to any act of purchasing luxury goods beyond necessity in order to showcase one's wealth and social status.

This behavior of "going beyond what is necessary" is not a unique feature of human beings. To the contrary, it is a common phenomenon among all creatures throughout evolution. In fact, this is one of the crucial drivers that facilitate evolution. As pointed out in the *handicap principle* (Saad & Vongas, 2009), males tends to use costly signals, i.e. acts that consume a large amount of energy, to display their genetic quality in the hope of attracting better quality females. For example, in the Peacock Effect, male peacocks are known to display their fancy pretty tails in an exemplary act of frittering away energy to attract the opposite sex.

This central idea of sexual selection is often considered the main motivation of conspicuous consumption. The analogous version of the Peacock Effect in human culture is men, in the mating mindset, consuming luxury goods as a signal of their financial capacity in order to attract better women. In fact, extensive research investigating the driving factor of marriage has found that men in a mating mindset spontaneously spend large portions of their income on conspicuous commodities (Sundie et al. 2011, Saad 2011; Segal and Podoshen 2013).

However, the limitation of previous studies is that they only examined this trend through conducted experiments, and use proxies for conspicuous consumption. To the best of my knowledge there has been no study that examined this theory using actual consumption levels and no study that quantified the amount of conspicuous goods men are willing to consume in a mating mindset. One of the reasons is the difficulty in defining "conspicuous" and finding the corresponding record.

In this paper, I examine whether or not there is an association between the mindset of males and the amount of money they spend on conspicuous commodities. In other words, I examine whether or not males actually spend more on conspicuous consumption when they are single than when they are married, and if so, how much more are they willing to spend. I show this by comparing the amount of conspicuous commodities consumed per quarter by single males versus married males.

It is important to note that the focus of my paper is on conspicuous consumption of males only, not females. This might seem a little bit counterintuitive at first, given the amount of time and money females devote on clothing, hairdressing, manicure, makeup, etc., to look attractive for a mate. However, various experiments have shown that financial capacity is one of the most important criteria of selecting potential mates for women, whereas this financial capacity is less important in potential mates for men (Li et al., 2002; Li & Kenrick, 2006). In short, whereas women might spend the same amount of energy on conspicuous goods despite their marital status, men would cease to spend on luxury goods once they are married. Thus, this paper will mainly focus on males.

Background and Related Literature

While women are often accused of being materialistic, research has found that males have a greater tendency to use the amount of their material possessions as a measurement of happiness (Robert and Clement, 2007). In fact, although high-end dressing and jewelries of women may come to mind first when thinking about the word "conspicuous," men actually consume more conspicuous goods than women (Segal and Podoshen 2013; Tse *et al.*, 1989; Browne and Kalden- berg, 1997; Eastman et al., 1997; Kamineni, 2005).

The act of using magnificent home decoration for the exclusive purpose of showcasing status and power among noble class in the US started around 1870s (Mason, 1981). Even prior to that, the Industrial Revolution accelerated the evolvement of conspicuous consumption among middle class as the Industrial Revolution increased their accessibility of luxury goods (Page, 1992). By the end of World War II conspicuous consumption was a common act across the whole population (Mason, 1981). The term "conspicuous consumption" was officially defined by Veblen (1899) in *The Theory of Leisure Class*. Veblen (1899) observed that the level of conspicuous consumption classified people into different hierarchies, and the showcase of their conspicuous goods

worked as their evidence to affirm their status. This argument of status signaling became the foundation of many later studies.

It is noteworthy that there is a gender difference to what conspicuous consumption signals. Whereas to men, it signals their own wealth and status, to women, conspicuous consumption signals the wealth of the men whom those women are dependent upon (Veblen, 1899). Although 116 years have passed since Veblen wrote his book, the gender difference in regards to conspicuous consumption seems to have stayed the same (Gilman, 1999). This is precisely the reason why it is not as important for single women to display conspicuous goods as it is for single men, because single women are not expected to show any conspicuous consumption and their status will not be judged upon it.

Furthermore, this also leads to the theory that conspicuous consumption can be used as a mating strategy (Sundie et al. 2011, Saad 2011; Segal and Podoshen 2013). While the primary criteria in partner selection for men focuses on physical appearance (Buss, 1989; Buss & Schmitt, 1993; Kenrick & Keefe, 1992; Singh, 1993), women put more emphasis on economic resources and social status (Bjorklund & Shackelford, 1999; Buss, 1989; Hill & Buss, 2008). In fact, research has shown that while financial capacity is an absolute necessity women see in their long-term mate, physical attractiveness, kindness, and liveliness are ranked the top three things that men look for in their potential mate; financial capacity is just a bonus. (Li et al., 2002; Li & Kenrick, 2006) Thus, men with a high status appear more attractive to women, but this attraction does not necessarily work the other way around (Roney, 2003; Saad & Vongas, 2009). Given that conspicuous consumption is the primary approach to publicly signal one's status and

wealth, men have shown continued interest in conspicuous products and use conspicuous consumption as a 'sexual advertising' for the attraction from the opposite sex (Saad 2011; Segal and Podoshen 2013; Griskevicius et al., 2007; Janssens et al., 2011).

This theory has been tested through experiments from an evolutionary psychological point of view. One hundred and sixty-two female students participated in an experiment, during which each was shown a sequence of ten pictures, and each picture contained one male status product (e.g., Aston Martin) and five functional products (e.g., bicycle). Each participant was asked to write down what they saw in twenty-five seconds right after the image display. This experiment showed that women are extremely sensitive to conspicuous goods as they can spot male conspicuous goods quickly and are spontaneously attracted to those goods. Thus, the research argued, the public display of conspicuous goods by men has the power of leading to a favorable result in a mating context (Lens et al. 2012).

Various psychological experiments have indirectly shown that romance motivates males' conspicuous consumption (Griskevicius et al. 2007). However, there are two major drawbacks of those previous experiments. First of all, their sample sizes were relatively small (often less than one thousand), and their participants were primarily students, which might lead to a sample bias. In addition, researchers failed to directly measure the amount of money participants spent on luxury goods. A more complete study, therefore, would examine this theory using larger samples, across time, and measure the money spent on conspicuous consumption directly. One of the key elements needed to perform such a study is the empirical definition of conspicuous consumption.

Empirical Definition of Conspicuous Consumption

When Veblen defined the term conspicuous consumption in his book, he did not specify clearly the exact criteria of which goods, or which consumption categories were conspicuous. Thus, defining conspicuous consumption is a challenge. In this paper, I use the criterion established in Heffetz (2004) and later modified by Charles et al. (2009).

In 2004, Heffetz conducted a national phone survey to rank the conspicuousness of the 47 consumption categories used in the Consumer Expenditure Survey. According to the survey result, cigarettes, clothes, and cars were ranked as the top three conspicuous categories. Throughout the years, his ranking has changed slightly based on updates of data; this paper uses the ranking from Heffetz (2011).

Using the study of Heffetz (2004) as the basic framework, Charles et al. (2009) conducted a similar survey with a slight change in the wording of survey questions¹. The authors also added questions addressing income elasticity. In order for a category to be considered as conspicuous, Charles et al. (2009) argued, it needs to be both easily observable and income elastic. As a result, clothing and jewelry, personal care, vehicle, and housing were categorized as conspicuous. Charles et al. (2009) did not include housing in their study because of potential racial differences in treatment in the housing market. However, this paper includes housing in the calculation of conspicuous consumption because buying houses plays an important role in marriage².

¹ In the survey of Heffetz (2004), participants were asked, "how long does it take for you to notice a new person's above average expenditure on a certain consumption categories"? Whereas in the survey of Charles et al. (2009), the focus of the question shifted from the length of time to the level of familiarity, and the question became "how familiar do you need to become before you notice someone's above average expenditure on a certain consumption categories?"

² Analysis regarding robust tests for housing is discussed in the result section.

Although previous studies have examined the correlation between conspicuous consumption and the likelihood of getting married, one deficiency is that they used proxies for conspicuous goods instead of calculating the real conspicuous consumption. Thus, with the definition given above, this paper will empirically reexamine this correlation.

Data

This study uses the Consumer Expenditure Survey (CEX) from 2003 to 2013 to analyze the effect of marital status on male conspicuous consumption. This quarterly survey is conducted by the Bureau of Labor Statistics to track participants' consumption. It provides demographic information as well. The publicly available data consist of two parts – Interview Survey and Diary Survey. The Interview Survey collects data on monthly expenditure and other non-expenditure information. The Diary Survey collects data on weekly expenditures on commodities of every-day use. For the purpose of this study, I will be using the Interview Survey data only.

During each quarter, approximately 5000 households are interviewed five times. Individual level demographic information are recorded during their first interview and updated if any changes are made during subsequent interviews. Household-level monthly expenditures on approximately 500 detailed categories are recorded during the second through fifth interviews.

The main outcome of interest for this study is the total amount of quarterly conspicuous consumption of individual males. All data are deflated to 2003 January

dollars using the Consumer Price Index for All Urban Consumers (CPI-U) from the U.S. Bureau of Labor Statistics (BLS).

Figure 1 shows a histogram of conspicuous consumption per capita. There are 379,874 observations in total, with 167,840 married and 176,205 never married ones. There are 41,267 observations living alone, and 66,313 living with their spouse.

The mean conspicuous consumption is \$970.72 per quarter with a standard deviation of \$2160.49, and the median is \$397.5. Over 10% of males spent less than \$100 per quarter on conspicuous goods, and over a quarter of them spent more than \$1,000 per quarter.

Methodology

1. Single Person Household Model

This model includes only single person consumer units (CU), i.e., individuals who live alone, regardless of their marital status.

Based on the empirical model used in Charles et al. (2009)³, the effect of marital status on conspicuous consumption can be examined by:

 $ln(conspicuous) = \beta_0 + \beta_1 Married + \beta_2 Divorced + \beta_3 Widowed + \beta_4 Separated + \gamma Income + \varphi Expenditure + \theta X + \varepsilon$ (1)

where *Married*, *Divorced*, *Widowed*, and *Separated* are dummy variables indicating the marital status of individual males. Marital status of single males is omitted.

³ Charles et al. (2009) used the following specification:

 $[\]ln(conspicuous) = \beta_0 + \beta_1 Black + \beta_2 Hispanic + \beta_4 Separated + \gamma Income + \varphi Expenditure + \theta X + \beta_4 Separated + \gamma Separated$

Income is a vector composed of the log of total income of the household, and a dummy variable equal to one if total income is zero or negative (there are approximately 4,409 households with zero or negative income). The total household income includes all sources of before-tax income in the past 12 months. *Expenditure* is the log of total expenditure of the current quarter.

X is a vector of demographic controls including age, the quadratic of age, the education level, which was regrouped from nine different categories to five major categories, state of residence, race of the male individual, urbanity, quarter and year, and a dummy equal to one if there is no earner in the household.

2. Per capita Model

One problem with the first regression model is that it only looks at people who live alone. The reason for using this particular group of people is that the CEX dataset only contains household level consumption record, whereas our variable of interest, the level of conspicuous consumption made by male individuals to showcase their personal wealth and status, is related to individual consumption. In order to "single out" the individual level consumption, the best option is to use households with only one person, so that the total consumption of the household actually equals the consumption of the male individual.

However, this approach may also raise questions when it comes to the married group. The group of married males living alone is rather controversial and it may not be representative of the general population of married males. In fact, after comparing the race, state, urbanity, and level of education using a chi-squared test and t-test, I found that there is a significant difference in demographic characteristics between these groups. Furthermore, the data released from the Census.gov website also indicated that, on average, married males living with a spouse have an income higher than married males living alone. Thus, it is reasonable to include households with more than one member in the calculation as well – the per capita model.

This model includes two CU types: males either living all by themselves, or living with their spouse only, no children. There are two main reasons to exclude children: first, the main purpose of this paper is to compare the level of conspicuous consumption of males when they intend to attract the opposite sex, and when they do not; with that being said, there is no significant need to include children in the discussion. In addition, the expenditure on children would seriously confound the result. On one hand, there are families cutting luxury consumption to save money for their children; on the other hand, there are also a fair amount of families who spoil their children by buying them high-quality goods, leading to higher conspicuous consumption levels.

Because this model includes CUs with two people, simply using total income and expenditure will exaggerate those CUs' income and expenditure level. Thus, I use per capita income which equals the total income divided by number of earners in the family, and the per capita expenditure equal to the total expenditure divided by family size, i.e., everyone in the family.

Results

Before using any specific subset of the sample population, Table 2 shows the estimated result of equation (1) with all family types, including males living alone, living

with a spouse, living with children, and other minority types. The negative coefficient of *Married* indicates that married males spend less on conspicuous goods. The fact that this is the result using males from all kinds of households substantiates its universality. However, one drawback of using all males is that it adds more chaos and potential confounding factors, which means the estimated result is less accurate than using the two subgroups of interest. For this reason, this paper focuses on the discussion of results from those two subgroups only.

Also noteworthy is the estimate of total income; the negative coefficient suggests that as total income increases, conspicuous consumption will actually decrease. This is contrary to the high income-elasticity feature of conspicuous consumption discussed in Charles et al. (2009). One possible reason is that total income and total expenditure are highly correlated factors. In fact the correlation between total income and total expenditure is around 0.5. Thus, column 2 and 3 of this table re-run the regression either without total income or without total expenditure. Both results align with the previous result of the negative coefficient for *Married*, and both predict a positive relationship between total expenditure and conspicuous consumption, as well as total income and conspicuous consumption.

Before running equation (1) with all control variables, I also use part of it to determine which control variable is the driving factor. I start with no control variables and methodically add in one additional control variable each time. When only the marital status dummies are used with no control variables, married male is actually found to spend 3.1 percentage points more on conspicuous goods than single male. However, when total income is added to the equation, the sign of the coefficient of *Married*

switches from positive 0.03 to negative 0.03, although still statistically insignificant. In addition to income, if total expenditure is also controlled for, the estimates show that married males spend 27.1 percentage points less than single males, which is statistically significant as well. Thus it is safe to assume that expenditure is one of the major driving factors. Continuing with the argument that only one of total expenditure and total income should be included in the regression model, it is shown here that total expenditure is a more powerful driving factor; in addition, CEX does not provide a good measurement of current income (Charles et al., 2009), and the conspicuous consumption level is related more to permanent income than current income (Charles et al., 2009). Thus, I will be using only total expenditure in the following discussions. Below is the new regression I use throughout Tables 4 - 8.

$$\ln(conspicuous) = \beta_0 + \beta_1 Married + \beta_2 Divorced + \beta_3 Widowed + \beta_4 Separated + \varphi Expenditure + \theta X + \varepsilon$$
(2)

The two following rows of Table 3 show that adding education and race control does not affect the estimated result significantly after controlling for income and total expenditure. However, controlling for age actually mitigates the effect – from 27 percentage points down to 20.8 percentage points. The inclusion of year and quarter increased the magnitude of estimated coefficient by around 2 percentage points. Lastly, controlling for state significantly decreased the magnitude of the effect of marriage on conspicuous consumption from 23 percentage points to 15.7 percentage points.

The full result with all control variables using the new equation without income (2) is shown in the last column of Table 4. The estimated effect indicates that married males spend 14.6 percentage points less than single male, which confirmed the expected

direction. In the fifth row of Table 4, expenditure has a rather economically significant effect on conspicuous consumption: with a 10 percentage points increase in total expenditure, conspicuous consumption would increase by almost 10 percentage points as well. The signs of the coefficients for demographic controls also indicate some trends. First, as men grow older, they spend less on conspicuous goods. In addition, as males' education level goes up, they spend less on conspicuous goods, holding everything else equal. The estimate also shows that men living in rural area consume 62.1 percentage points less conspicuous goods than the ones in an urban area. In addition, Blacks consume 28.9 percentage points more conspicuous goods than Whites, which is almost equal to the 31 percentage points predicted in Charles et al. (2009)'s paper. All those findings are statistically significant at the 1% level.

Because conspicuous consumption is mainly made up four parts: housing, vehicle, clothing, and personal care, I also run a robustness test to see which part contributes the most to the difference in conspicuous consumption between married and single males. According to the result in Table 5, vehicle is a major component of conspicuous consumption of never-married males. This confirms the result from previous psychological experiments as well. Taking out housing does not really makes a difference, which eliminates the concern that there is a racial difference in treatment in the housing market that might add chaos to the result. One possible reason is that people living in a rented house need to pay the rent regardless of their marital status, and people who actually buy the house still need to pay the mortgage, assuming that an individuals always take out a mortgage on his/her house.

Knowing that males' consumption patterns usually change dramatically when they get married and move in with their spouse, the group of married males living alone actually makes a good comparison group, because here the only thing changing is the marital status. Despite this advantage of using married males living alone, it is still a small subset, which might cause a sampling bias. Thus, it is necessary to also examine married males living with their spouse. The result of using a per-capita model with both males living alone and males living with their spouse is shown in the second column of Table 4. There are 66,313 married observations and 21,331 single ones in the dataset. The estimated effect indicates that married males spend 39.6 percentage points less on conspicuous goods than single males, significant at the 1% level. In addition, coefficients to all other variables keep the same sign as in previous model. However, previous model predicts people live in rural area spend 62.1 percentage points on conspicuous goods less than urban people, whereas this model predicts only 28.4 percentage points. With both males living alone and cohabitating with spouses, this model is a more representative and provides convincing evidence to substantiate the expected pattern.

One thing noteworthy is that the estimated effect of marriage on males is 39.6 percentage points, which is more than twice the 14.6 percentage points in the previous regression that included only males living alone. Thus, I also run a regression with dummies indicating whether the male is living alone or living with a spouse. According to the regression result, married males who live alone only spend 13.9 percentage points less on conspicuous goods compared to when they were alone, whereas married males who live with their spouse spend 39.6 percentage points less.

One problem here is whether it is legitimate to calculate per-capita conspicuous consumption simply by dividing the household conspicuous consumption by two. First of all, CEX does not provide individual-level consumption records, whereas other databases with individual level data do not have consumption categories as detailed as in CEX. Second, it is very unlikely that married couples divide all expenditures evenly, as husbands usually shoulder more expenditure than their wives. Therefore, even if I had access to the husbands' personal consumption record, I should not assume this amount is actually equal to the consumption of luxury goods spent on themselves. Third, conspicuous consumption is mainly made up of four sections: vehicle, housing, clothing/jewelry, and personal care (barbershop, hairdresser, etc.). Within those four categories, housing and vehicles are common properties to married couples, thus it is reasonable to divide their values in half. On the other hand, females' expenditure on clothing/jewelry and personal cares are significantly higher than males (Pentecost and Andrews 2010). Thus, in a husband and wife type of family, the personal conspicuous consumption made by the husband is always lower than the average conspicuous consumption. For these reasons, if the coefficient indicates a negative relationship using the per-capita model, then the coefficient, if we do have access to the real conspicuous consumption amount of males, should be even more negative.

It is interesting to also examine the influence of marriage on conspicuous consumption among various sub-samples. In Charles et al. (2009)'s paper, they observed that the level of conspicuous consumption decreases sharply with age, and the age of 49 is a clear cut-off: the racial gap holds almost constant before 49 and demonstrates a sharp decline right after (Charles et al., 2009). Thus, I examine the sub-group of males of 49

years old or younger and males older than 49. The result is shown in Table 6. For males of age 49 or younger, married ones consume 32.9 percentage points less than single ones; and for males of age 49 and above, married ones consume 49.1 percentage points less than single ones, both significant at the 1% level. This result demonstrates the trend that the gap between married and single increases sharply after age 49. This estimate makes sense because as males age, their need to get married becomes more urgent while their value in the marriage market shrinks. Therefore the only compensation for their age is to signal a high financial capacity and social status by consuming more luxury goods.

In addition to age, I also examine other sub-samples of the population. The results for the five different education groups are shown in Table 7. In all education level subgroups, married males are found to consume less conspicuous goods than single males. There is no general trend between the magnitude of the gap and the education level. However, there is a huge difference between the group with the lowest education and the group with the highest education: for males with up to a middle school education, the coefficient for *Married* dummy is as large as -0.462, whereas for males with a Masters degree or higher, the coefficient is only -0.371.

Table 8 shows the result of different race groups. Again, the negative coefficients of the *Married* dummy are found for each sub-group, indicating that across all races, married males tend to spend less on conspicuous goods than single males. Because there are only 368 and 176 observations of Native Americans and Pacific Islanders in this sample, I focus my discussion on the largest groups: Whites, Blacks, and Asians. The coefficient for *Married* among Whites and Blacks are almost the same (-0.400 and - 0.402), and Asians' is the smallest among the three but still pretty similar, holding

expenditure and income equal. This indicates that the deduction in conspicuous consumption after marriage, or the amount of money males are willing to devote to showcase their status to attract females, are similar regardless of race.

Conclusion

This paper examines the relationship between marital status and male conspicuous consumption. It is shown that married males on average spend less on conspicuous goods than single males, holding everything else constant. This result substantiates the theory that single males use conspicuous consumption as a mating strategy to attract females. I have also tested this result across various sub-samples such as, education level, age, and race. It is found that the same relationship holds across all these sub-groups.

Previous research on this topic has two limits: first, their sample sizes were small and most of the participants were students, which might cause sampling bias; second, they did not measure the real amount of conspicuous consumption directly, but used proxies and were under experimental circumstances. On the contrary, this paper uses data from a national survey and directly measures conspicuous consumption, providing a more robust analysis.

The confirmation of this tendency of single males to over-consume conspicuous goods can also be used for further studies for social support and for marketing strategies. For example, from the point of view of a producer, single males would be a good group to target and their advertisement could be adjusted to promote marriage specifically.

One of the major limitations of this paper is the lack of individual-level data. Although, as reasoned above, this would not influence the direction of the relationship

between conspicuous consumption and marital status, this limitation does affect the accuracy of the predicted change in conspicuous consumption when males get married. A second limitation is that the measure of conspicuous consumption is defined according to categories rather than specific items or specific brands. For example, vehicles are counted as conspicuous consumption, regardless of whether it is a Honda SUV or a Lamborghini sports car. Thus, in future work, it would be important to examine more detailed consumption records of each item. Finally, the CEX only tracks the same household for one year and one year only. Given that this study is about the change in marital status, the result would be more convincing if there were panel data. That is, a more complete analysis would examine how conspicuous consumption changes within individuals as they get married.

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| | Frequency | Percent |
|--|-----------|---------|
| All Household Types | 379,874 | 100 |
| Living Alone | 41,267 | 10.86 |
| Cohabitating with Wives (Without Children) | 66,313 | 18.46 |
| Cohabitating with Wives (With Children) | 156,638 | 41.23 |
| Married | 167,840 | 44.18 |
| Widowed | 7,661 | 2.02 |
| Divorced | 23,674 | 6.23 |
| Separated | 4,494 | 1.18 |
| Never Married | 176,205 | 46.39 |
| Never Married and Lives Alone | 21,331 | 5.62 |
| Married and Lives Alone | 1,646 | 0.43 |

Table 1-Summary Statistics of Males With Different Marital Status that Live in Different Kinds of Households

| | (1) | (2) | (3) |
|-----------------------|-----------------|------------------|-------------|
| | With Income and | With Expenditure | With Income |
| | Expenditure | Only | Only |
| Married | -0.104*** | -0.137*** | -0.332*** |
| | (0.007) | (0.007) | (0.008) |
| Divorced | 0.081*** | 0.059*** | 0.134*** |
| | (0.010) | (0.010) | (0.012) |
| Widowed | 0.059*** | 0.026 | -0.011 |
| | (0.017) | (0.017) | (0.019) |
| Separated | 0.171*** | 0.161*** | 0.214*** |
| | (0.019) | (0.019) | (0.023) |
| Total Income | -0.135*** | | 0.100*** |
| | (0.002) | | (0.002) |
| Total Expenditure | 1.137*** | 1.066*** | |
| | (0.004) | (0.003) | |
| Age | 0.002*** | 0.004*** | 0.026*** |
| | (0.000) | (0.000) | (0.000) |
| Quadratic of Age | -0.000*** | -0.000*** | -0.000*** |
| | (0.000) | (0.000) | (0.000) |
| 9th grade-HS Diploma | -0.166*** | -0.180*** | 0.152*** |
| | (0.009) | (0.009) | (0.011) |
| Some College (less | 0 286*** | 0 300*** | 0 318*** |
| than graduate degree) | -0.200 | -0.507 | 0.510 |
| | (0.010) | (0.010) | (0.011) |
| Bachelor's Degree | -0.429*** | -0.477*** | 0.426*** |
| | (0.010) | (0.010) | (0.012) |
| Master or Higher | | | |
| degree | -0.476*** | -0.545*** | 0.495*** |
| | (0.011) | (0.011) | (0.013) |
| Black | 0.280*** | 0.296*** | 0.042*** |
| | (0.007) | (0.007) | (0.008) |
| Native American | 0.156*** | 0.160*** | -0.005 |
| | (0.028) | (0.028) | (0.033) |
| Asian | 0.086*** | 0.088*** | -0.097*** |
| | (0.009) | (0.009) | (0.011) |
| Pacific Islander | 0.176*** | 0.173*** | -0.124*** |
| | (0.029) | (0.030) | (0.035) |
| Multi-race | 0.073*** | 0.079*** | -0.003 |

Table 2-Estimated Results of Equation (1) by OLS With and Without Expenditure,Income, Using All Males 4

⁴ Estimated coefficients for state of residence, quarter, and year are not shown in this table.

| | (1) | (2) | (3) |
|--------------|-----------------|------------------|-------------|
| | With Income and | With Expenditure | With Income |
| | Expenditure | Only | Only |
| | (0.018) | (0.018) | (0.021) |
| Urbanity | -0.310*** | -0.291*** | -0.384*** |
| | (0.027) | (0.027) | (0.032) |
| Observations | 278,708 | 279,481 | 278,713 |
| R-squared | 0.320 | 0.311 | 0.067 |

Notes: *** p<0.01, ** p<0.05, * p<0.1 Standard Errors in ()

| Regression Controls Included | Married Coefficient |
|---|------------------------|
| 1. No Control Variables | 0.031 |
| 2. Only Income Control | -0.030 |
| 3. Only Expenditure Control | -0.270*** |
| 4. Only Income and Expenditure Control | -0.271*** |
| 5. Specification 4 Plus Education Control | -0.276*** |
| 6. Specification 4 Plus Race Control | -0.287*** |
| 7. Specification 4 Plus Age Control | -0.208*** |
| 8. All Above Specification Plus Year | -0.228*** |
| 9. All Above Specification Plus Quarter | -0.229*** |
| 10. All Above Specification Plus Urbanity | -0.230*** |
| 11. All Above Specification Plus State | -0.157*** ⁶ |

Table 3-Estimated Effect of Marital Status With or Without Income, Expenditure, and Demographic Controls Using Males Living Alone⁵

⁵ This table is the regression result based on equation (1), which includes total income as a control variable ⁶ This number is different from the estimated result shown in Table 4, Column 3, because this one used equation (1) which includes total income

| | (1) | (2) Single and Married | (3) |
|--|---------------|----------------------------------|-------------------|
| | All Household | Single and Warned Spouse Only | Living Alone Only |
| Married | -0.137*** | -0.396*** | -0.146*** |
| | (0.007) | (0.011) | (0.033) |
| Divorced | 0.059*** | -0.077*** | -0.131*** |
| | (0.010) | (0.015) | (0.017) |
| Widowed | 0.026 | -0.187*** | -0.219*** |
| | (0.017) | (0.021) | (0.028) |
| Separated | 0.161*** | 0.112*** | 0.059* |
| | (0.019) | (0.028) | (0.031) |
| Total Expenditure | 1.066*** | 1.035*** | 0.970*** |
| | (0.003) | (0.006) | (0.010) |
| Age | 0.004*** | -0.032*** | -0.017*** |
| | (0.000) | (0.001) | (0.002) |
| Quadratic of Age | -0.000*** | 0.000*** | 0.000*** |
| | (0.000) | (0.000) | (0.000) |
| 9th grade-HS Diploma | -0.180*** | -0.144*** | -0.090*** |
| | (0.009) | (0.019) | (0.030) |
| Some College (less than graduate degree) | -0.309*** | -0.188*** | -0.146*** |
| | (0.010) | (0.019) | (0.031) |
| Bachelor's Degree | -0.477*** | -0.228*** | -0.145*** |
| | (0.010) | (0.020) | (0.032) |
| Master or Higher | | | |
| degree | -0.545*** | -0.270*** | -0.245*** |
| | (0.011) | (0.021) | (0.035) |
| Black | 0.296*** | 0.278*** | 0.289*** |
| | (0.007) | (0.014) | (0.019) |
| Native American | 0.160*** | 0.190*** | 0.121 |
| | (0.028) | (0.056) | (0.079) |
| Asian | 0.088*** | 0.190*** | 0.148*** |
| | (0.009) | (0.019) | (0.032) |
| Pacific Islander | 0.173*** | 0.179** | 0.207* |
| | (0.030) | (0.080) | (0.125) |
| Multi-race | 0.079*** | 0.089** | 0.114** |
| | (0.018) | (0.037) | (0.053) |
| Urbanity | -0.291*** | -0.284*** | -0.621*** |
| | (0.027) | (0.045) | (0.086) |

Table 4- Estimated Results of Equation (2) by OLS With All Household, Single and Married Spouse Only, and Males Living Alone Only⁷

⁷ Estimated coefficients for state of residence, quarter, and year are not shown in this table.

| | (1) All Household | (2) Single and Married Spouse Only | (3) Living Alone Only |
|--------------|----------------------|--|--------------------------|
| Observations | 279,481 | 79,501 | 32,672 |
| R-squared | 0.311 | 0.355 | 0.312 |

Notes: *** p<0.01, ** p<0.05, * p<0.1 Standard Errors in ()

| | (1) | (2) | (3) | (4) |
|--|------------|------------|-------------|------------------|
| | No Housing | No Vehicle | No Clothing | No Personal Care |
| Married | -0.153*** | -0.072** | -0.201*** | -0.147*** |
| | (0.059) | (0.033) | (0.039) | (0.035) |
| Divorced | 0.007 | -0.099*** | -0.157*** | -0.126*** |
| | (0.030) | (0.017) | (0.020) | (0.018) |
| Widowed | -0.251*** | -0.155*** | -0.225*** | -0.212*** |
| | (0.048) | (0.028) | (0.032) | (0.029) |
| Separated | 0.074 | 0.141*** | 0.047 | 0.064** |
| | (0.055) | (0.031) | (0.036) | (0.032) |
| Total Expenditure | 1.615*** | 0.645*** | 1.073*** | 0.997*** |
| | (0.017) | (0.010) | (0.011) | (0.010) |
| Age | -0.038*** | -0.014*** | -0.002 | -0.015*** |
| | (0.004) | (0.002) | (0.002) | (0.002) |
| Quadratic of Age | 0.000*** | 0.000*** | - 0.000*** | 0.000*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| 9th grade-HS Diploma | -0.223*** | -0.074** | -0.084** | -0.073** |
| | (0.051) | (0.030) | (0.035) | (0.031) |
| Some College (less than graduate degree) | 0.014 | -0.121*** | -0.194*** | -0.141*** |
| | (0.053) | (0.031) | (0.036) | (0.032) |
| Bachelor's Degree | -0.062 | -0.011 | -0.184*** | -0.136*** |
| - | (0.056) | (0.033) | (0.038) | (0.034) |
| Master or Higher degree | -0.031 | -0.071** | -0.303*** | -0.236*** |
| | (0.061) | (0.036) | (0.041) | (0.037) |
| Black | 0.149*** | 0.317*** | 0.280*** | 0.293*** |
| | (0.034) | (0.019) | (0.022) | (0.020) |
| Native American | -0.150 | 0.148* | 0.056 | 0.098 |
| | (0.138) | (0.082) | (0.092) | (0.082) |
| Asian | 0.093* | 0.124*** | 0.142*** | 0.141*** |
| | (0.057) | (0.033) | (0.038) | (0.034) |
| Pacific Islander | 0.171 | 0.189 | 0.241 | 0.225* |
| | (0.227) | (0.125) | (0.147) | (0.131) |
| Multi-race | 0.200** | 0.078 | 0.027 | 0.126** |
| | (0.095) | (0.053) | (0.063) | (0.056) |
| Urbanity | -0.154 | -0.793*** | -0.729*** | -0.628*** |
| | (0.151) | (0.083) | (0.101) | (0.090) |
| Observations | 29,944 | 35,111 | 32,309 | 32,603 |
| R-squared | 0.330 | 0.211 | 0.285 | 0.304 |

Table 5-Robust Test Using Males Living Alone⁸

Notes: *** p<0.01, ** p<0.05, * p<0.1 Standard Errors in ()

⁸ Estimated coefficients for state of residence, quarter, and year are not shown in this table.

| | (1) | (2) |
|--|---------------------|---------------|
| | Younger or Equal 49 | Older than 49 |
| | | |
| Married | -0.329*** | -0.491*** |
| | (0.016) | (0.018) |
| Divorced | -0.161*** | -0.083*** |
| | (0.025) | (0.021) |
| Widowed | -0.025 | -0.259*** |
| | (0.111) | (0.024) |
| Separated | 0.028 | 0.119*** |
| | (0.046) | (0.037) |
| Total Expenditure | 1.093*** | 0.997*** |
| | (0.011) | (0.007) |
| Age | -0.019*** | -0.001* |
| | (0.001) | (0.001) |
| 9th grade-HS Diploma | -0.216*** | -0.120*** |
| | (0.047) | (0.020) |
| Some College (less than graduate degree) | -0.330*** | -0.115*** |
| | (0.047) | (0.021) |
| Bachelor's Degree | -0.368*** | -0.173*** |
| | (0.048) | (0.022) |
| Master or Higher degree | -0.352*** | -0.241*** |
| | (0.050) | (0.023) |
| Black | 0.353*** | 0.220*** |
| | (0.023) | (0.017) |
| Native American | 0.123 | 0.259*** |
| | (0.083) | (0.077) |
| Asian | 0.130*** | 0.252*** |
| | (0.029) | (0.026) |
| Pacific Islander | -0.017 | 0.361*** |
| | (0.125) | (0.107) |
| Multi-race | 0.080 | 0.125** |
| | (0.058) | (0.050) |
| Urbanity | -0.317*** | -0.278*** |
| | (0.093) | (0.050) |
| Observations | 28,166 | 51,335 |
| R-squared | 0.331 | 0.339 |

Table 6- Estimated Results of Equation (2) by OLS With Different Sub-Sample by Age using Males Both Living Alone and Cohabitating With Their Spouses⁹

Notes: *** p<0.01, ** p<0.05, * p<0.1 Standard Errors in ()

⁹ Estimated coefficients for state of residence, quarter, and year are not shown in this table. Quadratic of age is omitted here.

| | (1) | (2) | (3) | (4) | (5) |
|-------------------|----------------|------------|-----------------------|------------|---------------|
| | Never Attended | 9th Grade- | Some College (less | Bachelor's | Master or |
| | Eighth Grade | HS Diploma | than graduate degree) | Degree | Higher degree |
| Married | -0.462*** | -0.470*** | -0.347*** | -0.458*** | -0.317*** |
| | -0.06 | (0.022) | (0.022) | (0.022) | (0.028) |
| Divorced | -0.108 | -0.131*** | -0.009 | -0.145*** | -0.068 |
| | (0.078) | (0.027) | (0.028) | (0.032) | (0.042) |
| Widowed | -0.157*** | -0.301*** | -0.013 | -0.299*** | -0.159** |
| | (0.080) | (0.035) | (0.045) | (0.051) | (0.065) |
| Separated | -0.177* | 0.084* | 0.172*** | 0.141** | 0.036 |
| | (0.100) | (0.046) | (0.057) | (0.068) | (0.098) |
| Total Expenditure | 0.885*** | 1.076*** | 1.106*** | 0.973*** | 0.926*** |
| | (0.031) | (0.012) | (0.011) | (0.013) | (0.016) |
| Age | -0.020*** | -0.025*** | -0.029*** | -0.048*** | -0.069*** |
| | (0.007) | (0.002) | (0.002) | (0.003) | (0.004) |
| Quadratic of Age | 0.000 | 0.000*** | 0.000*** | 0.000*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Black | 0.264*** | 0.322*** | 0.280*** | 0.206*** | 0.238*** |
| | (0.059) | (0.021) | (0.025) | (0.034) | (0.046) |
| Native American | 0.668** | 0.103 | 0.220** | 0.315** | -0.092 |
| | (0.265) | (0.093) | (0.097) | (0.139) | (0.182) |
| Asian | 0.308*** | 0.315*** | -0.018 | 0.163*** | 0.217*** |
| | (0.087) | (0.049) | (0.044) | (0.033) | (0.036) |
| Pacific Islander | -0.296 | 0.395*** | -0.099 | 0.307** | 0.022 |
| | (0.420) | (0.148) | (0.157) | (0.149) | (0.239) |
| Multi-race | -0.191 | 0.077 | 0.058 | 0.251*** | 0.090 |
| | (0.157) | (0.068) | (0.064) | (0.086) | (0.113) |
| Urbanity | -0.568*** | -0.372*** | -0.094 | -0.150 | 0.032 |
| | (0.162) | (0.068) | (0.088) | (0.121) | (0.181) |
| Observations | 3,717 | 24,652 | 23,262 | 17,086 | 10,781 |
| R-squared | 0.327 | 0.349 | 0.350 | 0.343 | 0.325 |

Table 7- Estimated Results of Equation (2) by OLS With Different Sub-Sample by Education using Males Both Living Alone and Cohabitating With Their Spouses ¹⁰

Notes: *** p<0.01, ** p<0.05, * p<0.1 Standard Errors in ()

¹⁰ Estimated coefficients for state of residence, quarter, and year are not shown in this table.

| | (1) | (2) | (3) | (4) | (5) De sifi s | (6) |
|--|-----------|-----------|----------|-----------|------------------|------------|
| | White | Black | American | Asian | Islander | Multi-race |
| Married | -0.400*** | -0.402*** | -0.274* | -0.379*** | -0.550** | -0.346*** |
| | (0.013) | (0.035) | (0.159) | (0.050) | (0.266) | (0.111) |
| Divorced | -0.093*** | -0.013 | -0.100 | -0.032 | -0.023 | 0.183 |
| | (0.017) | (0.041) | (0.211) | (0.090) | (0.363) | (0.140) |
| Widowed | -0.215*** | -0.045 | 0.129 | 0.023 | -2.713*** | 0.506** |
| | (0.023) | (0.065) | (0.393) | (0.129) | (0.794) | (0.198) |
| Separated | 0.124*** | 0.092 | -0.256 | 0.181 | 0.461 | 0.099 |
| | (0.034) | (0.058) | (0.312) | (0.154) | (0.577) | (0.286) |
| Total Expenditure | 1.047*** | 1.031*** | 1.031*** | 0.874*** | 1.079*** | 1.040*** |
| | (0.007) | (0.021) | (0.091) | (0.027) | (0.176) | (0.061) |
| Quadratic of Age | 0.000*** | 0.000 | 0.001*** | 0.000*** | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Age | -0.033*** | -0.022*** | -0.065** | -0.040*** | -0.017 | -0.016 |
| | (0.001) | (0.004) | (0.025) | (0.007) | (0.039) | (0.013) |
| 9th grade-HS Diploma | -0.149*** | -0.119** | -0.104 | -0.153* | 0.570 | 0.017 |
| | (0.021) | (0.056) | (0.389) | (0.088) | (0.573) | (0.179) |
| Some College (less than graduate degree) | -0.180*** | -0.204*** | -0.040 | -0.512*** | -0.157 | 0.065 |
| | (0.021) | (0.059) | (0.400) | (0.089) | (0.697) | (0.179) |
| Bachelor's Degree | -0.227*** | -0.294*** | -0.161 | -0.317*** | 0.339 | 0.221 |
| | (0.022) | (0.065) | (0.413) | (0.087) | (0.747) | (0.199) |
| Master or Higher | | 0.007*** | 0.556 | 0.007*** | 0.070 | 0.000 |
| degree | -0.279*** | -0.307*** | -0.556 | -0.287*** | -0.278 | 0.009 |
| | (0.023) | (0.075) | (0.446) | (0.090) | (0.737) | (0.217) |
| Urbanity | -0.305*** | -0.001 | -0.326 | | | 0.411 |
| | (0.046) | (0.197) | (0.903) | | | (0.628) |
| Observations | 67,141 | 7,308 | 368 | 3,680 | 176 | 825 |
| R-squared | 0.355 | 0.380 | 0.523 | 0.370 | 0.621 | 0.468 |

Table 8- Estimated Results of Equation (2) by OLS With Different Sub-Sample by Race using Males Both Living Alone and Cohabitating With Their Spouses¹¹

Standard Errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

¹¹ Estimated coefficients for state of residence, quarter, and year are not shown in this table.



Figure 1-Histogram of Conspicuous Consumption per Capita