

ANALYSIS OF FEMALE CONSUMER SPENDING IN THE OUTDOOR INDUSTRY

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Abstract

The lack of gender diversity and equality in the outdoor industry is clear when looking at media, leadership, pay and equipment options. For years, the female consumer has been underserved due to gender stereotypes and an overall feeling of masculinity in outdoor recreation. The purpose of this study is to analyze how female consumer spending has changed over time and how female and male consumer behavior differs. A basic OLS regression is used to model the characteristics that make women and men more likely to spend on outdoor recreation, hunting and fishing, camping, winter sports and water sports equipment. The same model is used to analyze how spending has changed each year by gender. Results showed that women spend around 22% less than men in the outdoor industry yet the amount women spend each year is increasing at a faster rate than the amount men spend each year. Having women equally represented in media and leadership positions as well as designing more technical female and unisex products will benefit both consumers and retailers by increasing revenue in the outdoor industry.

KEYWORDS: (outdoor recreation, gender in outdoor industry, gender expenditures)

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Introduction and Motivation

The lack of gender diversity in the outdoor industry is immediately clear when looking at leadership, media, management and gear. Female consumers have been systematically ignored in what has been considered a “guys” industry. There are few female specific products, brands, or retailers in the outdoor market making the female consumer underserved. Despite this, today the sales of women’s outdoor products outpace the growth of overall categories (Powell, 2008). Due to anatomical differences in males and females, brands that focus on making products that specifically fit females rather than using the ‘shrink it and pink it’ technique see the best results (Powell, 2008). While there has been recent progress in this area, this paper explores the changes in female consumer spending in the outdoor industry from 2012 through 2018 to analyze market trends today and determine what can be done to continue the inclusion of women in the outdoor industry.

Past studies about women in the outdoor industry mainly focus on how media, unequal pay, prize money and a lack of female leadership cause female consumers to be underrepresented and underserved in the outdoor community (Khajavei, 2017; Weinberger, 2018; Powell 2015; Kestenbaum, 2019; Klingelhofer, 2017). Many of these articles suggest that there has been progress in making female specific products, yet there is still a long way to go. Some articles also suggest that there is not a need for female specific products but a need for unisex products. This would give all body types a product that would fit them rather than specifying products for men or women (Weinberger, 2018). A big question that comes along with if a company should create female product lines is whether the demand for it is there (Weinberger, 2018; Powell, 2015). Over the

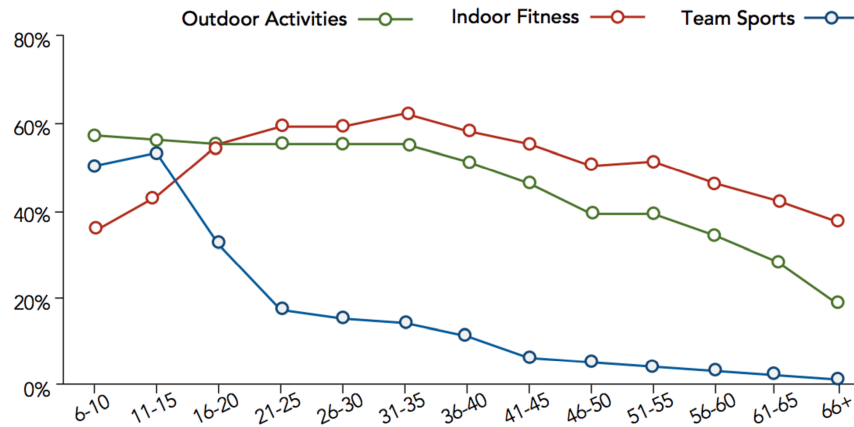
past few years, women in the outdoor industry have been on the rise and wanting to see more technical, female specific and unisex equipment. The outdoor industry is a big economic driver with annual consumer spending at \$877 billion (Outdoor Industry Association, 2017). By ignoring women, approximately half of the possible participants, the industry is losing significant potential revenue. This paper will show why more female-specific and unisex products will benefit both retailers and outdoor consumers today.

Literature Review

Outdoor Industry Trends

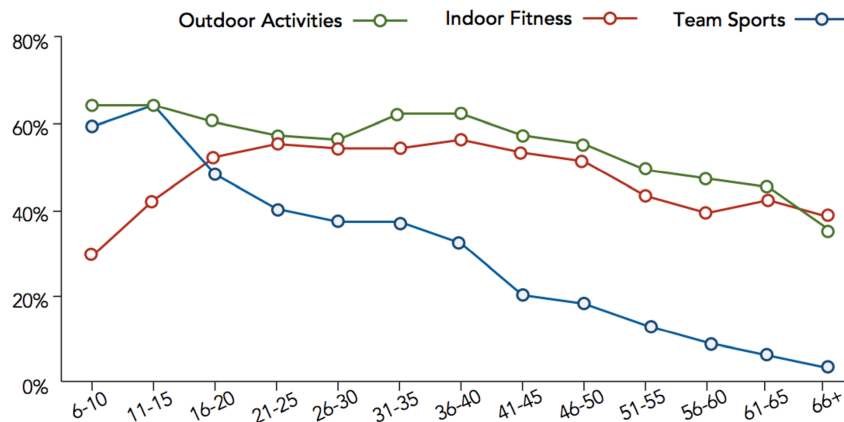
Looking at general trends and patterns in the outdoor industry as well as for women specifically shows key female and male preference differences. Figure 1 and Figure 2 show women typically tend to participate in more indoor fitness than outdoor activities while men are more likely to participate in an outdoor activity than indoor fitness (Outdoor Participation Report, 2018).

Figure 1 Female Activities by Age and Gender



Source: Outdoor Participation Report, 2018

Figure 2 Male Activities by Age and Gender



Source: Outdoor Participation Report, 2018

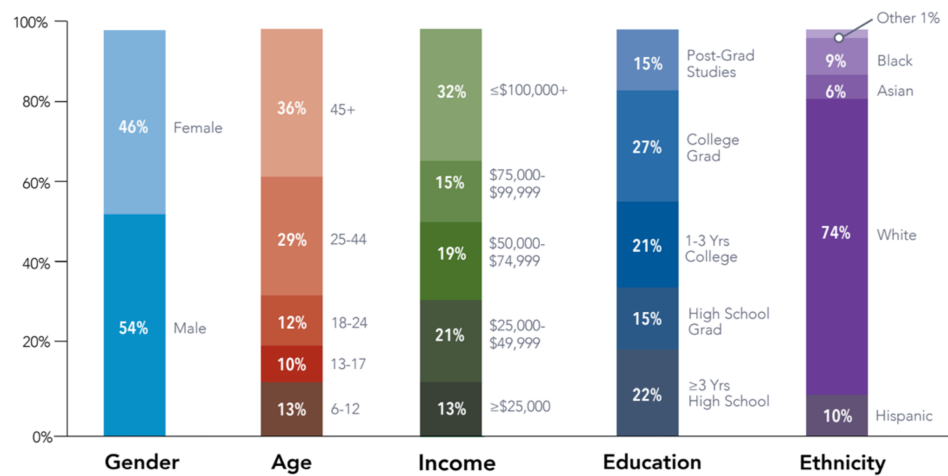
The top reported reasons for all genders to get outside are to be with family and friends, get exercise, experience adventure and excitement, be with people who enjoy the same things and to develop skills and abilities (Outdoor Participation Report, 2018). The top reasons that prevent people from getting outside are expensive equipment and places, being busy with other activities or responsibilities, not having anyone to participate with and not having the skills or abilities (Outdoor Participation Report, 2018). Having affordable and easy access to outdoor recreation is the biggest barrier to participation for most people in the United States.

According to one source, women make up 51% of outdoor consumers with the median age being 40 and less than half having children. When it comes to participating in outdoor activities at extreme levels, 54% of women report they have or will (Women Outdoor Consumers, 2014). About half of women feel it's important to maintain some level of comfort when outdoors, feel experiences are much more important than acquiring products or goods and feel they are making a strong commitment to a healthier lifestyle (Women Outdoor Consumers, 2014). The top female motivators to get outside are to have fun, have a family experience and for the positive benefits of sunshine and fresh air. When it comes to shopping, women are more likely to go to Brick and Mortar stores and less likely to be multichannel shoppers than men (Women Outdoor Consumers, 2014). Looking at what women want out of their outdoor recreation helps shape current marketing strategies.

Today, the outdoor industry is including those who want a simple or more diverse way to enjoy the outdoors, not only those going on epic adventures and pushing limits. Outdoor recreation choices are often made depending on where someone lives and how

they grew up (Outdoor Industry Association, 2015). To grow the outdoor business, a combination of existing consumers, existing product lines, new consumers and new product lines should be used. Changes in outdoor consumers are happening through both overall expansion as well as the expansion of females in the outdoor industry (Outdoor Industry Association, 2016). The demographics of outdoor participants from 2018 reported by the Outdoor Foundation are shown in Figure 3.

Figure 3 Outdoor Participant Demographics



Source: Outdoor Participant Report, 2018

The business of outdoor sports, including hiking, camping, fishing, running, surfing and related sports, is relatively stagnant. The place there seems to be room for substantial growth is through female consumers (Kestenbaum, 2019). There is evidence that women are playing a more active role in the outdoor industry today compared to the past. Women are initiating outdoor activity more today than in the past where accompanying men who have initiated the activity was more popular (Kestenbaum, 2019). Because of this, the need for female specific products is on the rise. Many retailers’ initial response to creating female products has been to ‘shrink it and pink it’. This means they are ‘designing’ a female product by cutting a men’s product in a smaller

size and recoloring it to appeal to women. This makes consumer behavior difficult to track as women often buy men's products for themselves due to their displeasure in the female products that do exist (Kestenbaum, 2019; Weinberger, 2018). Although the role of women is increasing in the active outdoor sports industry the "data doesn't clearly support it yet but there are indications that it's at a turning point" (Kestenbaum, 2019).

Gender Stereotypes

The outdoor industry is historically very male dominated meaning that women are underrepresented in the wilderness and outdoor recreation. Because of this, women face increased barriers to participation. The root of the problem begins with false perceptions of outdoor recreation and cultural ideas of masculine and feminine behaviors (Khajavei, 2017; Lang, 2014). A big obstacle that women who are already involved in the outdoor industry face is that some men immediately assume women have less skills than they really do (Khajavei, 2017; Lang, 2014). Women feel like they must prove they have the skills while men are assumed to already know (Lang, 2014). Many women overcome their fears of participating in outdoor recreation by taking more safety measures than men. For example, not going into the wilderness alone and communicating their whereabouts (Khajavei, 2017). While historical male dominance plays a large role in the underrepresentation of women in the outdoor industry, media and female leadership are helping shape the industry to be more inclusive today.

Media

Majority of media in the past and still some in the present has portrayed women as inactive participants in outdoor recreation. Traditionally, advertisements geared towards men have shown recreating outdoors as a place for adventure and growth. Similar advertisements for women instead show recreating outdoors as relaxing and an

escape from responsibilities (Khajavei, 2017). For men, it is about performance while for women it is about appearance (Klingelhofer, 2017; West, 2019). Even the women whose skills have brought them to the top of their sport are often known for their body. Having this type of media makes a point that “women are not meant for adventure, and those who seek it and enjoy it are out of the ordinary” (Khajavei, 2017). Today, the “outdoor industry is in the midst of a gender course correction, with the industry’s biggest brands redoubling their commitment to women” (Geraci, 2018). For example, REI has made it a priority to increase recognition, participation and gear for women in the outdoors. The fight for equal pay and prize money is also continuing. Taking the Winter X Games as an example, the event was initially exclusive to males, and then they gave women and men equal prize money in 2008 (Hendrikx, 2017). Though marketing strategies today are paying more attention to women, current media and advertisements are speaking to women the same way they speak to men (Geraci, 2018; Perrin, 2017). It would be beneficial to leverage female preferences like group recreation and community support when trying to grab the attention of women. For example, an “independent together” campaign would show the power of women together rather than just a man succeeding (Geraci, 2018). Focusing on strategies that will attract women to outdoor recreation will help grow the industry.

A lack of female representation and the type of female media produced today is an issue that starts at the top of the outdoor industry and trickles down to the average outdoor consumer. These issues include the number of male to female athletes sponsored and the pay gap in both prize money and annual salary. For example, GoPro has 27 female athletes out of 197 (Klingelhofer, 2017). The fact that different standards are set

for women than men is not encouraging the average female consumer to try a new outdoor sport. If there are more female role models at the top of the industry, both sponsored athletes and businesswomen, it will set a good example for others to follow. It proves that women can do it and are meant to be there just as much as men (West, 2019). Female run outdoor companies are on the rise today proving that having a good mix of female and male leadership in the industry benefits both consumers and retailers.

Leadership

A lack of women in leadership roles gives the impression there is not space for women in the outdoor industry (Khajavei, 2017; McNeil, 2012). Even just briefly looking at major companies' boards and management shows the lack of gender diversity in this industry (Powell, 2015). The problem with a lot of female specific gear being made today is that it is designed by men who either do not know how to make a female specific product or do not put the time into making it a great product. In turn, it does not sell well and then the female line cannot be continued (Weinberger, 2018). If there are more women in leadership positions, female consumers can trust that they are getting a product truly designed with them in mind (Weinberger, 2018). A study found that if there is a 30% higher proportion of women in leadership positions it results in 15% higher revenue (Klingelhofer, 2017). Having gender diverse leadership in the outdoor industry would bring more females into outdoor recreation and expand the industry.

Female Specific Gear

Although women make up around half of outdoor consumers, they have not historically spent as much as men on outdoor footwear, apparel or equipment. Oftentimes, there is not the right outdoor gear made for women which forces them to use

gear designed for men (Powell, 2014; Kestenbaum, 2019). While there has been a push to create female specific gear, it often falls under the “shrink it and pink it” category. This shows that making a female product is the afterthought of a male product (Weinberger, 2018; Kestenbaum 2014; Powell, 2015). Over the past 4 years, the female outdoor movement has gained traction. There have been more specific marketing materials playing up women’s athletic abilities, physiological needs, women’s only skill courses and women’s specific gear (Weinberger, 2018; Kestenbaum, 2014). Female consumers today want a product that is designed for female bodies or unisex not just a smaller cut of a male product.

Usually, the need for a female specific product corresponds with the need for better fit, so females want to see the product’s performance remain the same but reap the benefits of a better fit. Not all products need a female and male version, some are better unisex and therefore fitting almost all body types (Weinberger, 2018; Powell, 2015). Even though 54% of women report they will participate at ‘extreme levels’ of outdoor sports, companies don’t believe women are inclined to purchase technical goods. When comparing the 16% of women who prioritize technical features to the 24% of men, it does not seem like a great enough difference to avoid creating technical female products (Weinberger, 2018). Sometimes companies make female high-performance clothes and hard goods by adjusting their male products to be less aggressive, less technically capable and therefore more “beginner” (Weinberger, 2018). While it is expensive to develop new product lines, there should be more thought into which female product lines will be the most beneficial.

Other Consumer Demand Studies

There is a significant amount of literature that does consumer demand modeling yet not many with a focus in the outdoor industry. For example, Gao & Kim (2017) studied consumer spending on entertainment and the great recession using the Consumer Expenditure Survey. They use the Probit model to examine how changes in income influence the likelihood of making non-zero expenditures on entertainment activities. To avoid bias in the Ordinary Least Squares (OLS) estimator they use the Tobit model to assess the income effect on recreational activities. The variables in their Probit model include income, age, family size, family type, gender, race, education and urban.

Olafsdottir & Asgeirsdottir (2015) studied gender differences in drinking behavior during an economic collapse in Iceland. Using panel data to look at real income and working hours that may explain changes in drinking patterns around an economic collapse they use pooled OLS and linear probability models. Alexander and Poirier (2018) studied the impact of oil price shocks on the U.S. economy using the Consumer Expenditure Survey. They use a difference-in-difference identification strategy based on two factors, vehicle ownership and gasoline reliance, which generate variation in exposure to oil price shocks across consumers. Looking at past studies helps to determine the type of model to use in this study.

Overview

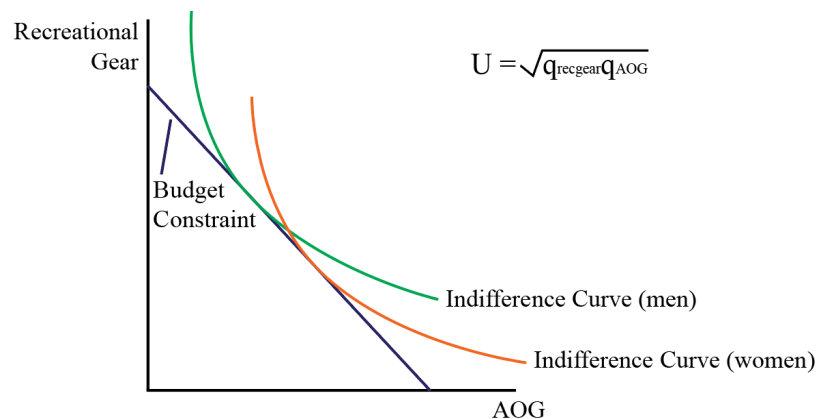
Allocating budget towards researching and designing female lines is a tricky topic. For there to be more high-performance, technical gear tailored to women's bodies, companies are first waiting to see if enough women buy men's or unisex products. It is a difficult cycle to break as women are also waiting for more female products (Weinberger,

2018; Powell, 2015). Because of this, it could be a better path to design unisex products rather than gender specific products. Gendering products may not help consumers make decisions. Instead, having more fit options would increase the likelihood that a product will fit most body types (Weinberger, 2018). If a sport is ignoring half of its potential participants it is not living up to its full potential (Lang, 2014). Creating more female and unisex lines would help female consumers find gear they love as well as help retailers reach their full potential by increasing sales and their customer base.

Theory

Consumers have a limited amount of income to spend on things they need and want. The utility function uses a set of numerical values to reflect the relative rankings of various bundles of goods. The relationship between utility measures and every possible bundle of goods is shown in the utility function. The indifference curve determines how much utility is gained from consuming specific bundles. We assume consumers maximize their utility subject to budget constraints. They want the optimal bundle, the bundle that gives them the highest indifference curve given their budget. In this model, we assume that consumers cannot save or borrow so a consumer's budget is determined using their current period income. The consumer's willingness to substitute is the marginal rate of substitution. This is the maximum amount of one good that a consumer is willing to sacrifice to obtain one more unit of another good. When looking at the utility function for the outdoor industry, it is best to have two indifference curves. The two indifference curves show the difference in spending behavior from men and women from the current perspective of most outdoor companies. This study is looking to see if these indifference curves should be closer than shown below.

Figure 4 Utility Function: Constrained Consumer Choice



Expenditure Equation

Consumers desire the combination of goods that achieves a particular level of utility for the least expenditure when utility maximizing. They want to minimize expenditure while holding utility constant. The following expenditure function shows the minimum expenditure necessary to achieve a specified utility level for a given set of prices.

$$E = E(p_{\text{recreational gear}}, p_{AOG}, U) \quad (3.1)$$

The main model appears as follows.

$$U = f(\text{income, total expenditures, sex, age, urban, region, race, family type,} \quad (3.2) \\ \text{own vacation home, education, year})$$

Data

Data were collected from the Consumer Expenditure Survey (CES) of the Bureau of Labor Statistics. The CES provides data from consumers in the United States with their expenditures, income and demographic characteristics through both interviews and written surveys. The survey variables were sorted through and data were collected from individuals in the categories of interest for this study. Below, Table 1 and Table 2 show the details of demographic characteristics by gender and expenditure types chosen for this study. Urban, race, gender and owning a vacation home are all represented through dummy variables in the data set. A one represents, female, white, urban and owning a vacation home while a zero represents the contrary. Categorical variables in the data set are age, family type, region and education. The variable outdoor recreation was created to include expenditures on hunting and fishing, camping, winter sports and water sports equipment. All other variables are numerical and are represented in 2018 dollars. The variables measured in dollars were adjusted for inflation using the CPI for the years 2012 through 2018. These variables were logged for a better fit when used in the model.

As seen in Table 1, the gender variable is relatively evenly distributed in the data set. This will be helpful when comparing female changes in spending over time. The distribution of demographic makeup throughout the survey is skewed towards urban and white. It is shown that family type is relatively evenly distributed between husband and wife only, married couples with children under 18, single consumers and all other family types while single parents with children under 18 is under represented. Regions are relatively evenly distributed with a slight skewness South. Very few people in the survey own a vacation home, less than 3 percent. In terms of education levels, just less than half

of the survey has a high school education or less. A little more than half have an associate, bachelor, masters, professional or doctorate degree. Overall, around 97,000 observations were in the data set.

Table 1 Demographic Makeup

Variable	Frequency	Percent
Female	50,686	47.73
Male	46,282	52.27
Total	96,968	100
Urban	91,825	94.70
Rural	5,143	5.30
Total	96,968	100
Husband & wife only	24,142	24.90
Married couple with children <18	19,393	20.00
Single parent with children <18	6,769	6.98
Single consumer	21,058	21.72
All other families	25,606	26.41
Total	96,968	100
White	76,398	78.79
Nonwhite	2,570	21.21
Total	96,968	100
Northeast	16,990	17.79
Midwest	20,366	21.33
South	34,924	36.58
West	23,205	24.30
Total	95,485	100
No vacation home	94,186	97.13
Own vacation home	2,782	2.87
Total	96,968	100
High school or less	45,456	46.88
Associate's degree	11,047	11.39
Bachelor's degree	24,293	25.05
Masters, professional, doctorate degree	16,172	16.68
Total	96,968	100

Figure 4 was created to show the demographic makeup of outdoor recreation participants (about 7,000) in the survey compared to the demographics of all survey participants (about 97,000). The outdoor participant demographics are relatively similar to the demographics reported in the Outdoor Participation Report (2018). For outdoor

recreation, there are slightly more males than females and majority of the individuals are between 25 and 65. This survey only used people ages 18 through 65. Individuals with a higher income appear to participate more in outdoor recreation than those with lower incomes. Education is spread out across different levels. Race plays a big role in outdoor participation as well with majority of individuals identifying as white.

Figure 5 Survey Demographics

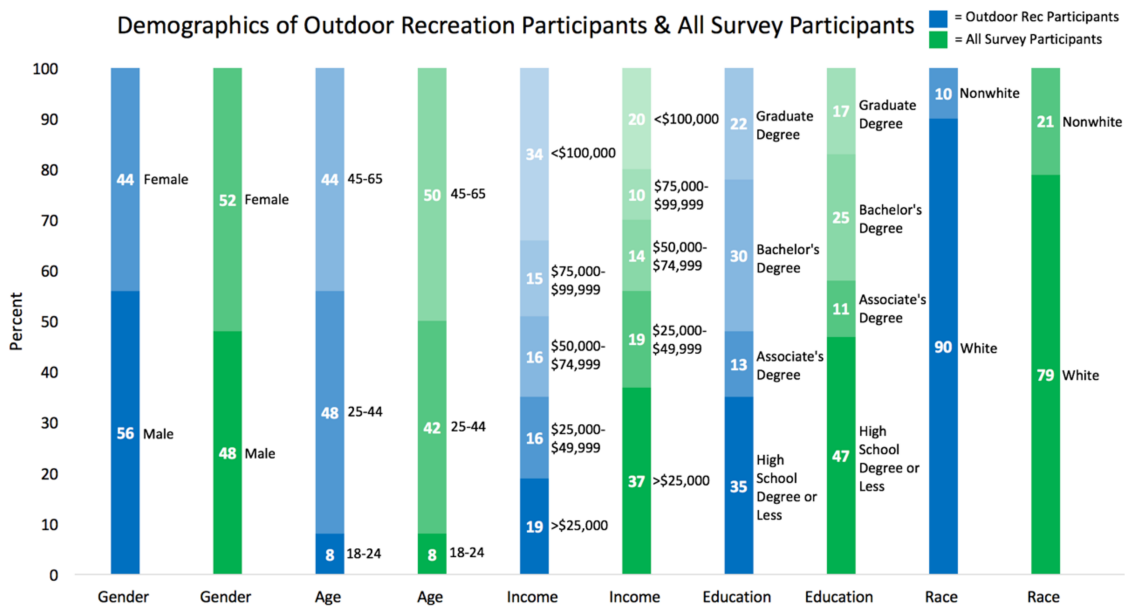


Table 2 compares male and female expenditures for each category chosen to analyze in this study. There is a wide range of income and total expenditures in this survey. In terms of the expenditure variables in specific categories there is a range from about 520 to 17,000 observations for each variable. Given my hypothesis that the number of women with expenditures in the outdoor industry has been increasing overtime to be equal to the number of men, I would expect to see the observations for females slightly lower in the outdoor recreation categories due to the fact it is data over six years. While the observations for women are slightly lower than men in camping equipment, winter sports equipment and other sports equipment, they are slightly higher for bicycles, water

sports equipment and recreational trips. There are about a third more men than women spending in hunting and fishing equipment. On average, more women spend money on recreational lessons than men. The active sportswear categories would be expected to not have large gender differences and they do not as men and women each spend more on themselves and buy for their children. Athletic gear, health club memberships and participant sports have a relatively equal amount from each gender spending which is to be expected.

In terms of how much on average men and women spend per category, women spent overall 19% less than men in outdoor recreation expenditures. This includes hunting and fishing, camping, winter sports and water sports equipment. Women spent slightly more than men on fees for recreational lessons but, this could be for their children. It is important to take note of the income difference for men and women. Men are earning on average \$10,000 more than women which means they have more income to spend on recreational activities if they choose. Using the data in this study, I found that women tend to spend 16% of their income while men spend 14%. Table 2 gives more detail on exactly how big the average differences in spending for each category are for men and women and show the demographic makeup of consumers in the survey.

Table 2 Variable List

Variable	Female Observations	Male Observations	Female Average (\$)	Male Average (\$)
Income	50,686	46,282	59,963	71,337
TotalExpenditures	50,686	46,282	9,365	10,116
MensActSportswear	924	1,516	67	67
BoysActSportswear	812	580	46	44
WomenActSportswear	3,175	1,584	78	71
GirlsActSportswear	1,216	768	45	48
AthleticGear	4,752	4,637	224	245
Bicycles	1,778	1,724	256	299

OutdoorRec	3,131	3,895	292	358
CampingEquip	1,144	1,179	166	173
HuntFishEquip	1,631	2,375	328	411
WinterSportsEquip	329	396	246	248
WaterSportsEquip	516	468	206	246
OtherSportsEquip	598	652	184	227
RecExpensesTrips	5,401	4,943	78	84
Memberships	8,523	8,808	347	352
FeesParticipantSports	4,908	5,330	285	293
ParticipantSportsTrips	2,337	2,413	193	190
FeesRecLessons	4,008	3,156	656	634
RentReparSportsEquip	232	288	191	157

*All detailed charts with variables and average spending per year are in Appendix 1

Results and Discussion

Ordinary least squares (OLS) regressions produced significant results with several explanatory variables in each model. OLS was run separately for females and males for the main category outdoor recreation and then for each category individually. To check for heteroskedasticity a white test was run on both the female and male regressions with outdoor recreation as the dependent variable. Both regressions passed by producing p-values that could fail to reject the null hypothesis of homoskedasticity (female p-value 0.2946; male p-value 0.4454). To check for omitted variables, a Ramsay Reset test was run on the regression using outdoor recreation as the dependent variable for both females and males. Both tests passed by producing p-values that could fail to reject the null hypothesis of no omitted variables (female p-value 0.1295; male p-value 0.7443). Table 3 contains all estimates from the models run on outdoor recreation, individual categories and recreational lessons. Coefficients bolded are statistically significant from the 70% confidence level. Coefficients bolded and italicized are statistically significant from the 90% confidence level. The exact regression used is shown below in equation 5.1.

$$\text{regress } \ln\text{income } \ln\text{totalexpenditures}, \text{ age, urban, region, race, familytype, } \quad (5.1) \\ \text{ownvacationhome, education, year}$$

Table 3 Regression Results with Dependent Variables

Independent Variable	Out. Rec.	Hunt & Fish Equip.	Camp Equip.	Winter Sports Equip.	Water Sports Equip.	Rec. Lessons
Income (F)	<i>0.1435</i>	<i>0.1726</i>	0.0510	<i>0.1906</i>	<i>0.2282</i>	<i>0.1324</i>
Income (M)	<i>0.1129</i>	<i>0.1289</i>	0.0218	<i>0.1570</i>	<i>0.2492</i>	<i>0.0594</i>
Total Expenditures (F)	<i>0.2634</i>	<i>0.3229</i>	<i>0.2221</i>	<i>0.4096</i>	0.0689	<i>0.2857</i>
Total Expenditures (M)	<i>0.3131</i>	<i>0.3203</i>	<i>0.2538</i>	0.0808	<i>0.1784</i>	<i>0.3056</i>
Age (F)	<i>-0.0028</i>	<i>-0.0057</i>	<i>-0.0059</i>	-0.0027	<i>0.0093</i>	<i>0.0043</i>

Age (M)	0.0008	-0.0010	-0.0009	0.0176	0.0073	0.0049
Urban (F)	-0.1275	-0.1394	0.0725	-0.4954	0.1127	0.5616
Urban (M)	-0.0565	-0.0283	0.0470	0.1185	-0.5423	0.1757
Midwest (F)	-0.0236	0.1346	-0.0568	-0.4545	-0.4554	-0.3349
Midwest (M)	-0.0357	0.0192	-0.0831	-0.3122	0.0750	-0.2746
South (F)	0.0559	0.2204	-0.0786	-0.1610	-0.1439	-0.2592
South (M)	0.1487	0.3056	-0.0420	-0.1418	-0.1057	-0.1968
West (F)	0.1481	0.3818	-0.0300	0.1279	-0.0635	-0.2295
West (M)	0.1656	0.2032	0.1453	0.1075	0.3166	-0.1923
Race (F)	0.2633	0.1791	0.1045	0.0282	0.4701	-0.0401
Race (M)	0.1939	0.1153	0.2273	0.0676	0.4253	-0.1827
Married w/ children (F)	-0.2119	-0.231	-0.2337	-0.1012	-0.315	0.4405
Married w/ children (M)	-0.1268	-0.1198	0.0220	-0.2607	-0.2734	0.3705
Single w/ children (F)	-0.4670	-0.4913	-0.3608	0.3476	-0.6153	0.3389
Single w/ children (M)	0.0293	0.1506	-0.0704	-0.5726	0.1611	0.4346
Single consumer (F)	-0.2338	-0.1923	-0.2849	-0.2579	-0.2285	0.1533
Single consumer (M)	0.0418	0.1155	-0.0665	0.1264	0.0493	0.1410
Other family types (F)	-0.4667	0.2744	-0.4371	0.1467	-0.6262	-0.0151
Other family types (M)	0.2527	0.3383	-0.1169	0.3907	0.3655	0.3642
Own vacation home (F)	0.3698	0.2008	0.3516	0.1633	0.2333	0.2112
Own vacation home (M)	0.1153	0.0769	0.0370	0.1402	0.0410	0.1357
Associate's degree (F)	0.2135	0.0957	0.2328	0.0113	0.3806	0.0992
Associate's degree (M)	0.1153	0.1805	0.1178	-0.1734	-0.2045	0.0588
Bachelor's degree (F)	0.0401	0.0567	-0.0051	0.2427	0.1223	0.2687
Bachelor's degree (M)	-0.0824	-0.0808	-0.0140	0.1308	0.0731	0.1974
Master's degree (F)	0.0360	-0.0846	0.0957	0.3862	-0.0274	0.3972
Master's degree (M)	-0.0626	0.0045	0.1102	0.0350	-0.0868	0.3514
Year (F)	0.0527	0.0754	0.0526	0.0269	-0.0691	0.1130
Year (M)	0.0433	0.0413	0.0195	0.0052	-0.0134	0.1051

*All detailed model results are in Appendix 1

Income and Expenditures

Looking at the results of outdoor recreation in addition to individual categories allows greater insight into the impact of gender and other characteristics on spending behaviors in the outdoor industry. The coefficients for dummy variables indicate how much higher or lower spending is on average for that group in relation to the reference group (.02=2% for example). The positive coefficients for expenditures and income can be read as elasticities. A 1% increase in expenditures or income leads to a beta percent increase in spending holding all other variables in the model constant. Overall, women tend to spend more than men in the outdoor industry when their income increases, holding total expenditures constant. This would mean that women are increasing their relative spending in the outdoor industry. Interestingly, men spent more than women in the outdoor industry when their total expenditures increased, holding income constant. This would mean that men are spending more of their expenditure increase in the outdoor industry than women.

For outdoor recreation, a 1% increase in income for women led to spending 0.14% more and for men spending 0.11% more yet as total expenditures increased by 1%, men spent 0.31% more and women spent 0.26% more. For hunting and fishing, as income increased by 1% women spent 0.17% more and men 0.13% more yet both men and women spent 0.32% more as their total expenditures increased. As total expenditures increased women spent 0.22% more and men 0.25% more on camping equipment. For winter sports equipment, women spent 0.19% more and men 0.16% more as income increased. As total expenditures increased women spent 0.40% more on winter sports equipment and it was not statistically significant for men. For water sports equipment,

women spent 0.23% more and men 0.25% more as income went up. Men spent 0.18% more on water sports equipment as their total expenditures increased. Women spent 0.13% more and men 0.06% more on recreational lessons as income increased. As total expenditures increased women spent 0.29% more and men 0.31% more on recreational lessons.

Individual Characteristics

Overall, age does not seem to have a huge impact on outdoor recreation or the individual categories. Even when statistically significant, the results are between 0% and 2% for both males and females. Living in an urban area led to less spending on outdoor recreation and individual categories when statistically significant. However, living in an urban area led to a higher percent of spending on recreational lessons for both males and females. It is notable that women spend 56% more on recreational lessons than women living in a rural area and for men it is 18% more. Race was found to be statistically significant in outdoor recreation, hunting and fishing, camping and water sports equipment. Being white led to a higher percentage of spending than nonwhite individuals. Race was also statistically significant in recreational lessons for men. Results showed that on average white men spend 18% less on lessons than nonwhite men. Owning a vacation home leads to higher spending for females in outdoor recreation by 37%, in hunting and fishing by 20% and in camping by 35%. Owning a vacation home leads to an increase in outdoor recreation spending of 12% for males, but is not statistically significant for individual categories. Both men and women have increased spending in recreation lessons when they own a vacation home.

Family Type

Family type leads to changes in spending behavior for both men and women. Spending patterns in each family type are compared to spending patterns of those married without children. Being married with children under 18 led women to spend 21% less on outdoor recreation, 23% less on hunting and fishing, 23% less on camping equipment and 32% less on water sports equipment than a woman married without children. For men, being married with children led to spending 13% less on outdoor recreation, 12% less on hunting and fishing equipment, 26% less on winter sports equipment and 27% less on water sports equipment than a married man with no children. When both male and female categories are statistically significant, women tend to spend even less than men in outdoor recreation and individual categories. Women spend 44% more on recreation lessons while men 37% more compared to those married with no children.

Being single with children under 18 does not produce statistically significant results for males in outdoor recreation or the individual categories. For women, being single and having children led to spending 47% less on outdoor recreation, 49% less on hunting and fishing, 36% less on camping equipment, 35% more on winter sports equipment and 62% less on water sports equipment. Single women with children spend 34% more on recreation lessons while single men with children spend 43% more compared to married individuals with no children.

Single consumer regression results show that generally single women spend less than married women on outdoor recreation. In outdoor recreation, single women spend 23% less, in hunting and fishing 19% less, in camping equipment 28% less and in water sports equipment 23% less. For men, the only statistically significant category is hunting

and fishing where they spend 12% more than married men. Both female and male single consumers spend about 15% more on recreational lessons than those who are married.

Overall, women who are single with children or single consumers spend less than men in the same categories and less than married women without children. Being single with or without children generally does not affect male spending in the outdoor industry.

Education

Spending behavior tends to change based on an individual's education level. The regression results compare those with specific college degrees to those with a high school education or less. For women, having an associate's degree increases spending in outdoor recreation by 21%, in camping equipment by 23% and in water sports equipment by 38%. For men, it increases spending in outdoor recreation by 12% and in hunting and fishing by 18%. Women with an associate's degree increase spending in recreation lessons by 10% while for men it is not statistically significant.

Spending patterns for individuals with a bachelor's degree are not greatly affected. The only category statistically significant for women is winter sports equipment where their spending is increased by 24%. For men with a bachelor's degree, their outdoor recreation and hunting and fishing spending are both decreased by 8%. Spending on recreational lessons is increased by 27% for women and 20% for men.

Those with a masters, doctorates or professional degree also do not have many significant changes in spending patterns. For women, the only statistically significant category is winter sports equipment where they spend 39% more. For men, the only statistically significant category is camping equipment where they spend 11% more. When it comes to recreation lessons, women spend 40% more and men 35% more. The

biggest trend in education levels appears to be the more education an individual has the more they spend on recreational lessons.

Year

The year variable shows on average how much the spending for each gender has changed per year from 2012 through 2018. In each category that both male and female regressions are statistically significant the growth of the amount women spend per year outpaces the growth of the amount men spend per year. For outdoor recreation, every year women have spent 5% more than the previous year while men 4% more. For hunting and fishing women have spent 8% more each year while men 4%. For camping equipment women spent 5% more each year and men 2% more. Winter sports equipment was not statistically significant for either gender. Water sports equipment showed a 7% decrease each year for women and was not statistically significant for men. Recreation lessons show women spend 11% more each year and men spend 10.5% more each year. Overall, these results show that the outdoor industry is growing every year. The industry is growing more quickly for women than men overall and in most individual categories.

Female Spending

Running each regression with the sex variable rather than separately for males and females showed the percent women spent compared to men in each category. The regression results are shown in Table 4 and are an average of spending for the years 2012 through 2018. The results were statistically significant at or above the 90% confidence interval in every category except recreational lessons. The coefficients show that women spent around 22% less than men in outdoor recreation and all individual categories except for camping equipment where women spent 10% less.

Table 4 Gender Differences with Dependent Variables

Dependent Variable	Coefficient
Outdoor Recreation	<i>-0.2263</i>
Hunting & Fishing Equipment	<i>-0.2185</i>
Camping Equipment	<i>-0.0964</i>
Winter Sports Equipment	<i>-0.2165</i>
Water Sports Equipment	<i>-0.2398</i>
Fees on Recreational Lessons	-0.0188

*All detailed model results are in Appendix 1

Discussion

The detailed regression results in Table 3 show that women are increasing their spending in the outdoor industry over time faster than men. Table 4 showed that on average women spent less than men in the outdoor industry from the years 2012 through 2018. Being able to compare the two tables shows exactly what this study testing for. It is well known that men are spending more than women in the outdoor industry and historically have been. Yet, it is less known that women are becoming more involved every year and to what extent. Having the data to show that the growth of female spending over time outpaces the growth of male spending will lead to more support of women in the outdoor industry in the future.

Women who are single consumers tend to spend less in outdoor recreation and individual categories than women who are married without children. Men who are single consumers generally do not spend differently than married men without children. This suggests that women are indeed facing barriers to participation. Married women are spending more in these categories likely due to participating in outdoor recreation with their husbands. Single women are spending less than single men for a variety of potential reasons. Some of the reasons could include gender stereotypes and intimidation due to a

lack of female representation in the media and a general feeling of masculinity in the outdoors. Encouraging equal rates of participation by continuing to grow the amount women participate in outdoor recreation will lead to gender equality in the outdoor industry and continued increases in female spending.

Conclusion

Implications

The results of this study show that female spending in the outdoor industry is growing at a higher rate each year than male spending. Not surprisingly, women are still spending less than men overall. As suggested in the literature review and shown in the results, the outdoor industry is growing every year and the area for the most significant growth is through female consumers. Every year women are participating more in outdoor recreation and therefore also spending more on equipment. Changes from 2012 through 2018 in gender stereotypes, media and female leadership have led to growth in female outdoor recreation. Continued growth will be dependent on supporting women in the outdoors by breaking down barriers to participation. Equal pay and more women in leadership positions have been shown to improve the growth of women in the outdoor industry and continuing to strive for this will benefit both consumers and retailers.

This is an opportunity for companies in the outdoor industry to encourage more women to participate in outdoor recreation and in turn receive more revenue from this group of consumers. Breaking down the barriers of participation that stem from gender stereotypes and an overall feeling of masculinity in the outdoors will improve the quality of the outdoor industry in general. Creating more technical female and unisex products while avoiding the ‘shrink it and pink it’ technique along with better marketing strategies aimed specifically at women will lead to more access, awareness and participation which will in turn lead to higher spending in the outdoor industry. The inclusion of women in the outdoor industry through leadership, media, equal pay and equipment options is essential for the industry to reach its full potential.

Further Research

This study uses data from the Consumer Expenditure Survey meaning that majority of people in the survey do not participate in outdoor recreation. In addition, the categories for outdoor recreation are broad and limited. In the future, it would be beneficial to use data pulled from specific outdoor recreation surveys. Being able to look at the changes in participation of females in specific outdoor sports over time would improve the results and give better insights into market trends.

The model lacked a variable for having a family member involved in outdoor recreation which could influence an individual's decision to participate. Having this variable could lead to interesting results around the implication of having outdoor recreation around in an individual's life and how that changes their spending patterns.

Repeating this study and looking at actual participation rates instead of changes in dollars spent over time could lead to significant results. Looking at company specific data could show changes in spending with regards to specific outdoor products for genders over time. It is important to continue to study the impacts of gender in the outdoor industry to continue growing gender equality in outdoor recreation to benefit both consumers and retailers.

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Appendix 1

Regression 1 Outdoor Recreation, Female

lnoutdoorrec	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1435683	.0260343	5.51	0.000	.0925201	.1946166
lnTOTEXP	.2634844	.0347625	7.58	0.000	.1953219	.3316469
AGE_REF	-.0028312	.0023446	-1.21	0.227	-.0074285	.001766
BLS_URBN	-.1275951	.0857728	-1.49	0.137	-.2957787	.0405884
REGION						
2	-.0236714	.0786411	-0.30	0.763	-.1778711	.1305283
3	.0559493	.0784436	0.71	0.476	-.0978633	.2097618
4	.1481861	.076711	1.93	0.053	-.002229	.2986012
REF_RACE	.2633283	.0829477	3.17	0.002	.1006841	.4259725
FAM_TYPE						
2	-.2119995	.0671903	-3.16	0.002	-.3437464	-.0802526
3	-.4670399	.1076859	-4.34	0.000	-.6781908	-.2558891
4	-.2338362	.0749405	-3.12	0.002	-.3807799	-.0868926
5	-.4667083	.0924955	-5.05	0.000	-.6480737	-.2853429
OWNVACC	.3698061	.1135241	3.26	0.001	.1472078	.5924044
HIGH_EDU						
2	.213506	.0794297	2.69	0.007	.0577599	.369252
3	.0401058	.0627354	0.64	0.523	-.0829061	.1631176
4	.0360141	.0717281	0.50	0.616	-.1046306	.1766589
Year	.052788	.0124611	4.24	0.000	.0283543	.0772217
_cons	-105.5803	25.09634	-4.21	0.000	-154.7892	-56.37129

Regression 2 Outdoor Recreation, Male

lnoutdoorrec	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1129184	.0213606	5.29	0.000	.0710378	.154799
lnTOTEXP	.3131986	.0319148	9.81	0.000	.250625	.3757722
AGE_REF	.0008863	.0019577	0.45	0.651	-.0029522	.0047247
BLS_URBN	-.0565194	.0891997	-0.63	0.526	-.2314087	.1183699
REGION						
2	-.0357379	.0749925	-0.48	0.634	-.1827717	.1112959
3	.1487439	.0725325	2.05	0.040	.0065332	.2909546
4	.1656518	.072808	2.28	0.023	.0229009	.3084028
REF_RACE	.1939023	.0736467	2.63	0.009	.049507	.3382976
FAM_TYPE						
2	-.1268876	.0618254	-2.05	0.040	-.2481054	-.0056697
3	.0293974	.1458211	0.20	0.840	-.2565065	.3153013
4	.0418091	.0717	0.58	0.560	-.0987694	.1823877
5	.2527212	.0683492	3.70	0.000	.1187125	.38673
OWNVACC	.1153671	.1036869	1.11	0.266	-.0879263	.3186606
HIGH_EDU						
2	.1153799	.0741608	1.56	0.120	-.0300234	.2607833
3	-.0824096	.0574039	-1.44	0.151	-.1949585	.0301393
4	-.0626408	.0663807	-0.94	0.345	-.1927899	.0675083
Year	.0433612	.0113081	3.83	0.000	.02119	.0655324
_cons	-86.79209	22.77238	-3.81	0.000	-131.4407	-42.14347

Regression 3.Hunting and Fishing Equipment, Female

lnHuntFish~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1726532	.0388963	4.44	0.000	.0963537	.2489526
lnTOTEXP	.3229735	.0502268	6.43	0.000	.2244481	.4214989
AGE_REF	-.0057588	.0033808	-1.70	0.089	-.0123907	.0008731
BLS_URBN	-.1394633	.1101353	-1.27	0.206	-.355506	.0765795
REGION						
2	.134675	.1165197	1.16	0.248	-.0938914	.3632413
3	.2204313	.1167906	1.89	0.059	-.0086664	.4495291
4	.3818215	.1201941	3.18	0.002	.1460474	.6175956
REF_RACE	.1791783	.1276947	1.40	0.161	-.071309	.4296657
FAM_TYPE						
2	-.2310034	.0937015	-2.47	0.014	-.4148093	-.0471974
3	-.4913308	.1825089	-2.69	0.007	-.8493425	-.1333192
4	-.1923528	.1052131	-1.83	0.068	-.3987401	.0140345
5	-.2744668	.1524363	-1.80	0.072	-.5734877	.024554
OWNVACC	.2008734	.1479715	1.36	0.175	-.0893894	.4911361
HIGH_EDU						
2	.0957248	.1039835	0.92	0.357	-.1082505	.2997001
3	.0567033	.0903101	0.63	0.530	-.1204501	.2338567
4	-.084654	.1080571	-0.78	0.434	-.29662	.127312
Year	.0754245	.0180459	4.18	0.000	.0400256	.1108235
_cons	-151.8962	36.33654	-4.18	0.000	-223.1744	-80.61803

Regression 4 Hunting and Fishing Equipment, Male

lnHuntFish~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1289281	.0290031	4.45	0.000	.0720499	.1858063
lnTOTEXP	.3203691	.0437595	7.32	0.000	.2345519	.4061862
AGE_REF	-.0010615	.0025603	-0.41	0.678	-.0060825	.0039596
BLS_URBN	-.0283239	.1087848	-0.26	0.795	-.2416628	.185015
REGION						
2	.0192489	.1033538	0.19	0.852	-.1834392	.2219371
3	.3056015	.099921	3.06	0.002	.1096454	.5015576
4	.2032815	.1058274	1.92	0.055	-.0042575	.4108206
REF_RACE	.115373	.1050634	1.10	0.272	-.0906679	.3214139
FAM_TYPE						
2	-.1198306	.0865515	-1.38	0.166	-.2895677	.0499064
3	.15069	.1959723	0.77	0.442	-.2336331	.5350131
4	.1155688	.0950041	1.22	0.224	-.0707446	.3018822
5	.338316	.0905732	3.74	0.000	.160692	.5159399
OWNVACC	.076966	.149743	0.51	0.607	-.2166963	.3706284
HIGH_EDU						
2	.1805632	.0939233	1.92	0.055	-.0036307	.3647572
3	-.080872	.0776199	-1.04	0.298	-.233093	.0713491
4	.004529	.0961506	0.05	0.962	-.1840328	.1930908
Year	.0413241	.0156402	2.64	0.008	.010652	.0719963
_cons	-82.82918	31.50017	-2.63	0.009	-144.6045	-21.05391

Regression 5 Camping Equipment, Female

lnCampingE~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.051051	.034252	1.49	0.136	-.0161607	.1182627
lnTOTEXP	.2221386	.0475698	4.67	0.000	.1287938	.3154834
AGE_REF	-.0059318	.003108	-1.91	0.057	-.0120305	.0001669
BLS_URBN	.0725856	.126046	0.58	0.565	-.174751	.3199222
REGION						
2	-.0568256	.1128334	-0.50	0.615	-.2782353	.1645842
3	-.0786882	.1132641	-0.69	0.487	-.3009433	.1435669
4	-.030049	.1045104	-0.29	0.774	-.2351269	.1750288
REF_RACE	.1045562	.1071217	0.98	0.329	-.1056457	.3147581
FAM_TYPE						
2	-.2337842	.0947002	-2.47	0.014	-.4196118	-.0479567
3	-.3608854	.1371706	-2.63	0.009	-.6300514	-.0917194
4	-.2849905	.101871	-2.80	0.005	-.4848891	-.0850919
5	-.43718	.1208023	-3.62	0.000	-.6742271	-.2001329
OWNVACC	.3516227	.1799081	1.95	0.051	-.0014059	.7046513
HIGH_EDU						
2	.2328022	.1121775	2.08	0.038	.0126795	.4529248
3	-.0051079	.0862086	-0.06	0.953	-.1742727	.1640568
4	.095744	.0956594	1.00	0.317	-.0919657	.2834537
Year	.0526062	.0171353	3.07	0.002	.0189819	.0862304
_cons	-103.8691	34.5182	-3.01	0.003	-171.6032	-36.13499

Regression 6 Camping Equipment, Male

lnCampingE~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.021804	.030937	0.70	0.481	-.0389009	.0825089
lnTOTEXP	.2538748	.0452842	5.61	0.000	.1650176	.3427321
AGE_REF	-.0009194	.0028998	-0.32	0.751	-.0066094	.0047705
BLS_URBN	.0470025	.158864	0.30	0.767	-.2647221	.3587271
REGION						
2	-.0831838	.1118449	-0.74	0.457	-.3026471	.1362795
3	-.0420506	.1053153	-0.40	0.690	-.2487015	.1646002
4	.1453268	.0987577	1.47	0.141	-.0484567	.3391102
REF_RACE	.2273397	.0991053	2.29	0.022	.0328742	.4218053
FAM_TYPE						
2	.0220284	.0866457	0.25	0.799	-.1479888	.1920455
3	-.0704793	.2201388	-0.32	0.749	-.5024381	.3614795
4	-.0665377	.1003267	-0.66	0.507	-.2633999	.1303244
5	-.1169425	.0992916	-1.18	0.239	-.3117736	.0778885
OWNVACC	.0370541	.1440159	0.26	0.797	-.2455355	.3196437
HIGH_EDU						
2	.1178366	.1139562	1.03	0.301	-.1057695	.3414427
3	-.0140611	.0813932	-0.17	0.863	-.1737717	.1456496
4	.11027	.0907616	1.21	0.225	-.0678233	.2883633
Year	.0195188	.0158316	1.23	0.218	-.0115461	.0505836
_cons	-37.61234	31.87932	-1.18	0.238	-100.1663	24.94161

Regression 7 Winter Sports Equipment, Female

lnWinterSp~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.190691	.0952124	2.00	0.046	.0033014	.3780805
lnTOTEXP	.4096463	.1083642	3.78	0.000	.1963725	.6229202
AGE_REF	-.0027508	.0089647	-0.31	0.759	-.0203944	.0148928
BLS_URBN	-.4954156	.3127475	-1.58	0.114	-1.110941	.1201094
REGION						
2	-.4545746	.2126742	-2.14	0.033	-.8731433	-.0360059
3	-.1610005	.2650115	-0.61	0.544	-.6825753	.3605744
4	.1279024	.1912702	0.67	0.504	-.2485406	.5043454
REF_RACE	.0282438	.2684321	0.11	0.916	-.5000631	.5565508
FAM_TYPE						
2	-.1012623	.2115109	-0.48	0.632	-.5175414	.3150167
3	.3476786	.2968618	1.17	0.242	-.2365814	.9319386
4	-.2579931	.2799478	-0.92	0.358	-.8089644	.2929782
5	.1467349	.2962917	0.50	0.621	-.4364031	.7298729
OWNVACC	.1633163	.3345427	0.49	0.626	-.4951043	.8217369
HIGH_EDU						
2	.011377	.3395478	0.03	0.973	-.6568944	.6796484
3	.2427906	.2091562	1.16	0.247	-.1688543	.6544354
4	.3862761	.2244765	1.72	0.086	-.0555209	.8280731
Year	.0269012	.0406504	0.66	0.509	-.0531037	.1069062
_cons	-55.23307	81.8035	-0.68	0.500	-216.2323	105.7661

Regression 8 Winter Sports Equipment, Male

lnWinterSp~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
lnInc	.1570524	.0697261	2.25	0.025	.0199162 .2941887
lnTOTEXP	.0808038	.0900407	0.90	0.370	-.0962869 .2578945
AGE_REF	.0176409	.0065865	2.68	0.008	.0046867 .030595
BLS_URBN	.1185968	.3176531	0.37	0.709	-.5061584 .743352
REGION					
2	-.3122957	.1884873	-1.66	0.098	-.6830097 .0584182
3	-.1418913	.2164524	-0.66	0.513	-.5676066 .283824
4	.107548	.168564	0.64	0.524	-.2239812 .4390771
REF_RACE	.0676198	.1954909	0.35	0.730	-.3168686 .4521082
FAM_TYPE					
2	-.2607468	.1671916	-1.56	0.120	-.5895766 .0680829
3	-.5726511	.3683543	-1.55	0.121	-1.297125 .1518224
4	.1264812	.2318641	0.55	0.586	-.3295455 .5825078
5	.3907624	.2170544	1.80	0.073	-.0361368 .8176616
OWNVACC	.1402709	.2312013	0.61	0.544	-.3144523 .5949941
HIGH_EDU					
2	-.173443	.2859179	-0.61	0.544	-.7357818 .3888959
3	.1308714	.1787056	0.73	0.464	-.2206041 .4823469
4	.0350472	.1870515	0.19	0.851	-.3328429 .4029373
Year	.0052904	.032443	0.16	0.871	-.058518 .0690989
_cons	-9.254124	65.34959	-0.14	0.887	-137.7827 119.2744

Regression 9 Water Sports Equipment, Female

lnWaterSpo~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.2282607	.0804608	2.84	0.005	.0701418	.3863796
lnTOTEXP	.0689542	.0973184	0.71	0.479	-.1222928	.2602012
AGE_REF	.0093543	.006812	1.37	0.170	-.0040324	.0227411
BLS_URBN	.1127907	.2912467	0.39	0.699	-.459558	.6851395
REGION						
2	-.4554015	.2054198	-2.22	0.027	-.8590861	-.0517169
3	-.1439064	.2020278	-0.71	0.477	-.5409251	.2531124
4	-.0635474	.1919108	-0.33	0.741	-.4406844	.3135897
REF_RACE	.4701189	.2164641	2.17	0.030	.0447305	.8955074
FAM_TYPE						
2	-.3150997	.1890587	-1.67	0.096	-.6866319	.0564326
3	-.6153279	.2880813	-2.14	0.033	-1.181456	-.0491997
4	-.2285669	.2194679	-1.04	0.298	-.6598583	.2027246
5	-.626274	.2506262	-2.50	0.013	-1.118797	-.1337513
OWNVACC	.2333078	.3177462	0.73	0.463	-.3911171	.8577326
HIGH_EDU						
2	.3806248	.2300676	1.65	0.099	-.0714968	.8327463
3	.1223952	.1753733	0.70	0.486	-.2222429	.4670332
4	-.0274352	.190409	-0.14	0.885	-.4016209	.3467505
Year	-.0691447	.0322212	-2.15	0.032	-.1324648	-.0058247
_cons	139.6954	64.89595	2.15	0.032	12.16391	267.2269

Regression 10 Water Sports Equipment, Male

lnWaterSpo~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.2492222	.0714019	3.49	0.001	.1088575 .3895869	
lnTOTEXP	.178446	.1006701	1.77	0.077	-.0194551 .3763471	
AGE_REF	.0073379	.0062206	1.18	0.239	-.0048908 .0195665	
BLS_URBN	-.542305	.3508221	-1.55	0.123	-1.231965 .1473545	
REGION						
2	.0750447	.2448999	0.31	0.759	-.406389 .5564784	
3	-.1057578	.2267354	-0.47	0.641	-.5514829 .3399673	
4	.3166875	.2249128	1.41	0.160	-.1254548 .7588299	
REF_RACE	.4253678	.216099	1.97	0.050	.000552 .8501835	
FAM_TYPE						
2	-.2734926	.1750005	-1.56	0.119	-.6175154 .0705303	
3	.1611005	.4483771	0.36	0.720	-.7203365 1.042537	
4	.0493812	.2323461	0.21	0.832	-.4073738 .5061361	
5	.3655864	.2122513	1.72	0.086	-.0516654 .7828382	
OWNVACC	.0410643	.3018668	0.14	0.892	-.5523571 .6344858	
HIGH_EDU						
2	-.2045262	.2591052	-0.79	0.430	-.7138853 .3048329	
3	.0731179	.1825948	0.40	0.689	-.285834 .4320698	
4	-.0868087	.1970185	-0.44	0.660	-.4741154 .3004979	
Year	-.013407	.0328016	-0.41	0.683	-.0778897 .0510758	
_cons	26.69805	66.04864	0.40	0.686	-103.1429 156.539	

Regression 11 Fess on Recreational Lessons, Female

lnFeesRecl~s	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1324064	.0195864	6.76	0.000	.094005	.1708078
lnTOTEXP	.2857627	.0277015	10.32	0.000	.2314508	.3400747
AGE_REF	.0043768	.0020328	2.15	0.031	.0003913	.0083623
BLS_URBN	.5616567	.103175	5.44	0.000	.3593705	.7639429
REGION						
2	-.3349401	.0569705	-5.88	0.000	-.4466372	-.2232429
3	-.2592735	.0557109	-4.65	0.000	-.3685011	-.1500459
4	-.2295363	.0526212	-4.36	0.000	-.3327061	-.1263666
REF_RACE	-.0401867	.0511943	-0.78	0.433	-.1405589	.0601856
FAM_TYPE						
2	.4405853	.0588151	7.49	0.000	.3252716	.555899
3	.3389682	.0758289	4.47	0.000	.1902972	.4876392
4	.1533978	.07076	2.17	0.030	.0146649	.2921308
5	-.0151153	.0810305	-0.19	0.852	-.1739847	.1437541
OWNVACC	.2112701	.0941013	2.25	0.025	.0267739	.3957662
HIGH_EDU						
2	.0992297	.0692124	1.43	0.152	-.0364691	.2349285
3	.2687622	.0533756	5.04	0.000	.1641134	.373411
4	.3972319	.054877	7.24	0.000	.2896393	.5048244
Year	.113079	.0100151	11.29	0.000	.0934433	.1327147
_cons	-227.2183	20.16383	-11.27	0.000	-266.7517	-187.6848

Regression 12 Fees on Recreational Lessons, Male

lnFeesRecL~s	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.0594837	.0189909	3.13	0.002	.0222465	.0967209
lnTOTEXP	.3056643	.0294545	10.38	0.000	.2479103	.3634184
AGE_REF	.0049553	.0021423	2.31	0.021	.0007547	.0091559
BLS_URBN	.1757266	.1288656	1.36	0.173	-.0769516	.4284048
REGION						
2	-.2746407	.0609505	-4.51	0.000	-.3941517	-.1551298
3	-.1968855	.0573571	-3.43	0.001	-.3093506	-.0844203
4	-.1923935	.05492	-3.50	0.000	-.3000801	-.084707
REF_RACE	-.1827554	.0526732	-3.47	0.001	-.2860364	-.0794744
FAM_TYPE						
2	.3705937	.0547812	6.76	0.000	.2631795	.4780079
3	.4346239	.1218515	3.57	0.000	.1956989	.6735488
4	.141083	.0761875	1.85	0.064	-.0083047	.2904706
5	.3642671	.0858286	4.24	0.000	.1959754	.5325588
OWNVACC	.1357954	.0809463	1.68	0.094	-.0229231	.2945138
HIGH_EDU						
2	.0588512	.0806998	0.73	0.466	-.099384	.2170865
3	.1974031	.0577895	3.42	0.001	.0840902	.310716
4	.3514364	.0602065	5.84	0.000	.2333842	.4694886
Year	.1051907	.0103473	10.17	0.000	.0849018	.1254796
_cons	-210.1852	20.8297	-10.09	0.000	-251.0278	-169.3425

Regression 13 Outdoor Recreation

lnoutdoorrec	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
lnInc	.1308692	.0165125	7.93	0.000	.0984991 .1632392
lnTOTEXP	.2947951	.0235641	12.51	0.000	.2486014 .3409888
SEX_REF	-.2263086	.0334904	-6.76	0.000	-.2919612 -.160656
AGE_REF	-.0009512	.0015009	-0.63	0.526	-.0038935 .0019912
BLS_URBN	-.1095544	.0620206	-1.77	0.077	-.2311358 .0120271
REGION					
2	-.0176002	.0544203	-0.32	0.746	-.1242825 .0890822
3	.1017391	.0533991	1.91	0.057	-.0029413 .2064196
4	.1633116	.0529725	3.08	0.002	.0594674 .2671558
REF_RACE	.23753	.0551429	4.31	0.000	.1294311 .3456288
FAM_TYPE					
2	-.155951	.045505	-3.43	0.001	-.2451562 -.0667458
3	-.268846	.0856738	-3.14	0.002	-.4367957 -.1008963
4	-.0912715	.0518042	-1.76	0.078	-.1928255 .0102824
5	.0197383	.0543028	0.36	0.716	-.0867137 .1261902
OWNVACC	.2416193	.076683	3.15	0.002	.0912946 .3919439
HIGH_EDU					
2	.1405447	.0542963	2.59	0.010	.0341055 .2469839
3	-.0517021	.0423454	-1.22	0.222	-.1347135 .0313093
4	-.0444631	.0486773	-0.91	0.361	-.1398872 .050961
Year	.044404	.0083889	5.29	0.000	.0279589 .0608491
_cons	-88.75477	16.89463	-5.25	0.000	-121.874 -55.63555

Regression 14 Hunting and Fishing Equipment

lnHuntFish~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1465342	.0231348	6.33	0.000	.1011753	.191893
lnTOTEXP	.3221436	.0330181	9.76	0.000	.2574071	.38688
SEX_REF	-.2185418	.0478592	-4.57	0.000	-.3123762	-.1247073
AGE_REF	-.0027564	.0020315	-1.36	0.175	-.0067394	.0012266
BLS_URBN	-.0911298	.0776856	-1.17	0.241	-.243443	.0611835
REGION						
2	.0698956	.0773993	0.90	0.367	-.0818562	.2216475
3	.2591852	.0760139	3.41	0.001	.1101495	.4082208
4	.2729657	.0796012	3.43	0.001	.1168967	.4290347
REF_RACE	.1539194	.0809972	1.90	0.057	-.0048867	.3127255
FAM_TYPE						
2	-.1550523	.0632908	-2.45	0.014	-.2791426	-.030962
3	-.1822677	.1333062	-1.37	0.172	-.4436327	.0790972
4	-.0225093	.070314	-0.32	0.749	-.1603694	.1153508
5	.1881815	.0755905	2.49	0.013	.0399759	.336387
OWNVACC	.1651668	.1053777	1.57	0.117	-.0414405	.3717741
HIGH_EDU						
2	.1295759	.0697456	1.86	0.063	-.0071699	.2663217
3	-.0399103	.0587817	-0.68	0.497	-.1551597	.0753392
4	-.0416851	.0716724	-0.58	0.561	-.1822086	.0988385
Year	.0535174	.0118471	4.52	0.000	.0302896	.0767453
_cons	-107.4481	23.85937	-4.50	0.000	-154.2276	-60.66856

Regression 15 Camping Equipment

lnCampingE~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.0380124	.0228174	1.67	0.096	-.0067346	.0827594
lnTOTEXP	.2371218	.0327106	7.25	0.000	.1729733	.3012703
SEX_REF	-.0964943	.0459511	-2.10	0.036	-.1866087	-.0063799
AGE_REF	-.0031783	.0021038	-1.51	0.131	-.0073041	.0009474
BLS_URBN	.0436852	.0977137	0.45	0.655	-.1479404	.2353108
REGION						
2	-.0573954	.0789062	-0.73	0.467	-.2121378	.0973471
3	-.0602052	.0769063	-0.78	0.434	-.2110257	.0906152
4	.0664229	.0715924	0.93	0.354	-.0739765	.2068223
REF_RACE	.1736689	.0724436	2.40	0.017	.0316003	.3157375
FAM_TYPE						
2	-.0950333	.0637635	-1.49	0.136	-.2200794	.0300128
3	-.2306486	.1124348	-2.05	0.040	-.4511436	-.0101535
4	-.1716906	.0709552	-2.42	0.016	-.3108403	-.0325409
5	-.2460974	.0756625	-3.25	0.001	-.3944785	-.0977162
OWNVACC	.1721722	.1123323	1.53	0.125	-.0481219	.3924663
HIGH_EDU						
2	.1683446	.0795805	2.12	0.035	.0122797	.3244094
3	-.0206583	.0587388	-0.35	0.725	-.1358506	.0945339
4	.0886369	.0653669	1.36	0.175	-.0395536	.2168273
Year	.0344388	.0115697	2.98	0.003	.0117495	.057128
_cons	-67.43927	23.30134	-2.89	0.004	-113.1354	-21.74318

Regression 16 Winter Sports Equipment

lnWinterSp~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1647682	.0567309	2.90	0.004	.0533728	.2761635
lnTOTEXP	.2265158	.0691751	3.27	0.001	.0906853	.3623463
SEX_REF	-.2165131	.098625	-2.20	0.028	-.4101708	-.0228553
AGE_REF	.0082707	.0053414	1.55	0.122	-.0022175	.0187588
BLS_URBN	-.2014733	.2200741	-0.92	0.360	-.6336055	.2306588
REGION						
2	-.33988	.1405035	-2.42	0.016	-.6157692	-.0639908
3	-.1744663	.1675198	-1.04	0.298	-.5034041	.1544715
4	.1120361	.1259896	0.89	0.374	-.135354	.3594262
REF_RACE	.0857972	.1600579	0.54	0.592	-.2284886	.400083
FAM_TYPE						
2	-.1557235	.1309566	-1.19	0.235	-.4128668	.1014197
3	.0654966	.2199438	0.30	0.766	-.3663797	.497373
4	-.036363	.1787723	-0.20	0.839	-.3873959	.3146699
5	.363761	.1747757	2.08	0.038	.0205757	.7069463
OWNVACC	.1333888	.1921096	0.69	0.488	-.243833	.5106105
HIGH_EDU						
2	-.1097044	.2191883	-0.50	0.617	-.5400973	.3206884
3	.1762808	.1359781	1.30	0.195	-.0907225	.4432841
4	.2171163	.1438288	1.51	0.132	-.0653024	.499535
Year	.0095467	.0253827	0.38	0.707	-.040294	.0593875
_cons	-18.73719	51.10648	-0.37	0.714	-119.0886	81.61426

Regression 17 Water Sports Equipment

lnWaterSpo~p	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.2583141	.0531122	4.86	0.000	.1540726	.3625556
lnTOTEXP	.1254399	.0698371	1.80	0.073	-.011627	.2625068
SEX_REF	-.239872	.0925048	-2.59	0.010	-.421428	-.058316
AGE_REF	.008535	.004581	1.86	0.063	-.0004559	.017526
BLS_URBN	-.2106252	.2223049	-0.95	0.344	-.6469356	.2256852
REGION						
2	-.1977731	.1572147	-1.26	0.209	-.5063331	.1107868
3	-.1188533	.150054	-0.79	0.429	-.4133594	.1756527
4	.140957	.145623	0.97	0.333	-.1448525	.4267664
REF_RACE	.454868	.151693	3.00	0.003	.1571453	.7525907
FAM_TYPE						
2	-.268212	.1284139	-2.09	0.037	-.5202456	-.0161784
3	-.3316491	.2303852	-1.44	0.150	-.7838184	.1205203
4	-.0447677	.1585034	-0.28	0.778	-.355857	.2663216
5	-.0379596	.1613014	-0.24	0.814	-.3545404	.2786213
OWNVACC	.1428727	.2187438	0.65	0.514	-.2864485	.5721939
HIGH_EDU						
2	.0453942	.1705619	0.27	0.790	-.289362	.3801504
3	.0796325	.1268489	0.63	0.530	-.1693297	.3285946
4	-.0907905	.1365211	-0.67	0.506	-.3587359	.177155
Year	-.0448084	.0230215	-1.95	0.052	-.0899918	.0003751
_cons	90.16019	46.36567	1.94	0.052	-.8401663	181.1605

Regression 18 Fees on Recreational Lessons

lnFeesRecl~s	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnInc	.1008922	.0136778	7.38	0.000	.0740793	.1277052
lnTOTEXP	.2973096	.0202468	14.68	0.000	.2576193	.3369999
SEX_REF	-.0188705	.0275346	-0.69	0.493	-.0728473	.0351062
AGE_REF	.0042699	.0014692	2.91	0.004	.0013897	.0071501
BLS_URBN	.4270616	.0802492	5.32	0.000	.2697472	.5843761
REGION						
2	-.3072802	.0417072	-7.37	0.000	-.38904	-.2255204
3	-.2323053	.0401533	-5.79	0.000	-.3110188	-.1535917
4	-.2097248	.0381221	-5.50	0.000	-.2844564	-.1349931
REF_RACE	-.0966904	.0368126	-2.63	0.009	-.1688552	-.0245257
FAM_TYPE						
2	.4042329	.0403539	10.02	0.000	.3251262	.4833396
3	.3272607	.0604295	5.42	0.000	.2087991	.4457223
4	.143304	.0515972	2.78	0.005	.0421568	.2444512
5	.1328867	.0586784	2.26	0.024	.0178579	.2479156
OWNVACC	.1597947	.0617833	2.59	0.010	.0386793	.2809101
HIGH_EDU						
2	.0800932	.0525703	1.52	0.128	-.0229617	.1831482
3	.232717	.0392444	5.93	0.000	.1557852	.3096489
4	.3735548	.0405195	9.22	0.000	.2941234	.4529862
Year	.1092805	.007228	15.12	0.000	.0951113	.1234496
_cons	-219.1069	14.55166	-15.06	0.000	-247.6329	-190.5809

Average dollar expenditures by gender and year for each variable.

Table 6 Income Adjusted for Inflation

Year	Male	Female	Difference
2012	69909	58303	11606
2013	67346	59118	8229
2014	69944	59766	10179
2015	71720	60410	11310
2016	76863	61785	15078
2017	77944	60167	17777
2018	81768	66237	15531
Average	73642	60827	12815

Table 7 Total Expenditures Adjusted for Inflation

Year	Male	Female	Difference
2012	10087	9307	780
2013	9644	9212	432
2014	9876	9212	664
2015	10142	9349	794
2016	10621	9735	886
2017	11138	9529	1609
2018	11004	10011	993
Average	10359	9479	880

Table 8 Percent of Income Spent

Year	Male	Female	Difference
2012	14%	16%	-2%
2013	14%	16%	-1%
2014	14%	15%	-1%
2015	14%	15%	-1%
2016	14%	16%	-2%
2017	14%	16%	-2%
2018	13%	15%	-2%
Average	14%	16%	-2%

Table 9 Outdoor Recreation Equipment

Year	Male	Female	Difference
2012	291	229	62
2013	329	279	50
2014	293	236	57
2015	453	367	86
2016	436	296	140
2017	390	348	42
2018	322	287	35
Average	359	292	67

Table 10 Hunting and Fishing Equipment

Year	Male	Female	Difference
2012	343	242	101
2013	398	321	77
2014	291	244	46
2015	506	398	109
2016	523	300	222
2017	445	450	-5
2018	354	386	-33
Average	408	334	73

Table 11 Camping Equipment

Year	Male	Female	Difference
2012	141	126	46
2013	150	152	-10
2014	237	149	11
2015	167	226	-35
2016	160	166	19
2017	200	178	1
2018	183	150	13
Average	384	378	6

Table 12 Winter Sports Equipment

Year	Male	Female	Difference
2012	305	190	116
2013	199	220	-21
2014	246	207	39
2015	318	268	50
2016	271	343	-72
2017	216	246	-30
2018	208	231	-23
Average	252	243	8

Table 13 Water Sports Equipment

Year	Male	Female	Difference
2012	198	258	-61
2013	201	196	5
2014	316	231	85
2015	328	238	90
2016	195	239	-44
2017	271	136	135
2018	221	161	60
Average	247	208	39

Table 14 Fees for Recreational Lessons

Year	Male	Female	Difference
2012	483	461	22
2013	442	457	-15
2014	445	507	-62
2015	904	827	77
2016	824	1034	-209
2017	1090	1023	67
2018	786	873	-87
Average	711	740	-30