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AN ESTIMATE OF THE ECONOMIC IMPACT OF UMD SUMMER SENIORS INDUSTRY IN DULUTH

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by Jerrold M. Peterson and Teresa Hines

During the Spring of 1989 the director of the Bureau of Business and Economic Research (BBER) agreed to set up a research study to assess the economic impact of the UMD senior's housing program during the Summer of 1989. The research study required the gathering of detailed expenditure data for the senior citizens involved in the 1989 summer housing program. To gather this data the BBER set up an entry level survey and an expenditure journal survey to be administered to participants in the senior housing program. The BBER identified 128 total participants in the senior program and collected an average of 13.44 expenditure journals representing 10.5 percent of the program participants. Those responsible maintained a detailed expenditure journal during their stay in Duluth. (For a detailed description of the survey and the survey results see Teresa Hines "Report on Summer Senior Renter Program" in the appendix.)

These survey results are the basis for estimating the direct economic impact of the senior program on the Duluth economy. In Table 1, the direct expenditures impact of Duluth's UMD seniors on the Duluth economy are estimated to be \$369,853.44 in 1989. In addition, the UMD senior program paid \$155,443.20 to the university for rent (see Row 2). The total direct expenditure impact of the senior's program is the sum of these two individual impact or \$525,296.64.

In addition to this direct impact, the program also generated an indirect expenditure impact derived from income paid to resource owners and their expenditures of this income on food, clothing and other products. The indirect impact of the seniors program is estimated using information from SIMLAB a highly sophisticated computer simulation model of the Duluth and regional economy. SIMLAB estimates the indirect impact of the program by determining the expenditures made by individuals and institutions that are employed by firms patronized by the seniors. For every dollar spent by the seniors in the Duluth economy another $.96 in expenditures is generated as indirect impact within the community. These expenditures represent everything from purchases made by retail clerks, and productive employees.

The indirect impact of the seniors program is shown in row 1, column 2 of Table 2 as $504,284.77. The total impact of the program is given as the sum of these direct and indirect impacts or $1,029,581.41. These expenditures resulted in yearly full time equivalent jobs for 23.03 people in Duluth with 3.48 people employed directly at UMD. The remaining 19.55 individuals employed are employed in various industries in the community from restaurants to gas stations.

Table 1

Estimated Direct Impact of UMD
1989 Summer Senior Tourist

Estimated Direct Expenditures		
128 couples	12 weeks @ $240.79	$ 369,853.44
Rental to UMD @ 2.76 month		
128 couples	$440	155,443.20
Total		$ 525,296.64

Source: Teresa Hines, "Report on Summer Senior Renter Program", Table 5, Working Paper No. 89-24.

Table 2

Estimated Direct and Indirect Impact of UMD 1989 Summer Senior Tourist on the Duluth Economy

	Direct Impact	Indirect Impact[1]	Total
Expenditure	$525,296.64	$504,284.77	$1,029,581.41
Duluth Employment	8.27	11.28	19.55
Full-time UMD	3.48	0.00	3.48
Total[2]	11.75	11.28	23.03

1. Estimated multiplier at 1.96, 1977 Input and Output Direct and Indirect Multiplier average annual wage $17,884, Selective Economic Data 1987, Table 10, p. 24.

2. Employment estimated at .4 of Total Impact

APPENDIX

APPENDIX 1

Report on Summer Senior Renter Program

Prepared for:

Jerrold M. Peterson, Professor and Acting Director

Prepared by:

Teresa Hines, Research Assistant

August 17, 1989

PROTOCOL

Two main sources of data collection were used in this study. The first source was a questionnaire that was handed out to summer residents as they checked into housing. The second source was a series of weekly expenditure journals. These journals were completed by residents who volunteered to take part in the study.

A package which included a cover letter, questionnaire, and expenditure journal were given to senior housing residents as they checked into housing. A sample of this package can be found in APPENDIX A-C. The letter explained the purpose of the study and asked residents for their participation. They were asked to read the cover letter and to complete the questionnaire. The questionnaire asked questions that would help predict why the residents chose to stay in UMD housing. The final question asked residents to look at an expenditure journal and decide if they would be willing to complete the weekly journals. The purpose of the expenditure journals was to predict how much money residents spent in the Duluth area. The Expenditure Journal in APPENDIX C has the variable names written in the spaces available for responses. This information was to indicate the economic impact the senior summer housing residents have on Duluth.

The residents who agreed to take part in the study, received an expenditure journal every Friday. The journals were distributed through the Summer Housing Office. A list of resident's addresses along with the relevant journals were brought to the Summer Housing Office each Wednesday. This office distributed the surveys to the four apartment offices, where the surveys were placed in the proper mail boxes.

The residents were asked to return the surveys to the office in their apartment at the end of each week. The research assistant collected the completed surveys weekly.

Confidentiality was insured by never asking residents names. Mailings were done by addresses.

POPULATION

The population of this study was Summer Senior Residents living in UMD housing. There were a total of 128 apartments filled by senior residents during the Summer of 1989. These residents stayed in their apartments for 1 to 3 months. They came from various parts of the United states. Rent was $440 a month, which included 10 dining tickets that could be redeemed at the Resident Hall Dining Center (RHDC) for a meal.

SAMPLING ERRORS

The following section describes situations which may have biased the sample results.

The sample size was relatively small. Fifty-four of the 128 couples completed the questionnaire. Only 42% of the residents completed the questionnaire. The Summer Housing Office did not distribute surveys to all of the residents. This limited the study's sample size.

Another area for sampling error may have been the location of the Special Events Section on the expenditure journal. This section was located on the back of most of the journals. Few people indicated activities in this area. The cause may have been the location of the question or people may not have attended the events.

The expenditures may be under or overestimated.

The journal did not include medical expenses. Some respondents included these expenses in the "other" category. Medical expenses should have been included in the study. Many of the residents are staying in the Duluth because of their health.

QUESTIONNAIRE

Residents received and completed a questionnaire as they checked in at the Summer Housing Office. An example of the questionnaire can be found in APPENDIX B.

The purpose of the questionnaire was to obtain general information about the residents. The questionnaire asked questions related to the following....

-Where residents live?

-How often residents visit Duluth?

-How residents heard UMD housing was available for rental?

-Why residents chose to stay at UMD?

-Would residents visit Duluth if they couldn't stay at UMD?

-Would residents be willing to complete weekly expenditure journals?

Fifty-four of these questionnaires were completed by residents.

RESULT

TABLE 1 shows the permanent residence of the people who completed the survey. Forty-four percent of the seniors were from Florida, while twenty-six percent were from Arizona. Five couples were from areas within Minnesota, they made up nine percent of the sample.

Most of the people heard about UMD summer housing availability through friends and relatives (TABLE 2). Nine apartments were filled by past Duluth residents. Some of the seniors were previous summer residents of UMD Housing. Other people heard about the availability of apartments through the Sun City newspaper. The remaining people indicated television, or the alumni paper as being their source of information.

The two most frequently checked reasons for staying in UMD housing were its location and its proximity to friends and relatives (TABLE 3). People also chose to stay on-campus because they wanted to visit Duluth. Price and activities were checked by over thirty percent as being a reason for staying in UMD Housing. The Summer Housing Office plans special activities such as BINGO and picnics for the senior residents throughout the summer. The cool, comfortable Duluth weather was noted by over seven percent as a reason for visiting Duluth. People also liked

UMD's informal education and its close proximity to Minneapolis.

Thirty-nine couples indicated that they visit Duluth every summer (72.2%).

When asked if they would come to Duluth if they couldn't stay in UMD housing, sixty percent said they would. They indicated that they would stay with friends/relatives (37%) or at another apartment (15%).

A questionnaire showing a summary of the previously stated statistics can be found in APPENDIX D.

In summary, the majority of senior summer residents heard about UMD housing availability through friends and relatives. They are staying in housing because of its location and its close proximity to friends/relatives. If UMD housing was not available sixty percent of them would still visit Duluth, but they would stay with friends and/or relatives.

EXPENDITURE JOURNALS

The purpose of the expenditure journals was to determine how much money senior residents spent in Duluth during their stay. It was hoped that the expenditures would be an indicator of the economic impact the residents have on the city of Duluth. The journals asked residents to indicate how much money they spent and what they spent the money on. The journals also asked them to indicate what attractions they had visited in the Duluth area. A sample expenditure journal along with its variable names can be found in APPENDIX C. The journals consisted of four main categories. The categories were household expenditures, attractions, places visited, and special attractions.

The "household expenditure" category consisted of frequently purchased items. There were five subdivisions to household expenditures (transportation, retail sales, food and beverage, entertainment, and fitness activities).

"Attractions" included many of the common tourist spots in Duluth such as the Depot. Residents were asked to check any attractions they attended. This information was to be used to indicate what attractions draw the senior population.

The "places visited" category included potential places besides the attractions that residents could visit.

Each week many special events occur in Duluth. The "special attractions" section listed some of the events occurring in the Duluth area. Information for this section came from the Tweed Museum, Minnesota Repertory Theatre, and the Tourist Bureau. Residents were asked to indicate if they attended these events.

RESULTS

Residents who agreed to complete Expenditure Journals received them every week. They were allowed to stay in Housing for one to three months. Because departure dates were not noted, surveys may have been sent to apartments that were vacant.

Nine weeks of expenditure journals were distributed and collected. SPSSX was used to calculate statistics on the data. The statistics for each week can be found in APPENDIX F-N. From TABLE 4, number of surveys collected for each weekis shown. The data for the nine weeks was combined into one file and statistics were calculated for the weeks as a whole. Statistics for the combined weeks can be found in TABLE 5. A summary of the statistics generated from the expenditure journals can be found in APPENDIX E.

The mean value of expenditures, along with the standard deviation and number of cases are shown in TABLE 5. The mean dollar of expenditures is calculated by adding all the expenditures recorded and dividing by the number of journals that recorded the expense. If participants did not write a value in, it was considered a missing variable and not calculated into the mean. It was assumed that blank spaces meant that the people did not answer the question. This could be an incorrect assumption. People may have left the space blank to indicate they hadn't spent any money ($0) in that category. If this is the case, all the mean values would be overstated. Please note that none of the participants entered zeros for the categories they did not indicate a value for.

The standard deviation measures the dispersion of data within a data set. Sixty-seven percent of the responses are within plus or minus one standard deviation from the mean. The larger the standard deviation the greater the spread of expenditures.

"Cases" indicates the number of times a journal indicated a dollar figure for that category. There were a total of 120 expenditure journals completed.

Household expenditures is separated into five sections. The sections are-transportation, retail sales, food and beverages consumed outside the home, entertainment and fitness activities. Each section has an "other" category for people to fill in if a certain expense was not listed.

"Rental car" had the greatest mean value of $182. The large standard deviation indicates a large variation in the responses. Some people may have recorded their total rental fee under one week, while others may have divided it up by week. Auto repairs had a mean of $48 and a standard deviation of $45. People recorded expenses in this category thirteen times. Some may have considered automotive oil under this title while others only recorded auto repairs performed by a mechanic. This explains the large deviation. Gas expenses were recorded one hundred five times. The mean was $18 a week. Taxi expenses were recorded only three times. It is clear that this is not a major source of transportation for the residents. One person recorded the purchase of a car for $17,369. This did not specifically fit into any of the categories listed.

The "retail sales" section included these categories-gifts, miscellaneous, souvenirs, apparel, groceries, and other. Gifts has a very large standard deviation ($302). The reason for this variation may have been a recording of gift expenses equal to $2,000. The miscellaneous category had a mean of $23. It was expected that people would include items like paper towels, toilet paper, cleaning supplies and other similar items here. This category should have been more clearly defined. Souvenirs has a mean expenditure value of $21 with a standard deviation of $16.

Only 9 out of the 120 collected surveys had recordings in this area. Over 40% of the surveys showed people purchasing apparel. The mean value of this expenditure was $59. Grocery expenses were recorded on all except 10 journals. This was an important expense category. The average grocery expense was $63 per week. The standard deviation of $46 indicates that the majority of people spent between $17 and $109 a week on groceries.

"Food and Beverage Consumed Outside the Home" consisted of 3 categories. They were drinking establishments, UMD dining center, and restaurant expenses. The average expense at a drinking establishment was $17. The standard deviation of $17 indicates that the majority of times people spent money at a drinking establishment there was a bill between $0 and $34. Almost half of the journals showed expenses at the UMD dining center. The mean expense was $27. Respondents indicated expenses at a restaurant 87 times. The mean bill per week was $42.

The entertainment section consisted of activities the seniors could take part in for entertainment. Movies was the most popular form of entertainment. The mean movie expense was $10. Cable was also popular. The mean expense for cable television was $37. Theater was fairly popular; it had a mean expenditure value of $21. Concerts, arena activities, and special trips had less than 10 journal entries.

Golf was the most frequently listed fitness activity expense. The mean expense for golf was $16. Tennis had a mean expense of $21 while bowling had a mean of $4.

There was not a clear category for medical expenses. Many people listed these expenses under "other". Each journal was analyzed to pick out the medical expenses. There were 11 cases where medical expenses were recorded. One journal showed a $19,634 operation and medical expense. The average medical expense not including the operation was $634, when the operation was included the average expense was $1,784.

The second part of the Expenditure Journal asked people to indicate attractions they had attended. A summary for the nine weeks can be found in TABLE 6. People placed check marks next to the attractions they had attended. The Aerial Lift Bridge and Ship Canal along with the North Shore Drive were attended 47 times. Skyline Drive was also popular with 37 times. Park Point Beach was checked 35 times. The Depot received 15 checks, this was very close to Enger Tower which had 13 checks. The less attended attractions were Spirit Mountain, foreign vessels, Vista Harbor Cruises, Glensheen, chartered fishing boats, airport, ore docks, and the Lake Superior Zoo.

The third part of the journal asked respondents to indicate places they had visited over the week. Friends/relatives were checked most frequently (82 times). TABLE 6 shows the results of this section. Superior Wisconsin was visited 48 times by respondents. The North Shore received 39 checks.

The forth part of the journal was the Special Events section. Very few people responded to this section. Plays by the Minnesota Repertory Theater received the greatest responses. "Cat on a Hot tin Roof" was marked four times, "Anything Goes" was marked seven times, and "Division Street" was marked two times.

Table 1

Permanent Residence

State	Frequency	% of Total
Florida	24	44.4
Arizona	14	25.9
Minnesota	5	9.3
Not listed	3	5.6
Nevada	1	1.9
New Jersey	1	1.9
Texas	1	1.9
Missouri	1	1.9
Oregon	1	1.9
Arkansas	1	1.9
Wisconsin	1	1.9

Table 2

How People Heard About UMD Housing Availability

Source of Information	Frequency
Friends/Relatives	24
Past Duluth Resident	9
Paper, Sun City	6
Previous Housing Resident	3
Television	1
Alumni Paper	1
Act Director	1

Table 3

Reasons for Choosing UMD Housing

Reason	% of Responses
Location	72
Near Relatives or Friends	69
Visit Duluth	43
Price	39
Activities	32
Summer Weather in Duluth	7
Informal Education	7
Close Proximity to Minneapolis	2

Table 4

Number of Journals Collected Per Week

Week Number	Journals Collected
1	16
2	11
3	13
4	13
5	16
6	17
7	15
8	13
9	7

Table 5

Summary of Weekly Expenditures

Variable Name	Mean $	Standard Deviation	Cases	Total
Gas	18	12	105	1,890
Bus	45	99	5	225
Rental	182	130	5	910
Other1	24	22	9	216
Auto	48	45	13	624
Taxi	21	16	3	63
Gifts	72	302	43	3,096
Misc.	23	23	60	1,380
Souvenir	21	16	9	189
Other2	59	153	43	2,537
Apparel	48	35	52	2,496
Groceries	63	46	110	6,930
Drinking	17	17	25	425
UMD Dining	27	43	59	1,593
Restaurant	42	45	87	3,654
Movies	10	10	23	230
Television	37	37	16	592
Arena	20	19	2	40
Tourist	22	12	13	286
Special Trip	35	15	8	280
Other3	31	43	15	465
Theater	21	15	15	315
Bingo	2	.5	13	26
Concert	10	8	4	40
Tennis	21	22	5	105
Golf	16	7	28	448
Other4	17	18	4	68
Bowling	4	2	3	12
		Total		$29,135
		T/121 Avg.		$240.79
		Total Stay Per Couple		$2,889.42
		Estimated Direct Exp. of 128 couples over 12 weeks		$369,859.44
		Rental to UMD 2.76 hr @ 440		$155,445.20
		Total		**$525,296.64**

Explanation

Gas has a mean expenditure value of $18. This indicates that the average dollar value spent on gas was $18. One standard deviation for gas is equal to $12. Therefore, 67% of the responses were between $6 and $30. One hundred-five people out of a total of one hundred-twenty journals had gas expenditures indicated.

Table 6

Attractions Attended	Total "Yes" Responses	% Responses
Spirit Mountain	4	3
North Shore Drive	47	39
Aerial Lift Bridge and Ship Canal	47	39
Park Point Beach	35	29
Marine Museum	23	19
Foreign Vessels	9	8
Vista Harbor Cruises	8	7
Glensheen Mansion	7	6
Depot	15	13
Chartered Fishing Boat	3	3
Other5	11	9
Airport	7	6
Skyline Drive	37	31
Ore Docks	5	4
Enger Tower	13	11
Lake Superior Zoo	5	4

Places Visited This Week		
Friend's or Relatives	82	68
Superior Wisconsin	48	40
South Shore of Lake Superior	3	3
North Shore of Lake Superior	39	33
Other 6	30	25

APPENDIX A

COVER LETTER

May 31, 1989

Dear Summer Housing Resident:

The University of Minnesota, Duluth, would greatly appreciate your participation in this survey. Attached please find the first two surveys we would like you to complete. The purpose of the survey is to help determine the economic impact the summer housing residents have on the city of Duluth. The surveys will be kept confidential. The questions on the survey will relate to weekly expenditures made in the Duluth area. The data from the survey will be used to show the campus and the city the economic impact of the summer program.

There will be a separate survey for each week. It will be mailed out to participating residents along with the weekly senior bulletin. Please return the survey to the apartment office during regular office hours at the end of each week.

Sincerely,

Jerrold M. Peterson
Professor and Acting Director

JMP/vka

APPENDIX B

QUESTIONNAIRE

DATE ____________
CAMPUS ADDRESS ________________________________
HOMETOWN ______________ ________________
(town) (state)

How many times have you visited Duluth? _______

Do you visit Duluth every summer?
yes _____ no _____

How long are you staying in UMD housing? _______

What is your anticipated date of departure from UMD housing? __________

How did you hear that UMD housing is available for summer rental?
____

Please check the reason or reasons why you chose to stay in UMD's housing this summer?

_____ price
_____ activities
_____ location
_____ to take part in some informal education
_____ to be near relatives/friends
_____ to visit the Duluth area
_____ other (please specify) ________________

How many summers have you stayed in UMD housing? ______

How many people are staying in your apartment? ______

Would you have come to Duluth if you wouldn't have been able to stay in UMD housing?

_____yes _____no

If yes, where would you have stayed?

_____ Another Apartment
_____ Hotel
_____ Motel
_____ Friends/Relatives
_____ Camp Ground
_____ Other (please specify) ____________

Would you be willing to fill out a weekly expenditure journal (see example) for the time period you are staying in UMD housing?

yes _____ no _____

APPENDIX C

EXPENDITURE FOURNAL WITH VARIABLE NAMES

PLEASE ESTIMATE YOUR HOUSEHOLD EXPENDITURES IN THE CATEGORIES LISTED BELOW.

Transportation

gas ___ gas
bus ___ bus
rental ___ rental car
other1 ___ other (please specify) ___
auto ___ auto repair
taxi ___ taxi

Retail sales

gifts ___ gifts
misc ___ miscellaneous
souvenir ___ souvenirs
other2 ___ other (please specify) ___
apparel ___ apparel
grocerie ___ groceries

Food and beverages consumed outside your home

drinking ___ drinking establishment
umddini ___ UMD dining center
restaura ___ restaurant

Entertainment

movies ___ movies
tv ___ television (cable)
arena ___ arena activities
tourist ___ admission fees for tourist attractions
special ___ special trips arranged through housing (please specify) ___
other3 ___ other (please specify) ___
theater ___ theater
bingo ___ bingo
concert ___ concert/symphony

Fitness activities

tennis ___ tennis fees
golf ___ golf course fees
other4 ___ other (please specify) ___
swimming ___ swimming fees
bowling ___ bowling fees

PLEASE CHECK THE ATTRACTIONS YOU WENT TO THIS WEEK AND THE FEES PAID AT THE ATTRACTION, IF IT APPLIES.

spirit ___ Spirit Mountain
shoredr ___ North Shore Drive
lift ___ Aerial Lift Bridge and Ship Canal
parkpt ___ Park Point Beach
marine ___ Marine Museum Army Corps of Engrs
vessel ___ Foreign vessels or Seaway Terminal
vista ___ Vista Queen & Vista King Harbor Cruises
glensheen ___ Glensheeen Mansion
depot ___ Depot
fishing ___ Chartered fishing boat
other5 ___ Other (please specify) ___
airport ___ Airport
skyline ___ Skyline Drive
docks ___ Ore docks
enger ___ Enger Tower
zoo ___ Duluth Zoo

PLEASE CHECK THE PLACES YOU HAVE VISITED THIS WEEK.

friends ___ Friend's/Relative's home
superior ___ Superior Wisconsin
south ___ South Shore of Lake Superior
north ___ North Shore of Lake Superior
other6 ___ Other (please specify) ___

PLEASE CHECK THE SPECIAL ATTRACTIONS YOU ATTENDED THIS WEEK.

___ Tweed Museum- American Prints and Drawings from the permanent collection.
___ other (please specify) ___

APPENDIX D

QUESTIONNAIRE WITH STATISTICS

DATE ________________

CAMPUS ADDRESS ______________________________________

HOMETOWN ________________ ________________

(town) (state)

How many times have you visited Duluth?________

Do you visit Duluth every summer?

yes ✓ 72.2% no ______

How long are you staying in UMD housing? _______ 12 weeks

What is your anticipated date of departure from UMD housing?__________

How did you hear that UMD housing is available for summer rental?

____

Please check the reason or reasons why you chose to stay in UMD's housing this summer?

responses

- 39 price
- 32 activities
- 72 location
- 7 to take part in some informal education
- 69 to be near relatives/friends
- 43 to visit the Duluth area
- ______ other (please specify) ____________________

How many summers have you stayed in UMD housing? ______

How many people are staying in your apartment? 2 4-7

Would you have come to Duluth if you wouldn't have been able to stay in UMD housing?

✓ yes 60% ____ no

If yes, where would you have stayed?

- 15% Another Apartment
- ____ Hotel
- ____ Motel
- 37% Friends/Relatives
- ____ Camp Ground
- ____ Other (please specify)____________

Would you be willing to fill out a weekly expenditure journal (see example) for the time period you are staying in UMD housing?

yes____ no____

APPENDIX E

EXPENDITURE JOURNAL WITH STATISTICS FOR ALL 9 WEEKS AS A WHOLE

PLEASE ESTIMATE YOUR HOUSEHOLD EXPENDITURES IN THE CATEGORIES LISTED BELOW.

mean $

Transportation
- 18 gas
- 45 bus
- 182 rental car
- 24 other (please specify) ____
- 48 auto repair
- 21 taxi

Retail sales
- 72 gifts
- 23 miscellaneous
- 21 souvenirs
- 59 other (please specify) ____
- 48 apparel
- 63 groceries

Food and beverages consumed outside your home
- 17 drinking establishment
- 27 UMD dining center
- 42 restaurant

Entertainment
- 10 movies
- 37 television (cable)
- 29 arena activities
- 22 admission fees for tourist attractions
- 35 special trips arranged through housing (please specify) ____
- 31 other (please specify) ____
- 21 theater
- 2 bingo
- 10 concert/symphony

Fitness activities
- 21 tennis fees
- 16 golf course fees
- 17 other (please specify) ____
- ____ swimming fees
- 4 bowling fees

---

checks

PLEASE CHECK THE ATTRACTIONS YOU WENT TO THIS WEEK
- 4 Spirit Mountain
- 47 North Shore Drive
- 47 Aerial Lift Bridge and Ship Canal
- 35 Park Point Beach
- 23 Marine Museum Army Corps of Engrs
- 9 Foreign vessels or Seaway Terminal
- 8 Vista Queen & Vista King Harbor Cruises
- 7 Glensheeen Mansion
- 15 Depot
- 3 Chartered fishing boat
- 11 Other (please specify) ____
- 7 Airport
- 37 Skyline Drive
- 5 Ore docks
- 13 Enger Tower
- 5 Lake Superior Zoo

PLEASE CHECK THE PLACES YOU HAVE VISITED THIS WEEK.
- 82 Friend's/Relative's home
- 48 Superior Wisconsin
- 3 South Shore of Lake Superior
- 39 North Shore of Lake Superior
- 30 Other (please specify) ____

APPENDIX F

EXPENDITURE JOURNAL STATISTICS- WEEK 1

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	22.154	23.734	10	100	13	
BUS	1.000	.	1	1	1	
RENTAL	Variable is missing for every case.					
OTHER1	9.000	.	9	9	1	
AUTO	65.500	78.489	10	121	2	
TAXI	8.500	9.192	2	15	2	
GIFTS	361.667	802.936	10	2000	6	
MISC	42.875	51.726	6	165	8	
SOUVENIR	10.000	.	10	10	1	
OTHER2	49.333	44.836	15	138	6	
APPAREL	60.111	49.685	15	165	9	
GROCERIE	110.429	96.181	30	400	14	
DRINKING	11.000	5.657	7	15	2	
UMDDINI	24.364	21.304	7	80	11	
RESTAURA	29.636	18.843	2	50	11	
MOVIES	9.500	7.778	4	15	2	
TV	68.750	68.114	10	150	4	
ARENA	Variable is missing for every case.					
TOURIST	26.000	33.941	2	50	2	
SPECIAL	26.667	17.559	10	45	3	
OTHER3	26.000	1.414	25	27	2	
THEATER	29.000	.	29	29	1	
BINGO	Variable is missing for every case.					
CONCERT	20.000	.	20	20	1	
TENNIS	20.000	.	20	20	1	
GOLF	12.000	7.483	4	22	4	
OTHER4	Variable is missing for every case.					
SWIMMING	Variable is missing for every case.					
BOWLING	5.000	.	5	5	1	

APPENDIX G

EXPENDITURE JOURNAL STATISTICS- WEEK 2

Number of valid observations (listwise) = .00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	13.444	6.483	8	30	9	
BUS	Variable is missing for every case.					
RENTAL	Variable is missing for every case.					
OTHER1	30.000	28.284	10	50	2	
AUTO	20.000	.	20	20	1	
TAXI	Variable is missing for every case.					
GIFTS	41.500	47.376	8	75	2	
MISC	22.625	16.265	2	58	8	
SOUVENIR	54.000	.	54	54	1	
OTHER2	28.500	.707	28	29	2	
APPAREL	100.000	.	100	100	1	
GROCERIE	49.909	30.781	8	100	11	
DRINKING	36.000	35.421	15	89	4	
UMDDINI	12.667	2.309	10	14	3	
RESTAURA	34.857	40.912	6	125	7	
MOVIES	9.667	8.083	5	19	3	
TV	34.000	.	34	34	1	
ARENA	33.000	.	33	33	1	
TOURIST	Variable is missing for every case.					
SPECIAL	Variable is missing for every case.					
OTHER3	Variable is missing for every case.					
THEATER	30.000	.	30	30	1	
BINGO	2.000	.	2	2	1	
CONCERT	7.000	4.583	3	12	3	
TENNIS	5.000	.	5	5	1	
GOLF	16.000	5.657	12	20	2	
OTHER4	6.000	.	6	6	1	
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					

EXPENDITURE JOURNAL STATISTICS- WEEK 3

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	20.231	9.506	12	40	13	
BUS	2.000	.	2	2	1	
RENTAL	Variable is missing for every case.					
OTHER1	40.000	.	40	40	1	
AUTO	31.000	32.527	8	54	2	
TAXI	Variable is missing for every case.					
GIFTS	25.167	16.266	5	50	6	
MISC	18.857	11.739	8	38	7	
SOUVENIR	Variable is missing for every case.					
OTHER2	10.333	3.215	8	14	3	
APPAREL	50.750	22.232	22	76	4	
GROCERIE	62.417	34.930	9	137	12	
DRINKING	7.000	.	7	7	1	
UMDDINI	17.400	10.502	7	35	5	
RESTAURA	37.500	27.203	9	90	8	
MOVIES	4.000	.	4	4	1	
TV	36.000	.	36	36	1	
ARENA	Variable is missing for every case.					
TOURIST	Variable is missing for every case.					
SPECIAL	Variable is missing for every case.					
OTHER3	21.000	.	21	21	1	
THEATER	29.000	.	29	29	1	
BINGO	2.333	.577	2	3	3	
CONCERT	Variable is missing for every case.					
TENNIS	Variable is missing for every case.					
GOLF	20.250	12.447	9	38	4	
OTHER4	Variable is missing for every case.					
SWIMMING	Variable is missing for every case.					
BOWLING	3.000	.	3	3	1	

APPENDIX I

EXPENDITURE JOURNAL STATISTICS- WEEK 4

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	16.833	7.506	10	33	12	
BUS	Variable is missing for every case.					
RENTAL	Variable is missing for every case.					
OTHER1	21.000	.	21	21	1	
AUTO	13.000	.	13	13	1	
TAXI	Variable is missing for every case.					
GIFTS	24.667	22.301	8	50	3	
MISC	21.333	13.441	6	40	6	
SOUVENIR	10.000	.	10	10	1	
OTHER2	41.714	35.462	2	86	7	
APPAREL	41.400	32.192	8	85	5	
GROCERIE	61.417	27.404	7	100	12	
DRINKING	13.500	9.192	7	20	2	
UMDDINI	15.600	11.480	7	35	5	
RESTAURA	32.100	15.843	15	54	10	
MOVIES	20.667	25.482	4	50	3	
TV	29.500	4.950	26	33	2	
ARENA	Variable is missing for every case.					
TOURIST	23.000	.	23	23	1	
SPECIAL	44.000	.	44	44	1	
OTHER3	Variable is missing for every case.					
THEATER	65.000	.	65	65	1	
BINGO	2.333	.577	2	3	3	
CONCERT	Variable is missing for every case.					
TENNIS	60.000	.	60	60	1	
GOLF	18.000	9.539	9	28	3	
OTHER4	44.000	.	44	44	1	
SWIMMING	Variable is missing for every case.					
BOWLING	3.000	.	3	3	1	

APPENDIX J

EXPENDITURE JOURNAL STATISTICS- WEEK 5

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	19.083	11.797	6	48	12	
BUS	1.000	.	1	1	1	
RENTAL	225.000	.	225	225	1	
OTHER1	Variable is missing for every case.					
AUTO	28.000	.	28	28	1	
TAXI	40.000	.	40	40	1	
GIFTS	25.333	16.743	6	35	3	
MISC	17.000	13.548	5	47	10	
SOUVENIR	13.000	4.243	10	16	2	
OTHER2	22.000	28.045	2	71	5	
APPAREL	44.286	33.738	14	102	7	
GROCERIE	61.267	22.970	38	100	15	
DRINKING	22.000	9.092	10	30	4	
UMDDINI	14.000	12.124	7	35	5	
RESTAURA	39.455	26.485	7	80	11	
MOVIES	9.000	2.944	5	12	4	
TV	27.667	19.502	14	50	3	
ARENA	Variable is missing for every case.					
TOURIST	26.000	7.528	17	35	4	
SPECIAL	20.000	.	20	20	1	
OTHER3	104.500	106.773	29	180	2	
THEATER	8.500	2.121	7	10	2	
BINGO	2.000	.	2	2	1	
CONCERT	Variable is missing for every case.					
TENNIS	10.000	.	10	10	1	
GOLF	13.000	9.539	7	24	3	
OTHER4	Variable is missing for every case.					
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					

APPENDIX K

EXPENDITURE JOURNAL STATISTICS- WEEK 6

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	20.067	11.171	10	50	15	
BUS	Variable is missing for every case.					
RENTAL	167.500	81.317	110	225	2	
OTHER1	2.000	.	2	2	1	
AUTO	68.750	58.214	18	130	4	
TAXI	Variable is missing for every case.					
GIFTS	15.125	7.279	9	30	8	
MISC	18.000	5.874	13	28	5	
SOUVENIR	30.000	.	30	30	1	
OTHER2	57.200	94.028	7	225	5	
APPAREL	29.833	7.548	18	40	6	
GROCERIE	58.533	36.703	17	150	15	
DRINKING	15.250	8.770	6	25	4	
UMDDINI	61.818	86.907	6	300	11	
RESTAURA	57.313	46.693	15	185	16	
MOVIES	5.400	.548	5	6	5	
TV	27.500	12.021	19	36	2	
ARENA	Variable is missing for every case.					
TOURIST	19.000	4.243	14	25	5	
SPECIAL	46.000	3.464	44	50	3	
OTHER3	22.500	18.788	8	50	4	
THEATER	22.000	9.764	9	30	4	
BINGO	2.500	.707	2	3	2	
CONCERT	Variable is missing for every case.					
TENNIS	12.000	.	12	12	1	
GOLF	17.667	5.508	14	24	3	
OTHER4	8.000	.	8	8	1	
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					

APPENDIX L

EXPENDITURE JOURNAL STATISTICS- WEEK 7

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	16.429	8.933	6	40	14	
BUS	222.000	.	222	222	1	
RENTAL	5.000	.	5	5	1	
OTHER1	27.000	32.909	8	65	3	
AUTO	38.000	42.426	8	68	2	
TAXI	Variable is missing for every case.					
GIFTS	32.250	18.554	12	57	4	
MISC	22.286	19.704	2	48	7	
SOUVENIR	9.000	1.414	8	10	2	
OTHER2	31.250	19.092	7	60	8	
APPAREL	53.727	50.252	1	185	11	
GROCERIE	50.286	25.263	2	96	14	
DRINKING	9.500	7.326	3	20	4	
UMDDINI	20.250	20.638	4	60	8	
RESTAURA	29.545	24.533	1	76	11	
MOVIES	10.500	7.778	5	16	2	
TV	15.000	.	15	15	1	
ARENA	6.000	.	6	6	1	
TOURIST	4.000	.	4	4	1	
SPECIAL	Variable is missing for every case.					
OTHER3	16.667	24.583	1	45	3	
THEATER	10.333	4.509	6	15	3	
BINGO	2.500	.707	2	3	2	
CONCERT	Variable is missing for every case.					
TENNIS	Variable is missing for every case.					
GOLF	14.600	5.771	8	21	5	
OTHER4	Variable is missing for every case.					
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					

APPENDIX M

EXPENDITURE JOURNAL STATISTICS- WEEK 8

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	17.000	8.099	9	33	11	
BUS	1.000	.	1	1	1	
RENTAL	347.000	.	347	347	1	
OTHER1	Variable is missing for every case.					
AUTO	Variable is missing for every case.					
TAXI	9.000	.	9	9	1	
GIFTS	13.333	12.972	1	35	6	
MISC	20.000	11.296	5	38	6	
SOUVENIR	39.000	.	39	39	1	
OTHER2	37.000	24.021	10	56	3	
APPAREL	53.857	25.294	7	87	7	
GROCERIE	46.364	22.205	14	95	11	
DRINKING	15.500	3.536	13	18	2	
UMDDINI	17.875	19.831	2	60	8	
RESTAURA	43.333	42.604	11	127	6	
MOVIES	6.500	2.121	5	8	2	
TV	Variable is missing for every case.					
ARENA	Variable is missing for every case.					
TOURIST	8.000	.	8	8	1	
SPECIAL	Variable is missing for every case.					
OTHER3	15.000	9.539	9	26	3	
THEATER	14.500	.707	14	15	2	
BINGO	Variable is missing for every case.					
CONCERT	Variable is missing for every case.					
TENNIS	Variable is missing for every case.					
GOLF	15.000	4.359	10	18	3	
OTHER4	8.000	.	8	8	1	
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					

APPENDIX N

EXPENDITURE JOURNAL STATISTICS- WEEK 9

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
GAS	15.857	9.459	4	30	7	
BUS	Variable is missing for every case.					
RENTAL	Variable is missing for every case.					
OTHER1	Variable is missing for every case.					
AUTO	26.000	.	26	26	1	
TAXI	Variable is missing for every case.					
GIFTS	46.000	48.280	14	131	5	
MISC	19.500	16.623	4	43	4	
SOUVENIR	Variable is missing for every case.					
OTHER2	226.200	433.784	4	999	5	
APPAREL	54.000	64.281	12	128	3	
GROCERIE	52.000	25.503	29	95	6	
DRINKING	6.500	.707	6	7	2	
UMDDINI	16.000	13.342	4	35	4	
RESTAURA	70.429	120.358	4	342	7	
MOVIES	8.000	.	8	8	1	
TV	14.500	3.536	12	17	2	
ARENA	Variable is missing for every case.					
TOURIST	Variable is missing for every case.					
SPECIAL	Variable is missing for every case.					
OTHER3	Variable is missing for every case.					
THEATER	Variable is missing for every case.					
BINGO	2.000	.	2	2	1	
CONCERT	Variable is missing for every case.					
TENNIS	Variable is missing for every case.					
GOLF	14.000	.	14	14	1	
OTHER4	Variable is missing for every case.					
SWIMMING	Variable is missing for every case.					
BOWLING	Variable is missing for every case.					