

A Quantitative Analysis of the affects of Health and Sleep Variables on Marriage

Abstract

This was a research placement carried out at the University of Warwick, under the supervision of Dr. Stella Chatzitheochari, with assistance from Dr. Roxanne Connelly.

The topic of marriage has always been at the forefront of sociological review from as early as Durkheim and Marx. Many sociologists have carried out studies, but a lack of specific quantitative research has limited the scope of analysis. As such, this task aimed to scale down the variables of the selected social surveys (British Household Panel Survey, Integrated Household Survey, Understanding Society & Annual Population Survey) to try and create a clearer analysis.

Many sociologists, such as Umberson (1988, 1992, 2010) have carried out research in this field. Her research, for example, demonstrates groundbreaking theories in the relationship of marriage, health and sleep. Umberson suggests an idea of social ties and socialization (1992), and that health and sleep quality will improve with a stronger relationship, i.e. marriage.

The aim of this small research task was therefore to use the works of Umberson, and other similar studies, as a background, but utilize wide-scale British surveys to generate more contemporary evidence that identifies links between the three variables, and could thus lead to new theories and ideas.

Literature Review Summary

In order to get a better understanding of the task presented to me, multiple background readings had to be done and a literature compiled. From my research, and the readings provided for me, I noted that Umberson had significant amounts of research on marriage quality and health. Her work used large-scale surveys to draw conclusions that showed how relationship status can have an impact on both men and women's health (1992). This was beneficial to me as well as it spanned a significant time period, with more works being published as late as 2010.

The Resource and Stress Models (Chen, Waite & Lauderdale, 2015) also provided a great explanation and groundwork theory. The idea that a better mindset was created through companionship, and that exposure to stress reduced sleep quality meant I had explanations to back up my findings, if they were to prove the same thing.

The literature review also found works by other sociologists, psychologists and health experts. This helped to broaden my knowledge and also allowed gaps to be identified that I could hopefully fill with my research objective.

Background to Choosing Surveys (Example)

Understanding Society Survey (December 2015)

Began in 2009 and is a longitudinal study conducted by the Institute for Social and Economic Research. The survey is used to understand social and economic change in Britain. As it is a longitudinal survey, it hopes to shape and change policy over time as well as improve the general wellbeing of the public. There are many different waves of the survey, so I have chosen Wave 5 as this is the most recent wave to be completed and therefore has the most up-to-date information. The variables I will use are: sex (Csex), age (Dvage), legal marital status (Marstat), whether they live with their spouse (Livesp), general health (SF1), if they have recently lost any sleep (Sgghq) and if they care for a sick/ elderly person (Aidht).

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A step-change in quantitative social science skills

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Methods

A number of steps were taken before analyzing the three variables. These steps took a while to complete, and would often have to be redone multiple times due to my lack of quantitative knowledge.

Firstly, I had to choose surveys that would have the right variables, and then choose the appropriate (usually most recent) wave to analyse.

When the surveys were first downloaded I had to isolate the required variables and their weighted version. It was then necessary to weight the variables so that analysis would be easier and more accurate.

After doing this, the variables had to be recoded. This meant changing the categories by which people had answered into three/ four distinct numbered answers, and then omitting the missing values so that it would not hinder the results (see below for an example).

Cross tabulations were then run, which allowed for a basic analysis to be undertaken. An example of the process can be seen in the adjacent *do-file* figure for the Understanding Society data set.

QHEALTH	QHEALTH
Very Good	1
Good	
Fair	2
Poor	
Very Poor	3

Merged the variables and weighted values from two data sets of the same survey.

Missing values identified and dropped

```
***Placement Project***
***Understanding Society Survey***
use "C:\Users\ui412755\AppData\Local\Temp\Temp1_66145TATA11_5E_E1182300141181808K32
> BAFPA37020AE.zip\UKDA-6614-5TATA11_sevstata11_seve_indresp.dta"
keep e_hisp e_sf1 e_inpxus_lw
sort e_hisp
save "US2.dta", replace
use "\\NEEDLEMOSE\user60\ui412755\Documents\Placement\Understanding Society\US1.dta", clear
merge m:m e_hisp using "US1.dta"
drop _merge
save "USfinal.dta", replace
svyset [pweight = e_inpxus_lw]
svydes
generate health1 = e_sf1
(118 missing values generated)
recode health1 (1 2 =1)
(health1: 38917 changes made)
recode health1 (4=2)
(health1: 8224 changes made)
recode health1 (5=3)
(health1: 3491 changes made)
tab health1, mi
recode health1 (-9 -2=.)
recode health1 (-1=.)
*GOT rid of all missing values*
tab health1
tab e_marstat, mi
numlabel e_marstat, add
recode e_marstat (-9 -8 -2 -1=.)
(e_marstat: 13871 changes made)
tab e_marstat
*Recoded the marriage variable and omitted the missing data*
svy: tab health1 e_marstat, row
save "USfinal.dta", replace
```

Do-File for Understanding Society

health1	legal marital status					Total
	1. single	2. marrie	3. a civil	4. separa	5. divorce	
1	13,062	19,874	118	642	2,983	38,875
	33.86	51.52	0.31	1.66	7.73	100.00
2	2,014	9,247	22	152	718	6,946
	29.42	47.43	0.32	2.22	10.49	100.00
3	797	1,335	3	104	413	3,021
	26.38	44.19	0.10	3.44	13.67	100.00
Total	16,873	24,456	143	898	4,114	48,442
	32.77	50.49	0.30	1.85	8.49	100.00

health1	legal marital status			Total
	6. widove	7. sponta	8. sponta	
1	1,881	10	2	38,875
	4.88	0.03	0.01	100.00
2	490	2	0	6,946
	10.08	0.03	0.00	100.00
3	367	1	0	3,021
	12.15	0.03	0.00	100.00
Total	2,938	13	2	48,442
	6.06	0.03	0.01	100.00

Pearson chi2(16) = 789.7039 Pr = 0.000

Example of what was produced on Stata.

Percentages of those who had responded.

Integrated Household Panel Survey

Number of strata = 1 Number of obs = 261,285
Number of PSUs = 261,285 Population size = 51,431,064
Design df = 261,284

QHEALTH	Marital status					Total
	Single	Married	Married	Divorced	Widowed	
1	.3404	.5141	.0229	.0728	.0475	.0023
2	.2251	.5176	.0281	.1109	.116	.0024
3	.2334	.4439	.0389	.1587	.1237	.0015
Total	.3121	.5095	.025	.0859	.0652	.0023

Key: row proportion

Pearson:
Uncorrected chi2(10) = 8080.7426
Design-based F(9.94, 2.6e+06) = 528.6068 P = 0.0000

Ordinarily a p-value result of zero would mean we can reject the null hypothesis. This would seem true to the evidence presented in the table. However, because the results were incorrectly inputted the p-value is not a reliable source.

Conclusion

The end of my placement should have allowed me to roughly understand if there was a relationship between marriage, sleep and health, and whether the latter two had an impact on the former.

The topic of marriage and health is still very much a new and developing one. This research should have therefore begun to go into more depth to look at this relationship.

Integrated Household Panel Survey

A basic cross tabulation showed 51.3% of the sample who said they were married reported 'Good' or 'Very Good' health. This initially proved a relationships between the two. However, the fact that 44.62% of married respondents reported 'Poor' or 'Very Poor' health disproved this initial theory.

British Household Panel Survey

Similar results were produced here, that showed 39.94% of married respondents also said they had better health.

Understanding Society

This survey interestingly mirrored a lot of what the BHPS showed, with, for example, married people making up nearly half of the responses in all health categories. 51.52% of those who said they were married also reported better health. This therefore begged the question of if there was any relationship as there was such a significant proportion of married respondents.

However, my research seemed to highlight more of the gaps in my data management knowledge than providing solid empirical evidence for any relationship between the two variables. The conclusion therefore drawn was not only that there was some form of relationship between the marriage and health, but that in order to gain a deeper understanding, better Stata skills would need to be learnt.

References

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