



Research Methods 1

Report: Is there an association between gender and preference for working from home?

William Page

: 2113430

: Psychology and Counselling

Abstract

The potential for an association between gender and working remotely has received more in-depth scrutiny since the global Covid-19 pandemic (Chung et al., 2021). This has provided greater insights into working from home throughout lockdown and the post-pandemic working environment. The purpose of this report is to determine the existence of a correlation between gender and a preference for working from home, which may also become valuable data for organisations to determine the appropriate allocation of WFH (work from home) hours. The sample of 41 individuals completed an online survey to determine each participant's age, gender and preference for working from home. Using the Chi² test for independence, the study indicated an insignificant association between an individual's gender and their preference for working from home; the obtained p-value was calculated as 0.02 (insignificance determined by $p < .05$). Therefore, any possible issues regarding the study in terms of population sample and how they may be rectified for further reliable data are discussed in greater detail within this report.

Table of Contents

1. Introduction	3
2. Method	4
2.1 Participants	4
2.2 Design	4
2.3 Materials	4
2. 4 Procedure	5
3. Results	6
4. Discussion	7
5. Reference List	10
6. Appendices	12
Appendix A: Table of data from submissions from the online survey for preference for working from home or designated working environment.	12
Appendix B: Online Survey Questions	14
Appendix C: Online Survey Information Sheet	15
Appendix D: Study Consent Form	17
Appendix E: Study Debrief Sheet	19
Appendix F: Chi-square Calculations	20
Appendix G: Chi-square Critical Values	21

1. Introduction

Working from home, or telecommuting, has expanded into a far more common practice since the Covid-19 pandemic reached global proportions. As of April 2020, 46.6% of employed individuals within the UK began working from home and 86% of this group stated that this was due to the coronavirus pandemic. Furthermore, the same Labour Market Survey indicated, though with little variation, that the likeliness of working from home had a gender-based association with 47.5% of women being more likely to work from home as opposed to 45.7% of men (Office for National Statistics, 2020).

A previous study has established data regarding preference, not only likeliness, of working from home both during and post-Covid 19 social isolation intervals. Specifically focusing on teleworkers within Hanoi, Vietnam the data gathered illustrated “that 56% of female teleworkers compared to 45% of male counterparts had a positive perception of HBT (Home-Based Telework) within the social distancing period” (Nguyen and Armoogum, 2020, p.1). Notably, the data collated in the aforementioned study revolves around more specific focuses such as location and profession. However, though similar in nature, the sought-after results of the study highlighted within this report are more generalised with variables including age, gender and WFH preference.

This report will explore a potential association between gender and a preference for working from home or the designated workplace. It is considered that the conclusive data will be useable for organisations to adapt working hours for employees working from home. The hypothesis revolves around the notion of whether more females than males would prefer to work from home.

2. Method

2.1 Participants

A sample of forty-one individuals responded to the survey and took part in this study (26 females, 14 males and 1 non-binary/third gender). Ages ranged from 18 to 51 years old ($M = 27.58$). For the sake of the results of this study, the only participant that registered their gender as non-binary/third gender provided an answer to the survey that could not be used in the calculations. This is due to the fact the Chi^2 calculations would not be able to accommodate the single value of 1 in their column (see appendix A).

2.2 Design

This study utilises a survey design requiring participants to indicate a preference for working from home or a designated place of work. The results were analysed via Chi^2 calculations (Berman & Wang, 2018) to determine the probability value of the data's significance.

2.3 Materials

Participants were presented with a simple questionnaire consisting of statements requesting the participants to indicate their age, gender and preferred working environment; home or designated place of work (see appendix B).

Participants were also provided with a Study Information Sheet (see appendix C). This outlined the purpose of this study as well as required fields for responses, a contact email for further information on this study, the deadline time and date for

submission of responses and a reminder of the option to discontinue taking part in this study and the clarification of anonymity and the sharing of the resultant data.

Informed consent was also established by providing a Consent Form (see appendix D). This contained and established all relevant ethical elements of participation in this study. This included data protection, confirmation of the participant's complete understanding of the purpose of the study and their involvement, clarification of age, right to withdraw and anonymity, as well as indicated consent to take part.

The Debrief Sheet (see appendix E) included further detailing of the purpose of this study, contact information for concerns and further questions, and option to download a copy of this sheet and a final digital link for the participant to allow their data to be used in this study.

2.4 Procedure

Participants were gathered for this study through online confirmation. Participants were provided with an information sheet and a consent form that included all relevant information ensuring that this study was conducted within the guidelines of the BPS Code of Human Research Ethics (Speer & Stokoe, 2014; Oates, 2021).

Once both forms had been read and the consent form was submitted, participants were directed to a link for the online survey. Participants were required to respond to three fields within the online survey; simply stating their gender, age and indicating their preference to work from home or their designated place of work.

After completing the online survey, participants were provided access to the debrief form. This sheet reminded participants of the purpose and hypothesis of this study, the anonymity of data and the right to withdraw from this study. This was followed

by acknowledging and thanking the participants' for their involvement in the study and a confirmation link for their data to be included in the results.

3. Results

The results from the online survey are illustrated in figure 1 below. The graph clearly expresses a preference to work from the designated place of work as opposed to working from home according to both males and females within the sample group.

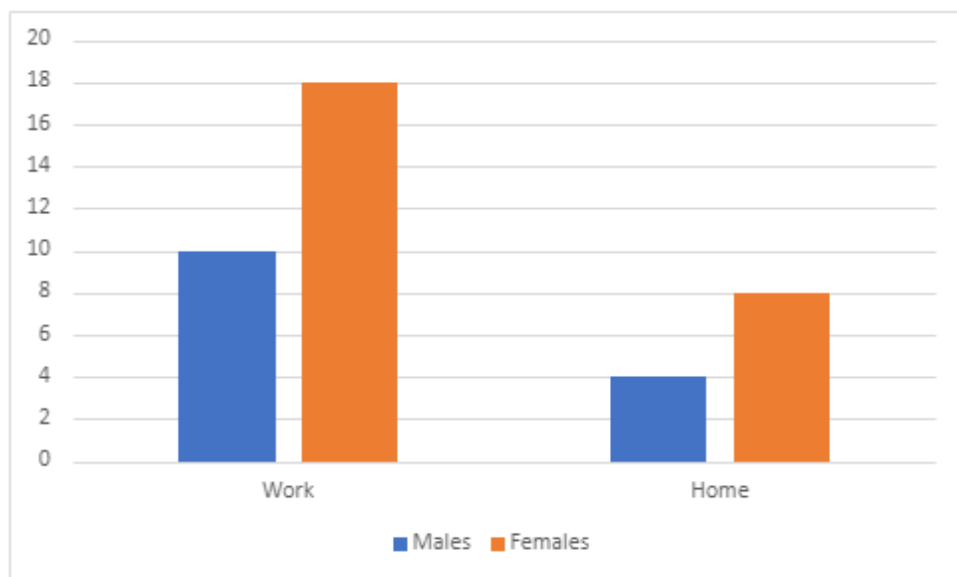


Figure 1. *Graph of preferences of working from home comparing male and female scores*

According to this data, approximately 69% of the female participants preferred to work within the designated place of work and approximately 71% of male participants indicated the same. Thereby indicating a marginal difference of only 2%.

In order to isolate the variable of age within this study, table 1 illustrates that age has a minimal impact on preference, thereby reaffirming the hypothesis of gender being

the determining factor. There is no clear correlation between age and preference for working from home.

Gender	Age	Work	Home
Male	18-25	5	1
	26-35	5	2
	36-45	0	1
	46-51	0	0
Female	18-25	10	3
	26-35	5	1
	36-45	1	3
	46-51	0	1

Table 1. *Male and female scores of preferences for working from home categorised by age range*

A Chi² calculation was employed to determine a significant association between gender and preference for working environment (see appendix F). Despite the results implied by figure 1, the calculation determined that there was no significant association ($X^2=.02$) (see appendix G). Conclusively, the original hypothesis must be rejected.

4. Discussion

Due to the lack of significant value calculated from the results of this study, the hypothesis must be rejected. Initially, the findings collated from the online survey challenge a more developed theory, but also one that still takes into account gender as a factor for preference for working from home (Chung et al., 2020). By comparison, this study shows a substantial increase in both males and females for a preference for working from home within the last two years. Primarily divided into male and female as



well as parents and non-parents, the results from this study show that within the sample population 66% of males and females who were not parents and 52% of those who were sought to continue working from home in post-pandemic conditions. A series of reasons for these preferences were detailed in responses by the participants; including less commuting time and more time with family and environmental impact. For each category of reasons, the results clearly varied based on gender.

Based on the aforementioned research and studies, it can be considered that the insight into gender and workplace preference still has merit. Therefore, there are a number of considerations for developing this study further in order to attain more significant results.

Firstly, a larger sample population could be used for this study not only for a greater significant value of results but also to obtain data from more participants who are non-binary/third gender. Furthermore, there are variables that could determine preference based on gender and other accompanying factors. Such variables could include the profession and particular demands of a certain occupation. This could provide insight into an association between gender and working from home preference based on how certain professions employ more of a particular gender, and to what degree can the duties of a certain profession be fulfilled from home.

In order to accommodate these variables within this study, the survey could include an option for the participant to state their occupation. There are also factors that could determine preference irrespective of gender. Utilising a questionnaire in a study regarding perception and experience of working from home, specifically during the Covid-19 pandemic (Shareena & Shahid, 2020), the researchers were able to identify such factors. These include potential issues with internet connectivity, an environment less conducive for concentration than the designated workplace and resources for work that are not readily available at home.



To isolate the association between gender and working from home preference, the online survey could include a series of questions regarding other factors that affect the preference for working from home while employing a scale to highlight the significant impact of these factors. An appropriate method would be the Likert scale (Norman, 2010); a series of statements followed by categories of level of agreement for each one (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree).

In conclusion, there are numerous studies and previous literature that have collected and analysed data within the same realm as this study. However, the results from this study do not entirely support the results compiled from others. In order to consolidate or invalidate a definitive association between gender and preference for working from home or the designated place of work, studies could include a more elaborate survey that highlights the importance or unimportance of variables other than gender such as occupation and availability of resources. Attempts to involve a larger sample population should also be considered for more significant results.

5. Reference List

Berman, E., & Wang, X. (2018). Hypothesis Testing with Chi-Square. *Essential Statistics for Public Managers and Policy Analysts*, 177-201.

Chung, H., Birkett, H., Forbes, S., & Seo, H. (2021). Covid-19, Flexible Working, and Implications for Gender Equality in the United Kingdom. *Gender and Society*, 35(2), 218-232.

Chung, H., Seo, H., Forbes, S., & Birkett, H. (2020). Working From Home During the Covid-19 Lockdown: Changing Preferences and the Future of Work. *University of Birmingham & University of Kent*.

Nguyen, M. H., & Armoogum, J. (2021). Perception and Preference for Home-Based Telework in the COVID-19 Era: A Gender-Based Analysis in Hanoi, Vietnam. *Sustainability*, 13(6), 3179.

Norman, G. (2010). Likert Scales, Levels of Measurement and the “Laws” of Statistics. *Advances in Health and Education*, 15, 625-632.

Oates, J. (2021). BPS Code of Human Research Ethics. The British Psychological Society. Available at: www.bps.org.uk, (Accessed: 14, Oct, 2020).

Office for National Statistics. (2020). Homeworking patterns in the UK broken down by sex, age, region and ethnicity. Coronavirus and Homeworking in the UK: April 2020. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/coronavirusandhomeworkingintheuk/april2020>, (Accessed: 14, Oct, 2020).



Shahid, M., & Shareena P. (2020). Work From Home During Covid 19: Employees Perceptions and Experiences. *Global Journal for Research Analysts*, 9(5).

Speer, S. A., & Stokoe, E. (2014). Ethics in Action: Consent-gaining Interactions and Implications for Research Practice. *British Journal of Social Psychology*, 53(1), 54-73.

6. Appendices

Appendix A: Table of data from submissions from the online survey for preference for working from home or designated working environment.

ID number	Age	Gender	Preference
1	19	Female	Work
2	19	Female	Work
3	24	Male	Work
4	19	Male	Work
5	28	Female	Home
6	23	Female	Work
7	19	Female	Work
8	21	Female	Work
9	30	Male	Work
10	18	Female	Work
11	30	Female	Work
12	18	Female	Work
13	20	Female	Work
14	25	Female	Work
15	51	Female	Home
16	39	Female	Home
17	19	Male	Home
18	19	Female	Home
19	38	Female	Home
20	28	Male	Work
21	30	Female	Work
22		Female	Work
23	27	Female	Work
24	30	Female	Work
25	26	Female	Work

26	28	Male	Work
27	39	Female	Home
28	19	Female	Work
29	19	Non-binary / third gender	Home
30	43	Female	Work
31	26	Male	Work
32	18	Female	Home
33	19	Female	Home
34	26	Male	Work
35	40	Male	Home
36	19	Male	Work
37	24	Male	Work
38	33	Male	Home
39	30	Male	Home
40	21	Male	Work
41	35	Female	Work

Appendix B: Online Survey Questions

Data Collection Questions for Report 1 – Chi Square

Please state your gender:

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

Please indicate your age:

Do you prefer to work from home or at your designated place of work?

- ☐ I prefer to work from home
- ☐ I prefer to work at my designated place of work

Appendix C: Online Survey Information Sheet



Centre for Psychology and Counselling SA1 Campus Swansea

Study Information Sheet

This document provides key information regarding the study and provides details about what will be expected of you as a participant. Therefore, please read this information carefully before providing consent to take part.

The purpose of this study is to explore whether there is significant association between gender and preference for working from home. The aim of this study is to determine whether there are a specific group of participants that prefer to work from home. Having an understanding of this may be useful for organisations in their efforts to allocate working from home time appropriately.

During this study you will be required to do the following:

- Fill out an online questionnaire asking for information about you on the following:
 - Your age
 - Your gender
 - Your preference on working from home
- At the end of the study you will be provided with the study debrief.

If you have any questions or concerns about this study, please contact the research supervisor Stacey Coleman on stacey.coleman@uwtsd.ac.uk.

If you are happy to take part in this study, please click the link provided on under the Week 3 tile on Moodle which will direct you to the online study.

Please note that data collection will start at 1pm on Wednesday 6th October and end at 5pm on Thursday 7th October, so you will not be able to access the study outside of these times.



If you feel you want to leave the study, you can do so at any time by closing the browser on your computer. Once the study has ended you will be asked if you want your data to be saved as part of the study. If you agree then your data will be anonymised and therefore untraceable to later delete. If you do not wish for your data to be used, please close the tab before finishing the study.

Appendix D: Study Consent Form



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Centre for Psychology and Counselling
SA1 Campus
Swansea

Study Consent Form

I understand that this research study is being carried out by the module leader of the Research Methods I module for the purpose of a module assessment and that taking part in this study will involve answering a questionnaire on my age, gender, and indicating my opinions on working from home.

This study will take approximately 5 minutes to complete.

I understand that participation in this study is voluntary and I am free to withdraw participation at any time during or before the end of the study without giving a reason by closing the computer browser.

I understand that once I complete the study, I will not be able to withdraw my data, as it will be anonymised, and the researcher will be unable to trace my data back to me.

I am aware that if I have any questions or concerns about the study, I can contact the researcher supervisor, Stacey Coleman at any time before, during, or after the study on stacey.coleman@uwtsd.ac.uk.

I understand that the information provided by me will be held confidentially, with a code assigned in place of my name. These data will be stored indefinitely in accordance with the Data Protection Act.

I also understand that at the end of the study I will be provided with a debrief form.

Please select to agree with the statements below to give your consent to take part in this study.

You can download a copy of this consent form by clicking here: [Consent Form](#)

Please tick all the boxes below to confirm your consent into participating in this study:

☐ **I am 18 years of age or over**

- 
- ☐ **I understand I can withdraw at any time without penalty by closing the browser**
 - ☐ **I understand my data will be held confidentially and my identity will remain anonymous**
 - ☐ **I understand all the above information on this consent form**
 - ☐ **I consent to taking part in this study**

Appendix E: Study Debrief Sheet



Centre for Psychology and Counselling
SA1 Campus
Swansea

Study Debrief Sheet

An exploration into the potential relationship between gender and preference for working from home

Thank you for taking part in this study.

The aim of this study is to explore whether there is a significant relationship between gender and preference for working from home. We specifically want to find out whether more females in comparison to males say that they prefer to work from home if they had a choice between working at home or at their designated place of work.

If you wish to withdraw your data from the study, you must close your computer browser now. After this point, your data will become anonymous, and it will not be possible to trace it back to you. The data you submit will remain confidential.

If taking part in this study has raised any concerns or if you have any questions about the study, please contact the academic supervisor Stacey Coleman:
stacey.coleman@uwtsd.ac.uk

You can download a copy of this debrief sheet for your records by clicking here: Debrief
If you are happy for your data to be included in this study, please click the arrow below to confirm.

Thank you once again for taking the time to participate in this study.

BSc Psychology
BSc Psychology and Counselling

University of Wales Trinity Saint David, Swansea

Appendix F: Chi-square Calculations

	Male	Female	Row Total
Work	(A)10	(B)18	28
Home	(C)4	(D)8	12
Column Total	14	26	n=40

$$A = \frac{28 \times 14}{40} = 9.8$$

$$B = \frac{28 \times 26}{40} = 18.2$$

$$C = \frac{12 \times 14}{40} = 4.2$$

$$D = \frac{12 \times 26}{40} = 7.8$$

	O	E
A	10	9.8
B	18	18.2
C	4	4.2
D	8	7.8

A=	$\frac{(10-9.8)^2}{9.8}$	=	$\frac{0.2^2}{9.8}$	=	$\frac{0.04}{9.8}$	=	0.004
B=	$\frac{(18-18.2)^2}{18.2}$	=	$\frac{-0.2^2}{18.2}$	=	$\frac{0.04}{18.2}$	=	0.002
C=	$\frac{(4-4.2)^2}{4.2}$	=	$\frac{-0.2^2}{4.2}$	=	$\frac{0.04}{4.2}$	=	0.009
D=	$\frac{(8-7.8)^2}{7.8}$	=	$\frac{0.2^2}{7.8}$	=	$\frac{0.04}{7.8}$	=	0.005
							$\Sigma=0.02$
DF=	$(2-1) \times (2-1)$	=	1				
DF=	1						
$\chi^2=$	0.02						
P=	0.02 < 0.05						

Appendix G: Chi-square Critical Values

Critical values of the Chi-square distribution with d degrees of freedom							
Probability of exceeding the critical value							
d	0.05	0.01	0.001	d	0.05	0.01	0.001
1	3.841	6.635	10.828	11	19.675	24.725	31.264
2	5.991	9.210	13.816	12	21.026	26.217	32.910
3	7.815	11.345	16.266	13	22.362	27.688	34.528
4	9.488	13.277	18.467	14	23.685	29.141	36.123
5	11.070	15.086	20.515	15	24.996	30.578	37.697
6	12.592	16.812	22.458	16	26.296	32.000	39.252
7	14.067	18.475	24.322	17	27.587	33.409	40.790
8	15.507	20.090	26.125	18	28.869	34.805	42.312
9	16.919	21.666	27.877	19	30.144	36.191	43.820
10	18.307	23.209	29.588	20	31.410	37.566	45.315

INTRODUCTION TO POPULATION GENETICS, Table D.1
© 2013 Sinauer Associates, Inc.