

Association between leadership commitment and telework satisfaction at NASA (2020): unweighted sex-adjusted stratified analysis

DOCUMENT: SAR-2022-010-GJ-v01

From: Felipe Figueiredo To: techsavvy32 (fiverr.com)

2022-02-19

TABLE OF CONTENTS

Association between leadership commitment and telework satisfaction at NASA (2020): unweighted sex-adjusted stratified analysis**Document version**

Version	Alterations
01	Initial version

1 ABBREVIATIONS**2 CONTEXT****2.1 Objectives****2.2 Data reception and cleaning****3 METHODS****3.1 Variables****3.1.1 Primary and secondary outcomes****3.1.2 Covariates****3.2 Statistical analyses**

This analysis was performed using statistical software R version 4.1.2.

4 RESULTS**4.1 Study population and follow up**

The raw database contained 10588 surveys, of which 1183 incomplete cases were removed. Of the complete cases 1920 participants did not agree nor disagree with at least one of the survey questions. These did not meet the inclusion criteria and were also removed from the analysis. After the inclusion and exclusion criteria were applied the final number of surveys in the analysis is 7485. Table 1 shows the characteristics of the surveys included in the final analysis.

Table 1 Characteristics of the study population.

Characteristic	N = 7,485
Sex, n (%)	
Male	4,764 (64%)
Female	2,721 (36%)
How satisfied are you with the Telework program in your agency?, n (%)	
Strongly disagree	22 (0.3%)
Disagree	87 (1.2%)
Agree	1,911 (26%)
Strongly Agree	5,465 (73%)
Managers promote communication among different work units., n (%)	
Strongly disagree	129 (1.7%)
Disagree	328 (4.4%)
Agree	3,709 (50%)
Strongly Agree	3,319 (44%)

One third of the employees at NASA are women (36.4%, Table 1). Both survey questions addressed in this study showed most NASA employees demonstrated high levels of satisfaction when the survey was conducted. The proportion of employees that agree or strongly agree with the satisfaction question (q58 – How satisfied are you with the Telework program in your agency?) was 98.5%. The proportion of employees that agree or strongly agree with leadership commitment (q29 – Managers promote communication among different work units (for example, about projects, goals, needed resources)) was 93.9%. Figure 1 shows how both sexes answered these questions.

Statistical Analysis Report (SAR)

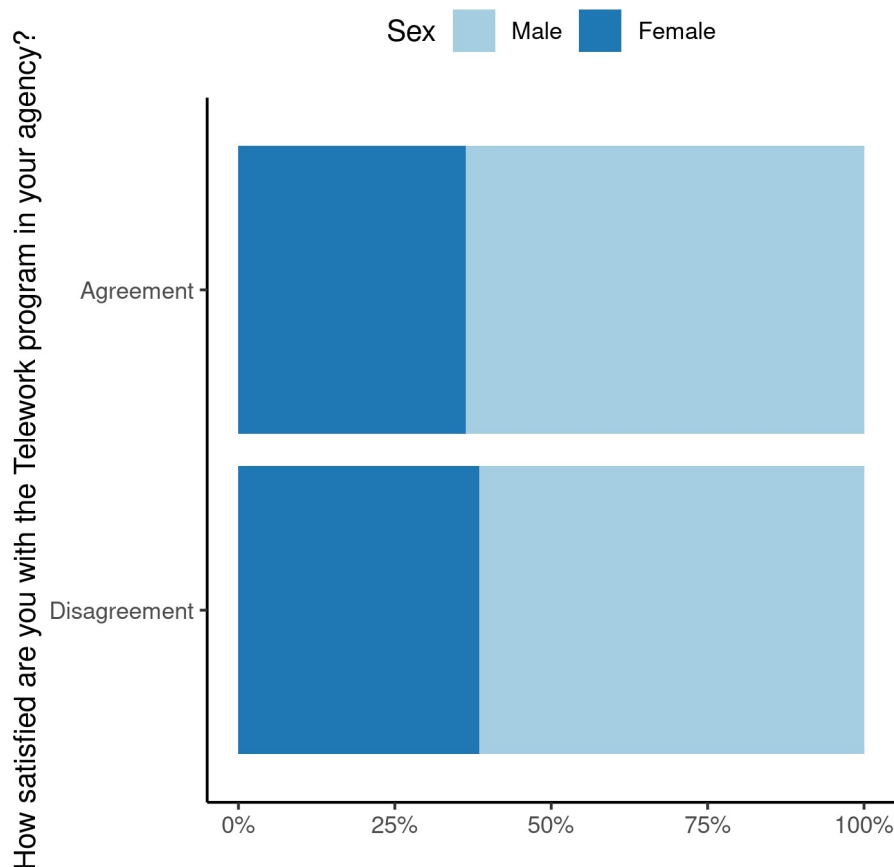


Figure 1 Dichotomized survey responses, by sex.

Men and women tended to answer the satisfaction question at the same rates in 2020. Of the 7376 NASA employees that are in agreement with the satisfaction question, 36.3% were women, and of the 109 employees that are in disagreement, women were 38.5% (Figure 1).

4.2 Association between leadership commitment and telework satisfaction

Table 2 *caption*

	How satisfied are you with the Telework program in your agency?		Total
	Disagreement	Agreement	
Managers promote communication among different work units			
Overall			
Disagreement	34	423	457
Agreement	75	6,953	7,028
Total	109	7,376	7,485
Males			
Disagreement	21	248	269
Agreement	46	4,449	4,495
Total	67	4,697	4,764
Females			
Disagreement	13	175	188
Agreement	29	2,504	2,533
Total	42	2,679	2,721

Odds ratios + chi-square:

- Overall: OR: 7.47, 95% CI: [4.86, 11.24], $p < 0.001$
- Adjusted CMH: OR: 7.41, 95% CI: [4.88, 11.25], $p < 0.001$
- Men: OR: 8.21, 95% CI: [4.73, 13.83], $p < 0.001$
- Women: OR: 6.45, 95% CI: [3.17, 12.42], $p < 0.001$

5 OBSERVATIONS AND LIMITATIONS

6 CONCLUSIONS

One third of NASA employees in this study are women. Both men and women tended to derive satisfaction at the workplace in similar rates in 2020.

7 REFERENCES

- **SAP-2022-010-GJ-v01** – Analytical Plan for Association between leadership commitment and telework satisfaction at NASA (2020): unweighted sex-adjusted stratified analysis

8 APPENDIX

8.1 Exploratory data analysis

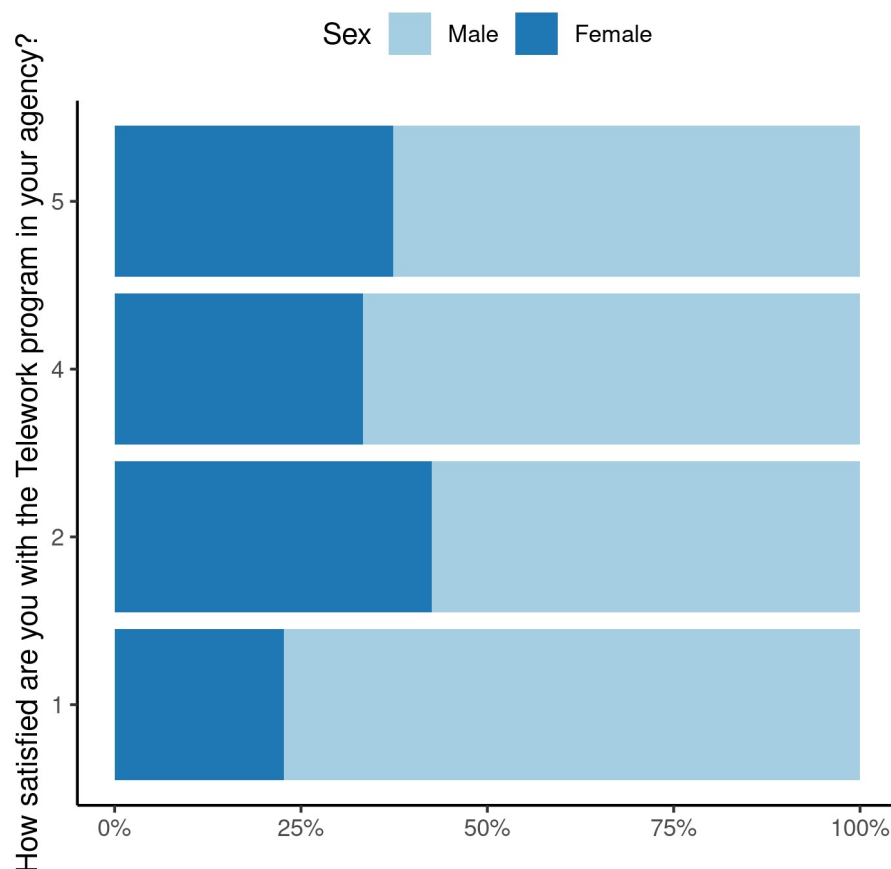


Figure A1 Raw survey responses, by sex.

8.2 Availability

Both this document and the corresponding analytical plan (**SAP-2022-010-GJ-v01**) can be downloaded in the following address:

<https://philsf-biostat.github.io/SAR-2022-010-GJ/>

8.3 Analytical dataset

Due to confidentiality the data-set used in this analysis cannot be shared online in the public version of this report.

Table A1 Analytical dataset structure

id	dsex	dv	iv	dv2	iv2
1					
2					
3					
...					
N					