

Analyzing the Rates of Employment for People with Multiple Sclerosis

Xavier Hayes, Bioscience

Introduction

- Multiple sclerosis (MS) is a neurodegenerative disease where the body's immune system attacks its central nervous system (CNS)
- MS comes with a wide array of different symptoms that can affect the activities of daily living (ADL):
 - Fear of ambiguous future of disease
 - Confrontation to physical, emotional, psychological and behavioral changes (Dehghani, 2019)
 - Fear of becoming crippled (Dehghani, 2019)
 - Tolerance of Financial burden of disease (Dehghani, 2019)
 - Confrontation to cultural social wrong beliefs (Dehghani, 2019)
- These different effects can have a variety of effects on a MS individual's mental health
- Specifically, the effect of anxiety, avoidance, and depression being the main contributors (Egmond et al., 2022)

Acknowledgments

I acknowledge Dr. Alanna Lecher for helping me pursue this type of research and expanding my horizons for different research projects.

Time in Workforce

Hypothesis:

- People with MS are significantly more likely to be unemployed the longer they are in the workforce

Methods:

- Data was collected from the Global MS Employment Report of 2016
- Chi-squared test to see if there was significant difference in the employment of people with MS by time in the workforce

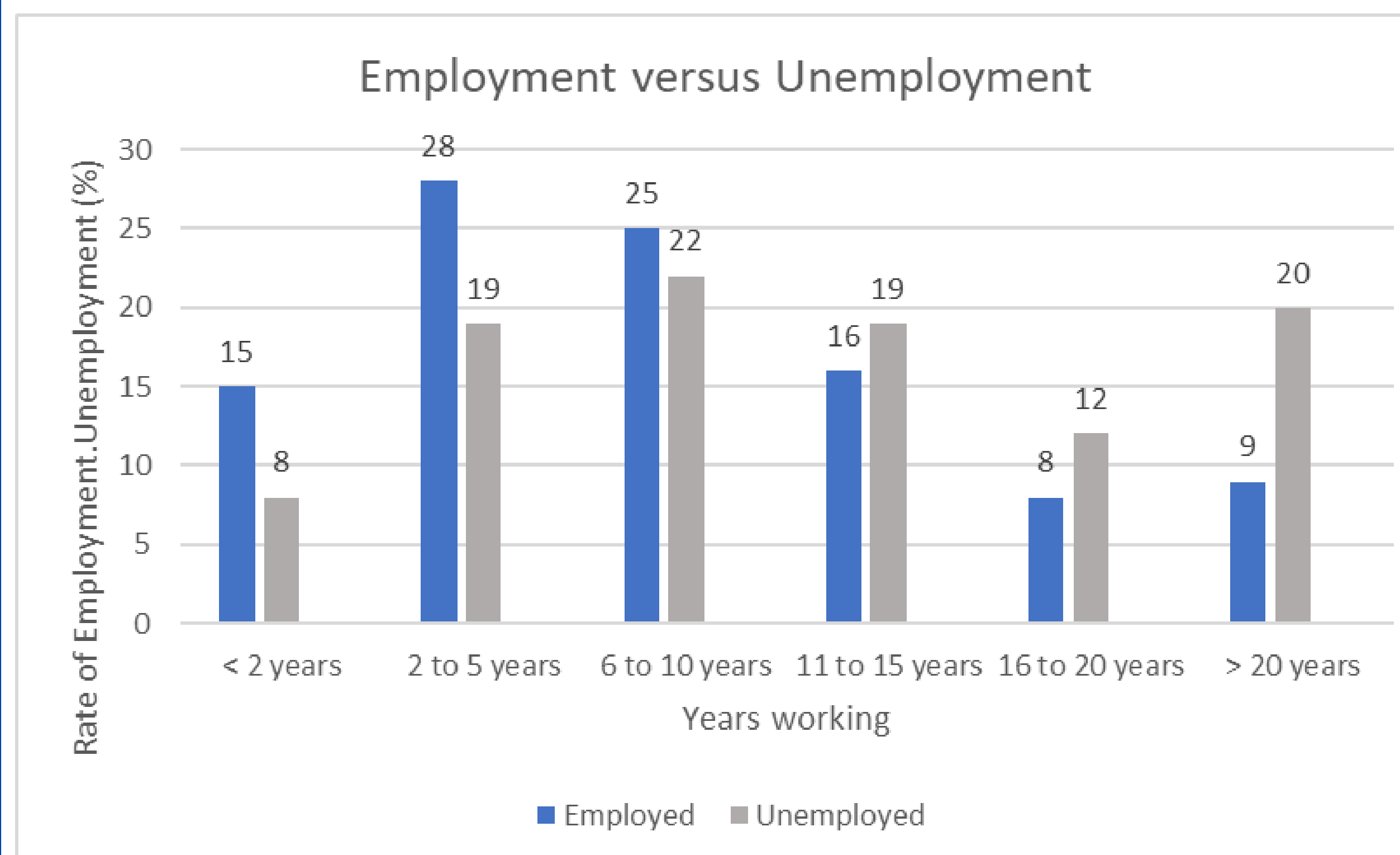


Figure 1: Graph Depicting employment versus unemployment

Results:

- Hypothesis was supported as there was a statistical difference between the distributions of the 2 sets of data (p-value = .002)

Effect of Support

Hypothesis:

- Individuals with MS given social support are significantly more likely to remain employed

Methods:

- Data was collected from the Global MS Employment Report of 2016
- t-test was conducted to see if there was a statistical difference in employment between individuals receiving financial or emotional support

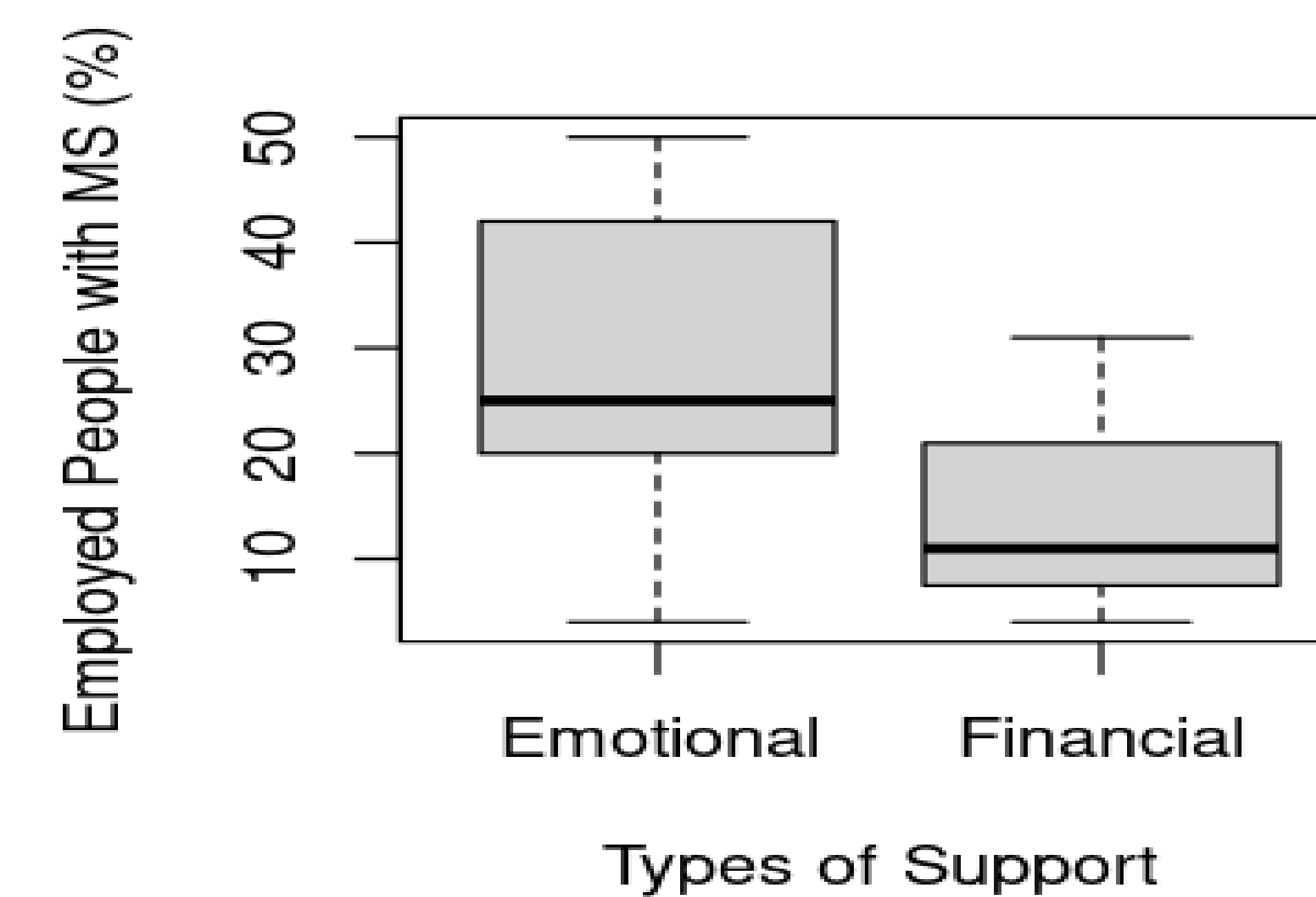


Figure 2: Boxplot of employed people receiving emotional or financial support

Results:

- Hypothesis was unsupported as there was no statistical difference between the means of the two data sets (p-value = 0.31)

Conclusions

- There's a notable difference in how many people with MS are employed compared to those who are not
- People with MS are less likely to stay employed when in the workforce
- There is no difference in employment rates between people who receive emotional and financial support
- Other types of support have the potential to be significantly more effective

Future Research

- Research to increase the odds of a person with MS to stay employed
- Specifically looking into other effects of support on MS Employment
- Significance of employment versus unemployment
- Non-significance of emotional and financial support

References

- Dehghani, A., Khoramkish, M., & Shahsavari Isfahani, S. (2019). Challenges in the Daily Living Activities of Patients with Multiple Sclerosis: A Qualitative Content Analysis. *International journal of community based nursing and midwifery*, 7(3), 201–210. <https://doi.org/10.30476/IJCBNM.2019.44995Elifein>, J. (2016, May 25). *Duration of disease among people with MS globally by employment status*. Statista. <https://www.statista.com/statistics/737728/ms-duration-for-people-in-and-out-of-work/>
- Elifein, J. (2016, May 25). *Duration of disease among people with MS globally by employment status*. Statista. <https://www.statista.com/statistics/737728/ms-duration-for-people-in-and-out-of-work/>
- MSIE. (May 25, 2016). *Types of social support that allowed people with multiple sclerosis worldwide to remain at work as of 2015* [Graph]. In *Statista*. Retrieved March 01, 2024, from <https://www.statista.com/statistics/737685/important-support-in-employment-for-people-with-ms/>
- van Egmond, E., van der Hiele, K., van Gorp, D., Jongen, P. J., van der Klink, J., Reneman, M. F., Beenakker, E., van Eijk, J., Frequin, S., de Gans, K., van Geel, B. M., Gerlach, O., Hengstman, G., Mostert, J. P., Verhagen, W., Middelkoop, H., & Visser, L. H. (2022). Work difficulties in people with multiple sclerosis: The role of anxiety, depression and coping. *Multiple sclerosis journal - experimental, translational and clinical*, 8(3), 20552173221116282. <https://doi.org/10.1177/20552173221116282>