

TECHNOLOGY OVERLOAD: GENDER-BASED PERCEPTIONS OF KNOWLEDGE WORKER PERFORMANCE

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INTRODUCTION

Today, most knowledge work requires extensive use of computers and our dependence on technology has never been higher. Negative experiences and perceptions of technology may impact women's development and success in their careers and their career choices.

TECHNOLOGY OVERLOAD

INFORMATION OVERLOAD

Information overload occurs when knowledge workers' time constraints and cognitive limits have been reached; O'Reilly (1980) was one of the first researchers to examine the impact of information overload on organizational performance at the individual level of analysis.

SYSTEM FEATURE OVERLOAD

System feature overload occurs when a software package becomes too complex for a given task to the point that knowledge workers' productivity is impeded.

COMMUNICATION OVERLOAD

Communication overload occurs when a third party solicits the attention of the knowledge worker through such means as e-mail, instant messaging, or mobile devices that causes excessive interruptions to the point the worker becomes less productive.

TECHNOLOGY DEPENDENCE

Technology dependence is an over-reliance on technology to the point that system failures create loss of productivity.

PERFORMANCE

TECHNOLOGY-BASED PERFORMANCE

Technology-based performance was captured using two survey items regarding the efficient and effective use of technology to enhance job performance

OVERALL PERFORMANCE

Overall performance was measured by incorporating technology-based performance with individual levels of efficiency and effectiveness

INSTRUMENT VALIDATION

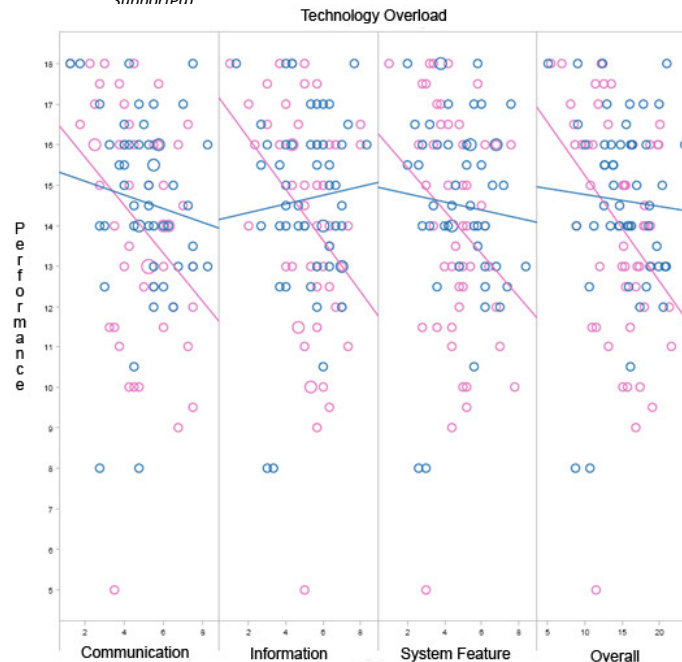
Technology Overload Confirmatory Factor Analysis (NFI = 0.95, CFI = 0.98, AGFI = 0.84, GFI = 0.90)

Technology Dependence (Cronbach's alpha = 0.75)

Overall Performance (Cronbach's alpha = 0.87)

HYPOTHESES

- H1:** Women will report significantly lower levels of technology-based performance than men. (Not Supported)
- H2:** There are no significant differences between men and women in perceived levels of overall performance. (Supported)
- H3:** There are no significant differences between men and women in perceived levels of the dimensions of technology overload. (Supported)
- H4:** There are no significant differences between men and women in perceived levels of technology dependence. (Supported)
- H5:** Women will perceive a significantly stronger negative relationship between the dimensions of technology overload and their technology based performance than men. (Supported)
- H6:** Women will perceive a significantly stronger negative relationship between the dimensions of technology overload and their overall performance than men. (Supported)
- H7:** For low levels of technology dependence, neither men nor women will perceive a significant and negative relationship between the dimensions of technology overload and overall performance. (Partially Supported)
- H8:** For high levels of technology dependence, both men and women will perceive a significant and negative relationship between the dimensions of technology overload and overall performance. (Partially Supported)



RESULTS

H1 – H4: MEAN DIFFERENCE

	Sum of Squares	df	Mean Square	F	Sig.
Technology-based Performance	5.022	1	5.022	.613	.435
Overall Performance	32.239	1	32.239	1.250	.266
TECHNOLOGY OVERLOAD	221.019	1	221.019	.908	.343
Technology Dependence	1.744	1	1.744	.047	.829
Total	3732.66	101			

H5 – H6: TECHNOLOGY OVERLOAD AND PERFORMANCE

	Technology-based Performance		Overall Performance	
	Men	Women	Men	Women
TECHNOLOGY OVERLOAD	-.157	-.358(**)	-.064	-.356(**)
Information Overload	.040	-.361(**)	.053	-.336(*)
System Feature Overload	-.167	-.247	-.070	-.259
Communication Overload	-.208	-.342(*)	-.110	-.342(*)
	N 50	52	50	52

H7: LOW TECHNOLOGY DEPENDENCE

OVERALL PERFORMANCE	Men	Women
TECHNOLOGY OVERLOAD	.382	-.493(*)
Information Overload	.248	-.594(**)
System Feature Overload	.450	-.495(*)
Communication Overload	.261	-.208
	N 18	19

H8: HIGH TECHNOLOGY DEPENDENCE

OVERALL PERFORMANCE	Men	Women
TECHNOLOGY OVERLOAD	-.439(*)	-.548(**)
Information Overload	-.230	-.442(*)
System Feature Overload	-.325	-.315
Communication Overload	-.490(**)	-.650(**)
	N 32	33

DISCUSSION

The implication that women perceive a stronger negative relationship between the dimensions of technology overload and performance in the work place are far reaching. The way individuals leverage technology in their jobs often dictates career success or failure. As more technology enters the work place, women must be able to leverage information technology instead of becoming hindered by it. Being able to identify gender differences based on perceived levels of technology overload and performance is a step towards this goal.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).