

# **CAN YOU ENGAGE IN POLITICAL ACTIVITY WITHOUT INTERNET ACCESS?**

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The Social Effects of Internet Deprivation

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## Abstract

To what extent can you engage in political activity in the modern age without Internet access? The growing dependence on Internet access to fulfill basic civil functions is threatened by increasing personal and societal cyber vulnerability. In this paper, we explore the extent to which citizens are able, or unable, to engage in specific political activities in the absence of Internet connectivity. To concretize the subject, we test how Internet deprivation affects the ability to realize three basic elements of political participation – political expression, civic association and access to information. To measure this, we develop a new experimental methodology that tests people’s ability to complete tasks related to each function under simulated treatments of Internet access or deprivation. This empirical methodology offers a new framework through which to quantify the realization of social tasks under experimental conditions. Early results suggest that the absence of Internet access significantly reduces task completion for activities related to political expression, political association and conditionally reduces task completion for practices associated with freedom of information. Having substantiated this empirical framework, we encourage its application to additional forms of political activity.

*Keywords:* Internet access; Internet deprivation; cyber policy; freedom of speech; cyber terrorism.

## Introduction

To what extent can you engage in political activity in the modern age without Internet access? In the last decade, a rich field of literature has made significant inroads in exploring the effects of Internet dependence by looking at its effect on depression and interpersonal relationships, (Andreassen, 2015) psychological and physical health (Jenaro, 2007) and modes of interpersonal communication (Fox, 2015). Yet the focus on the individual-level risks associated with deprivation have in many ways obfuscated the wider social implications of this phenomenon. In this paper, we explore the extent to which citizens are able, or unable, to engage in political activity such as political communication or expression, civic participation and access to political information in the absence of Internet connectivity.

Debate on the social importance of Internet access is not novel, and scholars have even begun debating the merits of including Internet access as a new human right (Shandler, 2019; Mathiesen, 2012). Though the scholarly debate on the role of technology in civic life has developed significantly in the last decade, “empirical evidence on how the Internet may influence [individual-level] political participation remains relatively scant” (Campante, 2017; see also Kruikemeier 2014). This is due both to empirical difficulties in identifying these effects, and the complex relationship between politics and a continuously evolving technology. There is an urgent call in the literature for empirical data that can support the normative speculation regarding the role of cyber citizenship (Aichholzer, 2011).

Our paper helps remedy this absence by conducting a controlled empirical experiment that quantifiably measures how the deprivation of Internet access cripples the ability to participate in civic life. To operationalize civic participation, we focus on three fundamental civil acts – political expression, political association and the acquisition of political information. This is the first research to experimentally test and quantifiably measure the effect of Internet deprivation upon the realization of particular element of political activity. We find that Internet deprivation substantially negates civic participation to varying degrees for particular elements of political

activity. Establishing this relationship could impose significant positive obligations upon governments to actively provide Internet connectivity for its citizens.

### **The Role of Internet Access in Enabling Political Participation**

Scholars have argued that the growth in Internet technologies requires a new model to understand the framework of political participation since widespread digital accessibility has altered the nature of what it means to participate politically (Coleman, 2009). “Structurally, the Internet has inverted the few-to-many architecture of the broadcast age, in which a small number of people were able to influence and shape the perceptions and beliefs of entire nations.” (Coleman, 2009) This change has enabled millions of people to participate more actively in modern political discourse and action from the comfort of their own home. Yet it is unclear whether the ease of realizing basic civic functions through online avenues has supplanted traditional analogue avenues of participation. If this were the case, it would mean that citizens lacking Internet connections are prevented from exercising their rights. Research has sought to measure whether digital forms of political participation have eased or entirely supplanted other forms of civic engagement, but the results have been equivocal (Vissers, 2014; Gibson & Cantijoch, 2013).

Our objective in designing a new experimental methodology is to attain quantifiable metrics that examines the social implications of our digital dependence and the subsequent risks of its deprivation. We have chosen to focus on three socio-political mechanisms in order to examine the effect of deprivation – political expression, political association and access to political information. These three elements were selected for four reasons. First, these are among the most basic of political rights. Second, they narrow the scope of the investigation. Third, expression, association and information are inherently interconnected and can be considered a family of political activity. Fourth, these are the political elements that are most commonly posited as being connected to Internet access in the literature and so serve as the logical starting point (Shandler, 2019).

Political expression relates to freedom of speech, which is a social right that empowers public discourse and sustains democratic institutions. The digital revolution has facilitated widespread cultural and political participation to an extent never before conceived. In this it has changed the conditions of speech by lowering the costs of distributing information and enabling its efficient global transmission, thus allowing more people to participate in social discourse (Balkin, 2004). Political association empowers citizens to collectively promote and pursue social, cultural or political ideas or agendas, free from government interference. By making possible instantaneous global communication and enabling the efficient and targeted recruiting of members, the Internet enables the conduct of assemblies and forums in novel ways to the extent that physical proximity is no longer necessary for a group to conduct meetings (Inazu, 2012; Rutzen, 2011). There is a strong connection between increased societal Internet activity and the conduct of large-scale decentralized demonstrations (Steinert-Threlkeld, 2015). This has been a boon for contemporary movements and activists to coordinate, mobilize and disseminate viral social campaigns. Access to political information lies at the heart of the very notion of democracy insofar as democracy demands that individuals are able to participate in decision making and accurately assess their government’s performance (Mendel, 2008). Internet access is now the predominant intermediary between citizens and government agencies, and the migration of media services to digital settings is well documented.

## Empirical Methodology

To test the continued efficacy of these three political activities in the absence of Internet connectivity, we designed a controlled, randomized experiment that probed the ability of participants to complete tasks associated with each element under conditions of Internet access and deprivation. This is the first research experiment to quantify the contribution of Internet access to achieving social tasks under controlled conditions.

Participants were recruited at the University of Haifa to participate in a ‘scavenger hunt’ with monetary rewards for completing tasks. The participant sample (n = 60) was slanted towards students, but a large number were drawn from the broader community. After receiving instructions about the rules of the ‘game’, participants were given 60 minutes to complete three tasks that simulated each of the political tasks being investigated (expression, association and information). Participants were randomly assigned according with simple randomization procedures (computerized random numbers) among a treatment and control group.<sup>1</sup> Participants assigned to the treatment condition were forbidden access to the Internet, but could use all other tools available to them in a campus environment. Participants assigned to the control condition had full use of all personal and environmental tools, including Internet services. The experiment took place in the university library – an environment that was sufficiently enclosed to constitute a controlled setting, while still large enough and with ample resources to provide the conditions for successful completion of tasks. To incentivize good-faith attempts to complete tasks, the experiment was marketed as a scavenger hunt with financial remuneration based on the number of tasks completed<sup>2</sup>. Following the 60-minute interval, task completion was coded according to a four point scale, and participants completed a questionnaire in order to obtain general demographic information and pertinent Internet related and political data.

Central to the experiment are the individual tasks that simulate typical manifestations of political expression, association and information in daily life. The tasks given to participants were: 1) Express your opinion on a social or political issue such that it reaches a wide audience (political expression). 2) Ascertain the topic and content of the viral political campaign organized by the non-governmental Israeli Democracy Institute that is running under the tagline: “There is No Such Thing as That” (civic association). 3) Identify the names of the Members of Parliament who initiated the Anti-Terrorism Law – 2016 (access to information). Each of these tasks is related to the underlying concepts of political participation reviewed earlier in this article. We note that all three tasks are in some way related to each of the three elements of political participation – a natural outcome being as expression, association and information are a family of rights. Despite this, the essence of each task rests firmly within each individual political element.

## Measures

The primary dependent variable in this experiment is the completion of each of the three political tasks, which were scored on a four-point scale from four points (fully able to complete task) to one point (entirely unable to complete task and unable to conceive of how to complete

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<sup>1</sup> Post-hoc balance checks revealed that the randomization was effective for all demographic covariates.

<sup>2</sup> Participants were unaware that the subject matter of the experiment related to Internet access since this would have influenced their choice of how to complete the tasks. Permission was granted by the University Ethics Committee.

task).<sup>3</sup> Tasks were scored by two independent coders. To test for inter-coder reliability, we calculated Cohen’s Kappa, the most widespread reliability measure for categorical data. Inter-coder reliability was high ( $\kappa = 0.854$ ) such that coder agreement can be considered as not coincidental.

The control variables that were collected included: Age (9 groups, from 1 [below 18 years] to 9 [above 85 years]); Gender (1 = male, 2 = female); Level of Education (1 = high school, 2 = technical degree, 3 = undergraduate degree, 4 = postgraduate degree); Political self-identification (7 groups, from 1 [extremely left wing] to 7 [extremely right wing]); Family income (7 groups, from 1 [family income below NIS 5,000 per month] to 7 [family income above NIS 15,000 per month]); and average daily Internet usage (4 groups, from 1 [not using Internet on a daily basis] to 4 [five or more hours per day]).

### Experimental Results

As an initial step, we conducted a series of independent sample t-tests revealed that the treatment variable (Internet deprivation) had significant negative effects on the ability of participants to realize the three political acts (see Table 1). In particular, the treatment effect on tasks one ( $t(58) = 2.773, p < .007$ ) and two ( $t(58) = 3.294, p < .002$ ) were highly significant, while the effect for task 3 was not significant. The effect sizes for all three tasks were medium to large.

*Table 1: T-Test Results for the Effect of Internet Deprivation on the Completion of Tasks*

		M	SD	Difference	t	p
Task 1: Political Expression	Treatment	2.81	1.00	.65 **	2.773	.007
	Control	3.46	.79			
Task 2: Political Association	Treatment	2.88	1.26	.91 **	3.294	.002
	Control	3.79	.79			
Task 3: Access to Information	Treatment	2.50	1.41	.82	2.416	0.19
	Control	3.32	1.19			

\* $p < .05$ , \*\* $p < .01$

*Note: The control condition reflects full Internet access; the treatment condition reflects no Internet access.*

For the subsequent chi-squared tests, we converted the 4 point task outcome scale into a dichotomous variable whereby the original 4 points (full completion) = 1; and 1, 2 or 3 points (partial completion or lower) = 0. This conversion enables us to run a chi-squared test where individual cell outcomes would otherwise be low. By comparing the observed results to the expected distribution, we find that Internet access substantially affected the distribution of success in the realization of all three elements of political participation – political expression ( $\chi^2 (df = 1) = 6.46, p = .011$ ), political association ( $\chi^2 (df = 1) = 14.59, p < .001$ ), and political information ( $\chi^2 (df = 1) = 4.66, p = .031$ ). Specifically, in the Internet access (control) condition, 61% of participants were able to successfully engage in expression, compared to only 29% in the no Internet access (treatment) condition. Similarly, 93% of participants were able to successfully

<sup>3</sup> The full itemization of this four-item measure can be viewed in table 2.

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exercise civic association in the Internet access condition, compared to only 47% in the no Internet access condition. And on the task reflecting access to information, 71% of participants were able to successfully complete the task in the Internet access condition, compared to only 44% in the no Internet access condition (see Table 2).

*Table 2: Breakdown of Participant Scoring Per Task*

	Task 1 Control	Task 1 Treatment	Task 1 Total	Task 2 Control	Task 2 Treatment	Task 2 Total	Task 3 Control	Task 3 Treatment	Task 3 Total
1 point – Unable to complete task and unable to conceive of how to complete task	4%	13%	8%	7%	25%	17%	18%	41%	30%
2 points – Unable to complete task, but able to conceive of how to complete task if not restricted to the controlled experimental environment	7%	22%	15%	0%	9%	5%	4%	13%	8%
3 points – Partially able to complete task	29%	38%	33%	0%	19%	10%	7%	3%	5%
4 points – Fully able to complete task	61%	28%	43%	93%	47%	68%	71%	44%	57%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

*Note: The control condition reflects full Internet access; the treatment condition reflects no Internet access.*

As a further step, we conducted binary logistic regression analyses to test the effect of the Internet access condition while controlling for the following demographic variables – age, gender, level of education, political identification, family income and average daily Internet usage (See Table 3 for results). Three sets of logistic regression analyses were conducted to separately predict task completion for each of the three tasks (expression, association and information). The regression analyses indicate that the Internet access condition significantly predicted successful task completion for each of the three tasks even after the role of age, level of education and typical Internet usage were added to the model. The test of the overall model with seven predictors was significant for freedom of expression ( $\chi^2 (df = 7) = 14.89, p < .001$ ) and freedom of association ( $\chi^2 (df = 7) = 24.41, p < .001$ ) but the addition of other explanatory variables rendered the analysis not significant for freedom of information ( $\chi^2 (df = 7) = 9.23, p < .24$ ). Odds ratios ranging from .04 to .30 predict that there is between a three-fold and twenty-five-fold greater chance of success

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in completing basic civic tasks relating to expression, association and information when participants possess Internet connectivity.

*Table 3: Results of Binary Logistic Regression on Task Success*

	<b>Task 1: Political Expression</b>		<b>Task 2: Political Association</b>		<b>Task 3: Access to Information</b>	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	$\chi^2 (df=1) = 6.56, p = .01$	$\chi^2 (df=7) = 14.89, p < .001$	$\chi^2 (df=1) = 16.27, p < .001$	$\chi^2 (df=7) = 24.41, p < .001$	$\chi^2 (df=1) = 4.75, p = .03$	$\chi^2 (df=7) = 9.23, p < .24$
Internet Access (Control=0, Treatment=1)	-1.37** (.55)	-1.61** (.64)	-2.69** (.82)	-3.24** (1.00)	-1.17* (.55)	-1.91* (.60)
Age		-.39 (.50)		.30 (.54)		.60 (.51)
Gender		1.31* (.68)		1.33 (.79)		.94 (.61)
Education Level		.32 (.45)		-1.42* (.69)		-.11 (.42)
Political Identification		-.15 (.20)		-.19 (.23)		.02 (.18)
Family Income		-.05 (.14)		.02 (.17)		.05 (.13)
Average Daily Internet Usage		.41 (.48)		-.05 (.51)		.26 (.42)
N	60	60	60	60	60	60
-2 Log likelihood	75.55	67.26	58.65	50.51	77.36	72.89

Reported coefficients are based on odds-ratios (standard errors in brackets).

\* $p < .05$ , \*\* $p < .01$

### Discussion and Social Implications

This research is the first to undertake an empirical analysis of the consequences of Internet deprivation by experimentally testing the effects of its absence on the realization of concrete social functions. This study is especially important in light of a new reality of digital vulnerability where civilians are liable to have their Internet connectivity disrupted for various reasons. The most visible danger related to Internet deprivation is the risk of lethal and non-lethal cyber attack (Gross, 2016; Canetti, 2017; Canetti, 2016). Other deprivation scenarios include government Internet shutdowns (West, 2016), and the digital divide that magnifies the divisive effects of deprivation (Gonzales, 2016; West, 2015). This context of vulnerability to digital disruption is noteworthy, as a finding that the capacity to engage in political activity is stymied under conditions of Internet deprivation would not be remarkable if connectivity was secure and ubiquitous.

It is in light of this vulnerability that we question our dependence on Internet access and explore the extent to which citizens are able, or unable, to participate in civil life under conditions of Internet deprivation. We conclude that Internet deprivation substantially negates civic participation for political expression and association, but not yet in relation to the acquisition of political information. This can partly be explained by the slow transition of information services to digital forums. As digital newspapers and e-government portals continue to overtake their analogue equivalents, we envision that this too may necessitate Internet access in due course. This divergent result indicates that the adoption of digital norms of political participation is developing at different paces for different elements of political activity.

A common misconception is that since people managed to engage in political activity before the invention of the Internet, the effect of its deprivation should be minimal. The flaw in this argument is that the mass adoption of digital means of political participation has in many ways supplanted analogue methods, many of which are no longer accessible. Newspapers that have stopped printing physical editions cannot simply restart the printing press in the midst of an Internet shutdown. Government in dozens of countries have adopted e-government practices and have closed down in-person facilities for a host of services, vastly limiting the ability to access information in the absence of Internet. This phenomenon is augmented by the rise of a digital generation that has never known a time without Internet access.

What then does this dichotomy of dependence and vulnerability demand of public authorities? Taken to its most extreme conclusion, this could impose positive duties on governments to supply Internet access to its citizens. If Internet access is vital to engage in social behavior then it exhibits similarities to utilities like water, electricity or gas. To ensure a steady supply, like with public utilities, the government may need to intervene in the private market. This would not necessarily require governments to supply each person with a personal computer or Internet subscription as critics claim (Cerf, 2012). Proven solutions include using public libraries to mitigate the digital divide by offering accessible Internet connections as a public service (Anderson, 2015) or regulating to compel broadband companies to offer affordable broadband services at minimum speeds (West, 2010).

Our research builds on previous literature relating to the evolving role of Internet access in modern forms of expression, association and other democratic norms. However, this is the first to quantify the impact of Internet deprivation upon individual democratic functions. Generalizing the results of a temporally and environmentally controlled experiment to the wider population remains a challenge. Nevertheless, measuring political participation under controlled settings offers a creative experimental solution that addresses the absence of empirical data relating to political participation and Internet deprivation. This study concentrated on three primary political behaviors, and future research should expand this experimental framework to address additional forms of political participation.



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